



E-LEARNING FOR PRIMARY TEACHERS

A step-by-step guide to improving teaching
and learning in your classroom

TACCLE2

e-learning for primary teachers

A STEP-BY-STEP GUIDE
TO IMPROVING TEACHING AND LEARNING IN YOUR CLASSROOM

Jenny Hughes, Nicholas Daniels, Editors

Jens Vermeersch, Project coordinator

Fernando Albuquerque Costa, Jan Bierweiler, Linda Castañeda, Nicholas Daniels, Kylene De Angelis, Giulio Gabbianelli, Bruna Durazzi, Mattia Crivellini, Koen DePryck, Gabriela Grosseck, Isabel Gutiérrez Portán, Jenny Hughes, Laura Malita, Cidalia Marques, Paz Prendes, Pedro Reis, Carla Rodriguez, Mar Sánchez, Carine Schepers, Katleen Vanden Driessche, *Authors*

TACCLE2 - E-LEARNING FOR PRIMARY TEACHERS

A step-by-step guide to improving teaching and learning in your classroom



Brussels, GO! onderwijs van de Vlaamse Gemeenschap, 2013

If you have any questions regarding this book or the project from which it originated:

Jens Vermeersch

GO! Onderwijs van de Vlaamse Gemeenschap

Internationalisation department

Brussels

E-mail: internationalisering@g-o.be

Jenny Hughes, Nicholas Daniels [Eds.]

76 pp. – 29,7 cm.

D/2014/8479/001

ISBN 9789078398134

The editing of this book was finished on 28th of February 2013.

Cover-design and layout: Bart Vliegen (www.watchitproductions.be)

PROJECT WEBSITE: WWW.TACCLE2.EU



This Comenius multilateral project has been funded with support from the European Commission
PROJECT NUMBER: 517726-LLP-1-2011-1-BE-COMENIUS-CMP.

This book reflects the views only of the authors, and the Commission cannot be held responsible for any use that may be made of the information contained therein.



TACCLE2 by Fernando Albuquerque Costa, Jan Bierweiler, Linda Castañeda, Nicholas Daniels, Elmo De Angelis, Koen DePryck, Gabriela Grosseck, Isabel Gutiérrez Portán, Jenny Hughes, Laura Malita, Cidalía Marques, Paz Prendes, Pedro Reis, Carla Rodríguez, Mar Sánchez, Carine Schepers, Katleen Vanden Driessche is licensed under a Creative Commons Attribution-Non-Commercial-Share Alike 3.0 Belgium License.

TABLE OF CONTENTS

Preface	5
Introduction	6
SECTION 1: Introduction to Classroom Activities	8
Quick Find Table	11
Getting Jiggy!	12
Images by Instruction	13
Wordle Warm Up	14
Light, Shadows and Me	15
Reading Recitals	16
Savvy Searching	17
Mini Musicians	18
Happy Homework!	19
Fuzzy Feelings	20
Today's Reporter	21
Round Robin Writings	22
Fraction Families	23
Kindles in the Classroom	24
The Skype's the Limit!	25
Toontastic!	26
Pinning Down the Past	27
Virtual Library	28
Our 3D Classroom	29
Science Sketches	30
Mini Beasts	32
Ready, Steady, Cook!	33
Let's e-Mote!	34
Glog It!	36
Tall Tales	38
Twitter Role-Play	40
Publish Me	42
Children of One World	43
e-Encyclopaedia	44
QR Book Quest	46
The Music Maker	48
Time is an Illusion?	49
Line and Path Maths	50
Awesome Advert	52
My First Movie	53
Voyage to the Past	54
Podcast to Parents	55
You've Been Framed	56
SECTION 2:	
Issues: Security, Protection, Privacy and Safety	58
Virtually Invisible? Appropriate Online Behaviour	62
Copyright	64
Hardware	65
Conclusion	68
The Authors	71
Attributions	72
The Partnership	73

PREFACE

Four years ago the e-Learning Handbook for Classroom Teachers was published. The book was originally translated into eight languages but since then has been voluntarily translated into another five. The number of hard copies, together with the downloads and e-copies is now approaching 20,000. In addition there have been 5 international training courses and innumerable local courses carrying the Taccle name. Taccle has become a brand – synonymous with the best in e-learning practice for teachers.

However, the digital world moves on rapidly and I welcome the new series of books that both updates the content to reflect changing technologies and also provides specific ideas and support for teachers in their own subject area or age range. In particular, I welcome the addition of the Taccle2 website, with its constant stream of new ideas and activities contributed by practicing teachers and trainers. This is an invaluable resource for all teachers, whether those who are dipping their toes into e-learning for the first time or experienced practitioners looking to exchange ideas with others.

Like all books, the Taccle2 series will become obsolete within a few years. I hope that within that time they will provide a stimulus, an inspiration and the much-needed practical support that is so important to teachers. Equally, I look forward to the on-going development of the Taccle2 website and hope it will become the focus for a vibrant community of practice for teachers long after the project has finished.

In 2014, no teacher can afford to ignore the technology that surrounds us. No teacher can any longer deny the learning opportunities it can offer to their pupils. No teacher should be sending their pupils out into the digital world without the skills of digital survival.

However, I would like to repeat Bill Gates' words:

“Technology is just a tool. In terms of getting the kids working together and motivating them, the teacher will always be the most important.”

INTRODUCTION

This book is targeted specifically at primary schools. We believe it is one of the first that addresses the specific needs of those teachers wanting some practical ideas on how to introduce and use information and communication technologies in the 3 – 11 classroom.

It is not a text book, academic reader or a book which addresses the ICT skills curriculum. It is designed to help you get started on using e-learning methods and techniques across the primary curriculum to make your lessons more fun, more creative and easier to prepare.

It is NOT a book for ICT teachers or experts. However, we are making some basic assumptions.

- That you can switch on a computer and access the internet
- That you have some basic experience of using computers with children (e.g using Word or PowerPoint)
- That you are committed to improving your practice
- That you are good teachers!

If you can tick all these points, then read on - this book is for you.

WHY DO WE NEED E-LEARNING IN PRIMARY SCHOOL CLASSROOMS?

There are many people who believe that new technologies have no place in the primary classroom – or at the very least that young learners suffer in some way from early exposure to digital technologies. Newspaper headlines such as - *“Ban computers from schools until children reach age 9, says expert”*¹ or *“The culture of clicking online for instant answers risks “infantilising” learning”*² appear weekly. This is a point of view that you may share – in which case this book is probably not for you.

Contrast this with other headlines such as *“Facebook and Twitter should be used in schools as learning tools, says new report”*³ or *“Video games are good for children - EU report”*⁴ and you can see that in terms of research at least, the jury is still out.

As you will have guessed, we think there are lots of reasons why primary teachers might like to get involved and explore e-learning opportunities with this age range - and in many ways this book is as a result of our own enthusiasm.

- As primary teachers, our job is to equip children with the skills they need to survive in the world they live in – an increasingly digital world. We might be digital users, children and young people are digital residents – they live in an on line world which is as real as the one we were brought up in.
- A recent survey showed that children in the UK aged 5 to 16, collectively, spend 13 million hours on websites every day! We can either fight this and try and reverse the trend (really?) or use the opportunities it provides for learning and teaching.
- There are pressures from curriculum bodies, school inspectors and government departments to integrate technology across the primary curriculum in a meaningful way, not simply as a bolt on or separate subject area.
- It is a way of bridging the home-school divide and bringing together formal and informal learning
- Because it actually makes your teaching better, your lessons more engaging and can kick-start those creative juices that you thought had dried up. You may feel some resistance to change, but think of it like ripping off a plaster – the sooner you do it, the less painful it will be!

WHAT THIS BOOK IS ABOUT

This book deals primarily with the use of web 2.0 tools. This means we are focusing on social software and on using applications that allow learners to create, share and publish content rather than simply being passive consumers. We are assuming that most teachers will already be used to using the web as a resource and will include web-based research activities as part of their normal lessons (web 1.0).

The main part of the book is devoted to practical ideas for using ICT in your classroom – more about this at the beginning of that section. Then there is a more general part we have just called ‘Issues’ where we have tried to cover some of the concerns that teachers and schools may have about e-learning – including security and internet safety, hardware and infrastructure, copyright and so on.

This book is not really designed to be read from cover to cover – more as something to dip into for some instant ideas. However, as the activities are graded from easiest to hardest, if you are very new to e-learning you could do worse than start at the easiest, try out one or two of the examples until you feel confident, then go back and try the next few.

Step-by-step lessons are only examples of what you CAN do and are not prescriptions. They are written in a way that will help you to become competent in the use of various tools and techniques but at the same time give you a classroom context in which to try them out. They have all been written and tested by real primary teachers who are well aware of the practicalities of doing all this stuff with a mixed ability class of 30 eight-year olds, a dodgy internet connection, vintage computers and no money for equipment or software.

For this reason, they do not have ‘aims and objectives’ nor do they list specific skills and competences, although we have tried to group them into broad subject areas that are common to schools across Europe e.g. numeracy / maths, literacy, science and so on. This may seem alien to many people but after a lot of discussion, and bearing in mind that the book is translated into eight languages, it became apparent that each European country defines learning outcomes in a slightly different way and organizes their skills curriculum differently.

The thing that unites primary school teachers across Europe is that we all teach thematically – using one topic to draw together many different curriculum areas under a learner-friendly umbrella. Even the themes tend to be very similar – ‘the seaside’, ‘my town or village’, ‘mini-beasts’, ‘dinosaurs’ and so on. So our examples are based around these topics and selected to illustrate a variety of technologies.

The objectives of ANY lesson you try out will be specific to you and the children you are teaching and will be related to your own scheme of work and, by definition, so will the assessment. For instance, one of the very first lessons in the book is about using Wordle to develop literacy skills. We used it for developing vocabulary around a range of adjectives, you might decide to use exactly the same exercise as a story-starter. Or you could import it into another bit of software and turn it into a jigsaw to help with spelling. (Or use it for maths or science or IT – or almost any other subject!)

OTHER TACCLE RESOURCES

This book is one of a series: the others are e-learning for STEM⁵, e-learning for Humanities & Languages, e-Learning for Creative & Performing Arts, e-learning for Core Skills 14-18.

Although they are all geared towards secondary school (mainly 11-16) teachers, you may find that some of the ideas can be adapted for use in primary schools so they are well worth a look as well.

The launchpad for this new series was the popularity of the first Tackle e-learning handbook for teachers published in 2009. The original book covered the basics of e-learning practice, including how to use a basic toolkit of social software tools together with ideas for using them in the classroom, teacher-friendly explanations of some important issues underpinning e-learning (such as metadata, copyright, web 2.0 and web 3.0) and some basic skills teachers need to create learning resources. It also has a comprehensive glossary of terms and abbreviations related to e-learning. Print copies of the original handbook are still available in limited numbers in English, French, Dutch, Italian, Portuguese, and Spanish or they can be downloaded as pdf files at www.tackle.eu/content/view/full/15/43/lang,en/ (If you live outside of these language communities there are also local translations in Arabic, Swazi and a few others.)

The launch of the original Tackle handbook was followed by a series of teacher training courses all over Europe. It was feedback from these courses that sowed the first seeds of the follow-up books. In particular, because the courses (and the original handbook) were targeted at ALL secondary school teachers, the examples were generic and subject teachers found it difficult to redeploy them in their own discipline (*"Podcasting is great fun but you couldn't use it in Maths!"*) There were also a number of primary teachers who were enthusiastic about the ideas but clamouring for a book addressing the needs of younger learners. This is the result!

THE TACCLE 2 WEBSITE: WWW.TACCLE2.EU

The Tackle 2 website is an on-line resource for teachers packed with instant ideas for e-learning in the classroom. There is a special area for primary activities but you can also navigate by subject area, by technology, by age range and by topic across the site. It contains complete lesson plans for teachers who are just starting to experiment with e-learning together with shorter posts on a much wider range of ideas for the more confident. We look forward to seeing your contributions! At the very least, please send us some examples of work that your class has produced so that we can use it to inspire others to have a go.



WHAT IS NOT INCLUDED IN THIS BOOK!

If we had included everything we wanted to, this book could have been ten times the size. So if your favourite bit of software is not here or you are still stuck for some e-ideas to teach history or suggestions for using iPads, keep looking on the website for inspiration.

And talking of iPads, there is only a very short paragraph in this book on using mobile devices and just a few activities. Although teachers are increasingly taking their own smart phones and tablets into the classroom, the reality is that most primary schools are still having to use equipment one stage evolved from the rolling blackboard. If you are one of the lucky ones, please look at the section on mobile technologies in the STEM handbook or navigate on the Tackle2 website to tools/devices.

We have not covered those dedicated e-learning tools to support learners with specific needs. Each activity is written assuming you are teaching a wide range of abilities in the same class and we have tried to show how these activities can be differentiated, providing extra challenges for the more able and support for those with additional educational needs. This is a very specialist area and we would have been foolish to try and cater for those learners who are not in mainstream education. However, we have included directions to web sites that will take you in the right direction if you want to explore this further.

Finally, we want to add a word of warning! E-learning is NOT the same as IT as a subject area and is not necessarily geared towards developing learners' ICT skills, although it will undoubtedly help. Nor does it automatically tick the box that says 'IT integrated across the curriculum' but is a big step towards it! This book is to help you, as a teacher, take the first steps in using technology as a routine part of your classroom practice. It is not another new initiative you have to take on board and it is not extra work or extra subject matter you have to squeeze in to your already over-crowded scheme of work. Most of the time, using e-technologies can actually save you time and energy (don't tell anyone, but we think virtual field trips on Google Earth are infinitely preferable to wading around in the mud and rain in the middle of January).

That said, the very last - and most important - warning is that e-learning is not the answer to every teaching problem and it should not become the default for every occasion. It's fun, it's stimulating, it fires children's imagination but unfortunately for those of us who have an aversion to the great outdoors, those lively 8 year olds will always want to go on the real field trip, mud included.

¹ Dr Aric Sigman, a psychologist and author in The Telegraph 23.07.12 London

² Helen Fraser at a conference of the Girls Day School Trust reported on BBC news 12.06.2012

³ Leighton Andrews, Minister of Education for Wales in Western Mail 29.03.2012

⁴ Toine Manders, the Dutch liberal MEP, reported in the Guardian, 12.02.2009

⁵ Science, Technology, Engineering and Maths

SECTION 1: CLASSROOM ACTIVITIES

HOW TO USE THIS BOOK

All these activities are documented cases of actual classroom practice written by teachers for teachers. As such, they are taken from many different teaching contexts and so we would urge you, if necessary, to adapt and modify them to fit your learners' particular needs and interests. You should also remember that they have been contributed by many different teachers from different countries so if you are scratching your head wondering how a particular activity fits in to the primary school curriculum, it might well be important somewhere else in Europe even if it's alien to you!

The star rating is based on an 'ease of use' principle, with 5 stars being the easiest activities and 1 star being the least so. To decide the star rating, teachers were asked to consider how easy the software is to use, the general organisation and resources needed in order to carry out the activity and the overall skill and experience a teacher would need to attempt it. (Of course, they were also influenced by their own personal experience so we are not pretending it's a perfect system!)

These things accepted, we then asked them to help us decide which age group of learners responded best and gained the most from the software and the activity. In cases where the age range is given as 6+, for example, it just means that the activity and the software can be used successfully with learners older than this but it may be necessary to modify the activity. Alternatively, the activity may remain the same but the level of attainment should be much higher, that is, the differentiation will be by outcome.

Where appropriate, references have been made to the teaching of learners with additional educational needs (AEN), but we have made the assumption that these learners are in mainstream education rather than special education schools.

The activities are sequenced according to the star rating with 5 star (easy) activities coming first, followed by 4 stars and so on. Within the star sequence, activities are sequenced according to age appropriateness, with those activities best suited to younger learners appearing first in that category.

The 'Page Layout' on the following page is a very simple tutorial showing you how each activity is laid out. This includes an overview, a detailed description and some spin-off ideas as well as other essential stuff like the tools you'll need to teach the activity. We have also included a box on safety for each activity, many of which are quite repetitive. No apologies for this – we are assuming that most people will dip into the book rather than read it cover to cover so we had to duplicate the information. However, if there is no 'Safety' box, this is not an oversight – it just means there are absolutely no safety implications and we are leaving it out to give us more space for "Other Ideas"!

The Quick Find tables will help you to pinpoint particular activities quickly and easily e.g. If you're looking for an e-learning science activity which is relatively easy and suitable for younger children, you'll automatically be directed to the activity *Light, Shadows and Me*. Of course, there is absolutely no reason why you cannot work through the handbook activity-by-activity; in fact, this could be the best way to develop your own IT skills and effectiveness in using online software. But, ultimately, the handbook is yours, the ideas are yours and the way you use it is totally up to you.



Because we are teachers and we know just how stretched school budgets are, we have tried to use only software that is free (freeware). However, there are some examples where you get a free trial period and you have to buy the software when this runs out. If we recommend you spend money on ANYTHING it will be because it is not expensive (under €30) and it is a 'can't-live-without' bit of software. Examples of these are very few and far between!

In the chapter on hardware we have tried to give average prices at the time of going to press and have recommended what we think are best-value buys, taking into account the battering equipment has to withstand in the average class of 8 yr olds against cost.

Finally, the links to online tools and online examples published in the handbook were all correct and functioning as the handbook went to the publishers. However, as we all know, web addresses can change, software can be withdrawn and content can become dated very quickly. We will try to keep everything up to date on the website so if you hit a problem, look there first. However, we are also sure that as your confidence grows, you will find your own solutions to these issues if and when they arise.

Welcome to the world of e-learning! We hope you enjoy your journey.

ACTIVITY 21

TITLE OF ACTIVITY.

TEACHERS THAT HAVE TRIED THIS SAID IT WOULD BE A GREAT ACTIVITY FOR LEARNERS OF THIS AGE.

EASE OF USE RATING. SO 5 IS REALLY EASY AND 1 IS NOT SO EASY!

READY, STEADY, COOK!

4-6 YRS

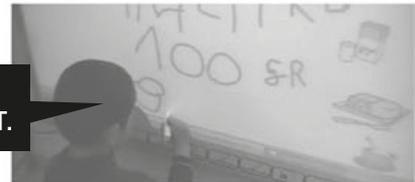
A BRIEF OUTLINE OF THE ACTIVITY AND WHY TEACHERS LOVE IT.

★★★

OVERVIEW

One of the things that characterises the place where we live are local recipes and dishes. In this activity, students develop their own recipe based on their own tradition and home cooking. Their recipes are uploaded on a classroom blog.

A PRETTY PICTURE OF WHAT WE'RE ON ABOUT.



DESCRIPTION

A STEP-BY-STEP EXAMPLE OF WHAT TEACHERS DO WITH IT AND HOW YOU COULD USE IT IN THE CLASSROOM.

The first step in this activity is to research some local, regional or national dishes – even better if you can arrange a tasting session! Discuss the ingredients and which ones make the dish sweet, savoury, tangy, bland etc. Explain to the class and re-invent it to make it their own. In most countries have their own special ingredients which others would need to add/change one from another country e.g. pumpkin.

HINTS & TIPS

You need to inform families about this activity beforehand. Encourage them to enter into the spirit of things and to dress their children as cooks. You may like to highlight the opportunity for them to have fun as a family.

Get the class to create an illustrated recipe sheet by searching the internet for pictures of the ingredients of their dish. Here's one class in action: www.youtube.com/watch?v=hZJQhZXC-zY&list=UUtFkoZr-mhvrGujlxsK4mSA&index=9&feature=plcp

It is unlikely that every child will participate, but do not be disappointed, all learners will have the opportunity to share in the preparation and resulting blog. Have a look at a teacher's blog: <http://esapainfantil.blogspot.com/es/>

If for example they need "milk" in the recipe, children can write the word in the search engine, search from 'images', choose from all the pictures and download the one they want. They then have to note what quantity of each ingredient is required (it may be necessary for you to give them this information).

Although all teachers will be sensitive to the domestic situations of the children in their class, this activity can be a particular problem for children not living with their parents or where parents are unable to participate. You will need to make special roles for these pupils.

When you have all the pictures, use an interactive whiteboard to write each step of the recipe and to add the pictures. Here's another class in action: www.youtube.com/watch?v=b7cVrK

PRACTICAL STUFF: THE TOOLS YOU'LL NEED TO TEACH THIS LESSON, THE BENEFITS, SAFETY IMPLICATIONS + HANDY HINTS AND TIPS FROM REAL TEACHERS.

Once the recipe is completed, upload it to a classroom blog. Encourage learners' parents, giving them the URL to the blog, to take pictures of their children while they are cooking. Ask parents to email the photos to school.

SAFETY

Make sure that the images of children that are going to be published in the public domain have parents' permission.

Use the interactive whiteboard to open the email from parents and allow children to upload the photos of them cooking at home to the classroom blog.

If you do not have a classroom blog, you can use Moodle (if you normally use that) or set up a Glog. The lesson "Glog It!" tells you how to do this.

WHAT DO I NEED?

- A interactive whiteboard.
- e-mail.
- Software to display the results e.g any blogging software, Glogster, Moodle

OTHER IDEAS

- You can upload any class activities on your blog once it's set up. Glogster is great (see Glog It!) and look at ours <http://nicdan.edu.glogster.com/butterflies/>
- Find a school in another country and exchange recipes
- Make a 'How-to-do-it' video showing step by step instructions for preparing simple dishes
- Use Twitter to crowd source responses to "What is your favourite thing to eat?"
- Track the 'life story' of one ingredient e.g. milk or flour from its origins right up to its use in the recipe. Use You Tube or web images, sequence them and link them to QR codes to tell the story.
- Set up a Pinterest board and get children to add pictures of their favourite things to eat

ADDED VALUE

This activity is highly motivating and interesting because the family is included in the learning process and participates in the learner's experience. Using it to create better home-school links is also very worthwhile.

EVEN MORE GREAT IDEAS FOR LESSONS AND ACTIVITIES!

QUICK FIND

ACTIVITIES FOR YOUNGER PRIMARY LEARNERS.	LITERACY	NUMERACY	SCIENCE	HUMANITIES	CREATIVE ARTS	CROSS-CURRICULAR PROJECTS AND ACTIVITIES
★★★★★ Easy	<ul style="list-style-type: none"> • Getting Jiggy! • Reading Recitals 	<ul style="list-style-type: none"> • Images by Instruction 	<ul style="list-style-type: none"> • Light, Shadows and Me 		<ul style="list-style-type: none"> • Mini Musicians 	<ul style="list-style-type: none"> • Wordle Warm-up
★★★★	<ul style="list-style-type: none"> • Round Robin Writings 			<ul style="list-style-type: none"> • Fuzzy Feelings 		
★★★	<ul style="list-style-type: none"> • Today's Reporter 	<ul style="list-style-type: none"> • Ready, Steady, Cook! 	<ul style="list-style-type: none"> • Glog It! 			<ul style="list-style-type: none"> • Mini Beasts
★★				<ul style="list-style-type: none"> • Voyage to the Past 	<ul style="list-style-type: none"> • Let's e-mote! 	
★ Not so easy						

ACTIVITIES FOR OLDER PRIMARY LEARNERS.	LITERACY	NUMERACY	SCIENCE	HUMANITIES	CREATIVE ARTS	CROSS-CURRICULAR PROJECTS AND ACTIVITIES
★★★★★ Easy	<ul style="list-style-type: none"> • Getting Jiggy! • Reading Recitals • Wordle Warm-up 				<ul style="list-style-type: none"> • Mini Musicians 	<ul style="list-style-type: none"> • Happy Homework! • Savvy Searching
★★★★	<ul style="list-style-type: none"> • Round Robin Writings • Toontastic! • Virtual Library • Kindles in the Classroom 	<ul style="list-style-type: none"> • Fraction Families • Line and Path Maths 	<ul style="list-style-type: none"> • Science Sketches 	<ul style="list-style-type: none"> • Fuzzy Feelings • Pinning Down the Past 	<ul style="list-style-type: none"> • Our 3D Classroom 	<ul style="list-style-type: none"> • The Skype's the Limit!
★★★	<ul style="list-style-type: none"> • My First Movie • Tall Tales • Publish Me! • QR Book Quest. 		<ul style="list-style-type: none"> • Time is an Illusion • Glog It! 	<ul style="list-style-type: none"> • Children of One World • The Music Maker • Twitter Role-Play 		<ul style="list-style-type: none"> • Awesome Adverts • e-Encyclopaedia
★★				<ul style="list-style-type: none"> • Voyage to the past 		
★ Not so easy	<ul style="list-style-type: none"> • Podcast to Parents 					<ul style="list-style-type: none"> • You've Been Framed

GETTING JIGGY!

3+ YRS



OVERVIEW

Jigsaw Planet is a flexible piece of software for creating online jigsaws. You can create jigsaws from scanned photographs or from learners' own drawings or from pictures you download from the web. It really does work for almost every age group (including teachers!)

DESCRIPTION

Learners draw a picture on Paint (or similar software). The simpler their drawing, the easier the resulting jigsaw will be to solve. The picture must be saved on your computer, or they can use a picture they have created on paper and scanned.

You can create an account on www.jigsawplanet.com but this isn't necessary in order to create jigsaws. However it does make your jigsaws easier to find!

Click the create button and upload your photo from your saved file. It's often easier to save the picture to your desktop but this is a matter of preference. Once uploaded, choose how many pieces you'd like your jigsaw to be and their shape. You can have straight edged jigsaws or ones with interlocking pieces. Again, these choices will determine how easy/difficult the final puzzle will be. Once children have done this, they click the 'create' tab at the bottom and their jigsaw will appear.

They can either solve their own jigsaw or ask a friend to do so. Once they've finished, a pop-up will appear to tell them how long it took them to solve!

Share the puzzles on a Facebook page, twitter or on a blog.

Challenge learners to solve each other's puzzles. Do the challenge in pairs. One learner records the time taken and the other one solves the puzzles. Then they change roles.

Have a look at one of our Year 6 jigsaws at www.jigsawplanet.com/?rc=play&pid=176b68751800



HINTS & TIPS

If children are having difficulty, they can click on the picture image in the bottom left hand corner to see how the completed puzzle should look.

SAFETY

If they are using photographs of themselves to create puzzles, ensure that you have parental permission to do this as the puzzles are accessible to everyone online.

WHAT DO I NEED?

- Painting / drawing software e.g. Paint
- scanned pictures of paintings or drawings
- internet access

ADDED VALUE

Children always enjoy creating their own puzzles but this is double the fun because they create their own puzzles from their own pictures or use their own photographs. We especially love the fact that the puzzles can be made to be easy/difficult ensuring sufficient engagement whatever the learners' ages or abilities!

OTHER IDEAS

- Use it to consolidate vocabulary: www.jigsawplanet.com/?rc=play&pid=370f05946bd7
- Use it to practice spelling by creating Wordle puzzles! www.jigsawplanet.com/?rc=play&pid=16ba7b65021d
- Make a permanent collection of on-line jigsaws around particular curriculum topics (e.g healthy eating, historical scenes)
- For older children, turn some screenshots from Google Earth or Google Maps into jigsaws and see if the children can put them together by recognising local features or place names

IMAGES BY INSTRUCTION

4-6 YRS



OVERVIEW

Picture dictation can be used with learners of different ages and abilities and is a great activity for learning to follow instructions, developing concentration and learning some mathematical concepts

DESCRIPTION

(There are lots of different ways of doing this, depending on the age of the group and their ability level)

A good programme to use is Tux Paint (it has colours, shapes, stamps, backgrounds). Play with it for an hour or so – it seems fiddly at first but learn the basics so that you can show pupils and then let them experiment. Children will quickly learn the other stuff by trial and error if they practice often enough

Give learners a simple drawing that they have to copy using Tux Paint. Then try dictating a sequence of images: big tree, yellow triangle, three apples in a basket, four flowers arranged from smallest to biggest... on the left ... right ... above ... behind.

This gives the children an opportunity to practise vocabulary and learn the meaning of simple spatial concepts and numbers. It also helps them to stay focused and, if you dictate a few things at a time, it can help train their memory.

Organise children into pairs, ask them to sit back to back. One child is given an image to copy (or makes up their own) and has to describe this image so his colleague can replicate it in Tux Paint. This is also a good exercise for communication skills and with older children you can put in lots of mathematical concepts, shapes, properties of shapes etc.

WHAT DO I NEED?

- Tux Paint (tuxpaint.org)

ADDED VALUE

- developing early IT skills e.g. controlling a mouse.
- easily differentiated according to age/ability
- good introduction to drawing software

HINTS & TIPS

This is usually done with one pupil at a time. But you could do it on the interactive whiteboard and ask individuals to come in turn to add to the composition. Alternatively, it could work in pairs, with one instructing the other.

OTHER IDEAS

- Dictate simple instructions in a foreign language e.g. *Faites un dessin d'une fleur rouge*
- Create an aerial plan of the classroom/their bedroom.
- Let the children use Tux paint to illustrate their new books then print them off and stick them in.
- Ask them to 'scribble' over the screen using a single line then colour in the spaces they have made making sure that they do not use the same colour for spaces next to each other. How many colours do they need?
- Click on 'stamp'. Even if you haven't downloaded the full stamp installation you will be able to stamp different penguins on the screen. Use this as the basis for all sorts of number activities. Use the arrows at the bottom of the right hand column to reverse the image to add variety. (How many are pointing this way / how many pointing that way?)

WORDLE WARM-UP

6+ YRS



OVERVIEW

Wordles are those word patterns you see everywhere nowadays. We love the software that generates them! It's so simple to use and the possibilities are endless. In this example, we have used it as a fun and quick lesson warm-up activity.



DESCRIPTION

Go to www.wordle.net/. Click 'create' on the Wordle homepage. Either type or cut and paste the text you want to use in the large white box. We use it for spelling and vocabulary games - for example, we used a list of adjectives we wanted to revise. Press 'Go' and wait a few moments for it to create a Wordle using the words you have provided.

Display the Wordle on the interactive whiteboard for a set time (30 seconds is usually enough) and ask your class to write down as many words as they can in the allotted time.

When you have got the hang of it, try out different styles, colours and layouts. We find selecting 'Horizontal' or 'Mostly Horizontal' in the 'Layout' tab is less confusing for younger pupils. Select a suitable font by clicking on the 'Font' tab - 'Vigo' or 'ChunkFive' are the better, less fussy fonts.

Lastly, if you have pupils who prefer coloured screens as opposed to the harsh white, click on the 'Colours' tab and choose one of the schemes that are set to a dark background e.g. 'yramirP'.

For this warm up activity you could substitute topic vocabulary, spelling lists, poems or text extracts from books to name but a few.

HINTS & TIPS

You may like to create a Wordle beforehand and ask learners which colour scheme, font and layout makes it easier for them to recognise the words. This is especially important if you have learners who read books using a coloured visor.

The more words you use, the more complex the Wordle, so for younger learners you may choose only 10 words. You can use the same word as many times as you want and the more frequently a word is used, the bigger it appears.

SAFETY

You may like to tell learners not to open any of the pre-existing Wordles without your permission - having said that, we've never seen any dodgy ones on the site!

WHAT DO I NEED?

- For a whole class activity, an interactive whiteboard or projector is pretty essential. You can however create Wordles for pupils to use individually or in pairs on a PC.
- Timing device - I used an egg timer! But a clock, watch or stop-clock would do the same job.
- You can also use Tagxedo (www.tagxedo.com), which is a little less straightforward than Wordle but does much the same thing but allows you to use a variety of patterns and shapes. The photograph shows a Christmas themed word cloud that a pupil has made.

ADDED VALUE

This is one of the online resources that takes less time than creating similar activities with felt pens and paper. Not only is it quick but it's endlessly adaptive! To create something similar on a poster or writing on a whiteboard/blackboard would take at least an hour. This is done and ready to use in under 5 minutes!

OTHER IDEAS

Other opportunities for using the same software

- Learners read a story from the library, and select about 20-40 key words which they use to make a tagxedo 'cloud', choosing a shape, font, orientation and colour scheme that reflects the story. Share the clouds on Facebook / Twitter or print them off. Learners then choose someone else's cloud as a stimulus to create their own story and finally compare their stories with the original text and the 'cloud stories'
- With older children, cut and paste some texts from different stories they have read over the year (leave out names) and see if they can guess which ones they are.
- Use text from different authors talking about the same subject or authors from different periods. For example, how does Jane Austen's description of a domestic scene compare with a modern version?
- Look at some Wordles of famous speeches and see if you can guess what they are (Barak Obama's inauguration speech works well)
- Make some Wordles out of dialogue in a play and see if you can guess the characters. Is there a difference in the sorts of words they use?

LIGHT, SHADOWS AND ME

6-7 YRS



OVERVIEW

This is great for helping learners recognise the difference between natural and artificial light sources. It also tackles the tricky subject of what is and what is not a light source.

DESCRIPTION

Make a list of things that 'give out light'. List everything children suggest, even if they are technically wrong e.g. the moon – this will be important when they review and evaluate their learning at the end of the lesson.

Give them a range of light sources to investigate – e.g. different shape torches, a camping lantern, a candle, a reading light etc. You can provide pictures of those that can't be brought into the classroom e.g. the sun, streetlights, car headlights etc. At this junction, you'll probably want to point out some safety issues like not shining torches into their eyes and only the teacher gets to light a candle!

Allow learners the opportunity to draw some of them, either on the whiteboard or using a drawing program. Alternatively, use a digital camera to take pictures. This is particularly effective if you photograph the light source against a black background.

For each item, ask the children e.g. What are they for? Who might use them? How are they different? How are they the same? How bright or dull are they? Do they give off heat?

Provide some 3D shapes like a ball, a cylinder, a cube and let them use the torches to look at the different shadows produced by shining a torch on them. Do different objects produce different shadows? Do the shadows move when they move the torch? You could ask children to put the object in the middle of a large piece of paper and to draw the shadows as they move the torch around the object.

Look at a well known local landmark on Google Earth and use the sun option to show the class how it looks at certain times of the day and where the shadows fall.

Either in groups or as a class, consolidate learning by playing the following game www.bbc.co.uk/schools/scienceclips/ages/5_6/light_dark.shtml

Refer back to their initial list of light sources and discuss if they still agree with their initial ideas.

WHAT DO I NEED?

- Internet access.
- Variety of torches, lanterns, candles etc.
- Drawing software - Tux, Too Simple Kidpix or similar
- Digital cameras (optional)
- Google Earth (Google it and install it – it's free)

ADDED VALUE

Developing Interactive Whiteboard skills are essential if learners are to use increasingly difficult whiteboard applications. This activity offers several opportunities for learners to do this whilst also developing their knowledge and understanding of a key science topic.



HINTS & TIPS

The recommended game is in English. If they have a different first language it is easy to play the game with the teacher reading aloud the questions and choices in the learners' mother tongue.

SAFETY

See activity for practical suggestions regarding the non-IT elements. There are no safety issues relating to this software.

OTHER IDEAS

- Create some day or night pictures using drawing software on the computer.
- Ask the children to collect pictures of light sources and to bring them into school. Use the pictures to create a class Glog or Pinterest (See the unit Glog It! in this handbook.)
- Take some landscape photographs. Using simple image manipulation software (e.g. iPhoto on a Mac or Picasa or Gimp on both Mac and Windows), experiment with the effects and editing options to see what happens when you increase or decrease the exposure, increase the contrast, reduce the colour intensity etc. Can you make the same image look like a night-time scene and a daytime scene? Can you make the image 'change season'?

READING RECITALS

6+ YRS



OVERVIEW

Making audio recordings has never been easier thanks to a raft of free and easy to use downloadable software. We use the audio recordings for reading assessment (for peer, self and teacher assessment) and reporting to parents.

DESCRIPTION

If you do not already have recording software on your computer, you will need to download a programme from the web. We used Audacity for this lesson (use the link below). It is free, easy and it's ready to use within minutes.

When you are all set and ready to go, ask learners to open the programme. The control panel may look complicated but you will basically only be using three buttons: **record** (button with red circle in the middle), **stop** (button with the square in the middle) and **play** (button with the green triangle in the middle). These are easily recognisable as they are the same as you find on any traditional audio equipment you have at home such as DVD players and so on.

When learners are ready, they simply press the **record** button and begin reading. When they are done, they simply press **stop**. They can play the recording by pressing **play**! It really is that simple. It is important to tell pupils that if they make a mistake, they should not stop the recording and start again in an effort to 'get it right'. After all, if you are using it for assessment purposes you'll want a true reflection of their reading skills. Having said that, it is often the case that when they are being recorded, pupils' reading fluency improves due to greater concentration and application on their part!

The key to this activity is how you use the recording. As we said in the overview, you can simply save the recording and use it to assess learners' independent reading skills. It is particularly helpful if you record them at different stages throughout the term/year so that you can evaluate their development. We have also used it to play recordings to the class asking peers for feedback (ask the pupils concerned if they are happy for you to do this as some are shy and could find this quite uncomfortable). Learners can use the feedback in order to set personal targets for reading.

WHAT DO I NEED?

Audacity or any similar audio recording software downloadable from <http://audacity.sourceforge.net/download/>
Even a cheap, external USB microphone plugged into your computer gives a much better recording than using the built in microphone.

If you are a Mac user, you can still use Audacity but most Macs now have Garage Band already installed so you may want to use that instead. It's a tad more complicated than Audacity but you can do lots more with it!

ADDED VALUE

Producing hard evidence of pupils' reading attainment is a perennial problem and has usually involved a lot of expensive and temperamental hardware such as tape/CD recording equipment. Using Audacity on your computer is much easier to manage and, best of all, requires no financial outlay.

HINTS & TIPS

If children are not familiar with hearing their voice on a recording they can be quite nervous or giggly, so maybe you need to have a couple of trial runs whilst recording so that they can get used to it. In our experience learners become quite blasé about it once the novelty has worn off.

If you need a transportable hard copy of the recordings, say for moderation or standardisation purposes, recordings can be saved as mp3 files and either sent via Drop Box to SEN agencies or parents, or saved onto a CD or memory stick. (Sound files are big and usually take far too long to email.)

If you need guidance on how to save and export audio files, and in what file format, go to the activity Podcast to Parents.

SAFETY

There are no internet or IT safety issues.

OTHER IDEAS

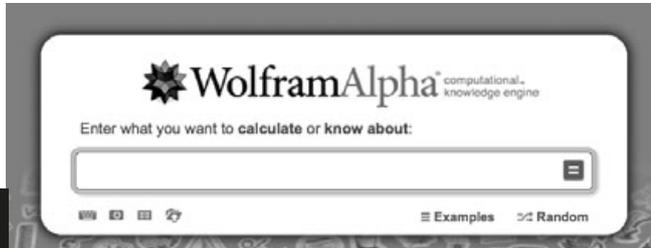
- Ask children to record audio books for class collections to be shared with other students, classrooms or even schools. Some learners will want to be the narrators, other children can act as producers, editors, floor managers etc. Books with dialogue are good as it means that there can be small speaking parts for several children. This is often less daunting than having to read the whole story.
- Begin creating pre-recorded 'radio' broadcasts: learners write a script, choose songs they'd like to play and arrange interviews e.g. with the head teacher. If children like this idea, then check out the unit Podcast to Parents in this book or on our website. If they want to take it further and stream their programmes to the world, then the Tackle 2 website will tell you what you need to know about creating internet radio.

SAVVY SEARCHING

7+ YRS



OVERVIEW



WolframAlpha is a search engine that works completely differently from, say, Google.¹ Whereas other search engines will provide reams and reams of results in the form of web pages, many of them too detailed and difficult for learners to read and extract what they want, results on WolframAlpha are clearer and much less wordy. It is also a good idea to get children used to the idea that there are different sorts of search engine.

DESCRIPTION

This scientific search engine is great for learners who want information and data on specific, 'technical' themes e.g. countries, animals, famous people, materials. For example, you may want them to write a project on the countries in the European Union, or to collect data specifically on one topic for a maths lesson e.g. populations of the countries in Europe.

Begin by asking learners to go to the WolframAlpha homepage. Then ask them to type a keyword, question or maths equation into the box beneath 'Enter what you want to calculate or know about'. Click on the '=' to get the results.

WolframAlpha will give the results of different meanings of the word e.g. if you type 'France' you will be given information and data relating to the country e.g. flag, location on a map, population etc. However, it will also give you alternative meanings you can search on e.g. 'a given name'. Clicking on this will load a different page and a different result. In this example, it gives an outline of 'France' as a 'female given name in the US'.

The word 'banana' is another good one to try – it gives about 5 or 6 different definitions of the word and you can search on any of them with surprising results.

We also like the little fun questions that pop out of the left hand side of the screen. You can click on them to get the answers.

WHAT DO I NEED?

- Pupils will need a very quick tutorial – max 10 mins!
www.wolframalpha.com

ADDED VALUE

We have all had the experience of asking younger children to use the internet to gather and annotate information... it's not always easy for them. Wolfram Alpha is a very powerful search engine designed for scientists but it is still probably the easiest search engine for children. Once you have taught your class to use it, subsequent lessons will move more quickly because children will not be distracted by confusing and fruitless internet searches.

HINTS & TIPS

Ensure pupils are prepared and know what specific information they need. Assess how efficient they are in locating this information and be at hand to remind them of their task should they become distracted by non-relevant information.

Wolfram Alpha is great for scientific information and data. It is objective and factual with no value judgments or opinions. It also accesses current information e.g. weather conditions in London today. However, although it is an amazing resource, and is growing rapidly, it still has gaps – so use it to search the topics yourself beforehand.

This tool could be very useful for dyslexic children. In addition you could couple the use of Wolfram Alpha with software designed to support people with learning difficulties. (http://lab.clcworld.net/clc_star/clc_star.html). This software allows users to set up preferences for how they want pages presented to them. Features include the ability to enlarge images, change font size, foreground/background colour and style, enhance the cursor focus indicator, adjust line and word spacing, disable stylesheets, and background images.

SAFETY

No worries! Even if your little horrors are able to surreptitiously type a dodgy word like 'sex' into the search box, unlike other search engines, they won't be assaulted by countless images you'd much rather they didn't see!

OTHER IDEAS

- Experiment with the alternative searches underneath the search box e.g. Image Input and Data Input.
- Play games e.g. who can find the Latin name for ten animals?
- Compile a Wolfram Alpha quiz – with questions such as "How much do a million pennies weigh?" (use all the pop up questions on the left of the screen)

¹ Wolfram Alpha is a Computational Search Engine – it computes the answer from separate items of data rather than giving you a list of web pages that might have useful information. Google is a Semantic Search Engine that takes the text you type in and 'matches' it against the key words on a web site.

MINI MUSICIANS

7-10 YRS



OVERVIEW

In this activity pupils are encouraged to work both artistically and technically. They start by building their own musical instruments from waste materials and then investigate sound patterns using audio recording software. Finally they can transmit their knowledge and understanding of sounds through sharing video tutorials and through their own blog.

DESCRIPTION

Divide learners into groups of 2-4 individuals to design and build an untuned instrument (by untuned, we mean an instrument that makes a noise but is not 'tuned' e.g. shakers or drums. Building a harp may be a little too ambitious!) Drums of all sorts are popular, rhythm sticks, castanets, all manner of things that make rattling noises in different receptacles, rubber bands, balloons – try and find a variety of different materials. This type of activity is already common practice in most schools.

Throughout the process, ask learners to think about the sound their instrument makes and if it is possible to create different sounds through shaking, hitting, scratching, plucking the instrument.

When they have finished making it, ask them to record themselves playing their instrument using Audacity (or similar free software). Instructions on using Audacity can be found in the activity Reading Recitals in this handbook. When each group has recorded themselves playing their instrument, play each recording anonymously, asking the class to study the audio trace (blue spiky pattern) and guess which instrument created that trace. Discuss their ideas and ask them to think of a rule e.g. the louder the noise, the 'taller' the audio trace (the amplitude). Can they work out what causes the wave peaks to be closer together and further apart (the frequency)? Can they spot the difference between smooth waves and spiky ones? Try playing two instruments at once (preferably with quite different pitches) and see what happens.

After they have finished experimenting they can post their results (and their music) on a blog, if you have one, or on Moodle or Slideshare or You Tube.

WHAT DO I NEED?

- Handicraft and waste materials necessary to build the instrument
- Download the software from www.audacity.sourceforge.net
- External mic if possible

ADDED VALUE

This enables learners to understand how sound is recorded and represented and how they can interpret an audio trace.



HINTS & TIPS

This unit of work could take a while because it contains different 'components' or 'stages' to it. Having said that, it isn't difficult and can help introduce/consolidate skills such as using audio recording software as well as music, craft and science skills.

SAFETY

There are no internet safety worries connected to this activity.

OTHER IDEAS

- Let pupils record themselves playing their instrument in a band.
- Record an audio clip explaining how to make their instrument.
- Go to www.youtube.com/watch?v=qqmce-p6VLc for an example of learners' presentation
- Look at the blog of Minibeats project, <http://minibeats.blogspot.fr/> and wiki <http://minibeats.wikispaces.com/>

HAPPY HOMEWORK!

8+ YRS



OVERVIEW

Wallwisher/Padlet is a great way to collect ideas and contributions from learners and an easy way of presenting them. It can be used for gazillions of purposes e.g. collecting feedback on lessons, teaching foreign languages, making predictions and generally posting learner ideas and contributions. We used it as a quick, easy and fun homework task – hence the 'Happy' in the title!

See one example by typing the following into your browser:
<http://wallwisher.com/wall/cymru-wales>

DESCRIPTION

Click on 'build a wall' on the Wallwisher/Padlet homepage <http://wallwisher.com/> Choose a themed background and complete the title, subtitle and all relevant fields. It is very easy. You can write the aim of the homework in the title and subtitle fields, just like we did.

As homework, everyone in the class can be asked to contribute one thing they know about a given subject or topic. All they need is the wall URL and a quick tutorial on how to submit a post. Remember to show them how to put their name in the box on top of the post.

Back in school, read the wall as a class and discuss the contributions. This is a great activity for generating a debate as some posts will be considered obvious, trite or just plain wrong. See a good example by typing the following into your browser:

<http://wallwisher.com/wall/science-wood> - the picture on this page is a screen shot of this.

WHAT DO I NEED?

- For the purpose of setting the homework task and for reviewing the posts afterwards, an interactive whiteboard is helpful. You will need to provide pupils with the URL to take home. *NOTE: As this handbook was going to press, Wallwisher was in the process of changing its name to Padlet. The links provided here should work even after the changeover.*

ADDED VALUE

This is a non-threatening way to encourage contributions from every member of the class, especially if you allow them to use pseudonyms on their posts. Learners can contribute without feeling they might 'get it wrong'. Also, it's a purposeful and enjoyable homework task that learners will feel more enthusiastic about.

HINTS & TIPS

Remember to check the 'Everyone' button for 'Who can view' and 'Who can post 'sticky notes'.

This is basically a way of using post-its electronically but it has the advantage of being paper-free (think of the trees, man) and you can save your Wallwisher wall and use it over and over again

Put the URL on Moodle, if you use it, because they are likely to forget – as we found out!

SAFETY

Periodically, check the Wallwisher wall you created for learners, it will be possible for other people to contribute to the wall and you may wish to delete these. On the other hand, you may find 'outside' contributions provoke discussion or add value in terms of content.

OTHER IDEAS

- Collect feedback on lessons (AfL)!
- Ask learners to post the names of colours in French, German, Spanish (MFL)
- Create a Birthday Wall where each person in the class posts the date of their birthday as a reminder to friends.
- For homework with a difference, instead of asking them to find answers to questions that you set, ask them to post an interesting question about a topic instead.
- Let each pupil keep their own wall and use it as a diary to record what they did or learned each week.

FUZZY FEELINGS

5+ YRS



OVERVIEW

This activity is fun and can be used as a little assignment at different times throughout the year. It helps pupils to feel more part of the class and develops their awareness of others' feelings. If you're familiar with the activity "The Little Note" this works like a modern equivalent.

DESCRIPTION

Start off by showing the children how to use Blabberize (www.blabberize.com) to make a Blabber. Explain to them that 'a blabber' is a talking 2D picture or photograph. You may have already shown them a blabber you made earlier. (If you do one of yourself, they think it's hilarious)

If your computer has an inbuilt microphone this is usually sufficient. If you're using an external microphone, show learners how to use it before you start.

Put children's names on individual pieces of paper and place in a box. Ask each one in turn to select a piece of paper from the box without showing it to anyone. If they select their own name, ask them to replace the paper and choose another. By the end, everyone will have his or her "Secret Friend".

Over a period of time, you give each learner the opportunity to send his or her "special message" to the secret friend. This moment can be: a birthday, New Year, the day that the secret friend has a very good report card, very good sports results, a new haircut... almost anything can be a reason to send a Blabber! It's up to the secret friend when they'd like to do this. The only caveat is that it **MUST** be a positive moment. The message can be a short message, a song, a poem or just a very nice compliment!

Once the message has been created, the learner can either choose a picture from the bank of images provided or upload a photo or picture from the class computer. The link for the Blabber can be sent to the "secret friend" at the chosen moment.

WHAT DO I NEED?

- microphone (unless your computer has one inbuilt)
- www.blabberize.com
- tutorial on: www.youtube.com/watch?v=FEtUu1r8Pe4
- similar but with more features: www.goanimate.com

ADDED VALUE

- every learner gets a confidence-boosting surprise!
- It appeals to children's zany sense of humour!
- learning to say something nice, be kind and considerate to someone in a fun and entertaining way.



HINTS & TIPS

Do this at the beginning of the year or agree on a defined period for the activity. It can be hard for children to wait months for their message. Decide beforehand on the length of the message.

SAFETY

If you're unsure as to whether you can use an image, stick to using images from <http://search.creativecommons.org/> only. It is safe for learners to use photos of themselves but ask them not to make reference to their names, addresses etc.

OTHER IDEAS

- Use it to create fictional characters and prepare monologues for them.
- "Talking Heads" style presentations: biographies of famous/historical/people in their community.
- Create Class news bulletins.
- Make "How to..." tutorials.
- Create their own Blabbers for special occasions and festivals.

TODAY'S REPORTER

5-9 YRS



HINTS & TIPS

Learners can take pictures for half or a full day but restrict the periods they can do that to something like the first few minutes of a lesson otherwise it can be too disruptive. Remember to ask them to take photographs during playtime and lunch as well. You may feel that you'd like to supervise this yourself – or ask a responsible older child to help the reporter.

In the early attempts, many of the photos will be unusable, either children will not use the functions on the camera effectively or they'll put their finger over the viewer! However, these are important teaching points and should be discussed in the plenary.

Make sure the camera's battery is charged and that you check it is working correctly. It's always a shame if the camera doesn't work and the learners are eager to 'get to it'!

Ensure all children get a chance to be the reporter.

If you don't have time at lunch time/ during the afternoon to upload the pictures, do it after school and review it next morning before nominating the next "Photographer of the day".

SAFETY

If you decide to upload photos of children to the internet, ensure that you have parents' permission.

OTHER IDEAS

- Try putting the pictures into a Power-Point presentation then, as you recall the day's activities, you can write the children's comments on the slides. Upload the presentation to Slideshare (www.slideshare.net) and use the embed code to add the presentation to your school /class blog. Or just share the blog in details with parents. You can even add audio commentary on Slideshare! Alternatively, use www.picasa.google.com
- Use www.fodey.com or www.inthepaper.co.uk to turn reports into newspapers. Great bit of software – free, easy to use and produces realistic 'newspapers' from your reports and photographs.

OVERVIEW

Children learn how to structure a day and develop their chronological awareness in a real-life context. They also have the opportunity to assess the day's activities and share this with others through an online newspaper.

DESCRIPTION

Create a timetable so that once a month a learner takes on the role of "Photographer of the Day". The photographer gets a special cap and a card on a piece of string around his/her neck or badge with *Reporter* written on it. The photographer's role is to document the day's activities on camera.

At lunch time (or near the end of the day if you have time!) the teacher uploads the photos onto the computer. In the afternoon the class can view the photos and discuss the day's events chronologically under the teacher's guidance. Learners find it really hilarious to see themselves at work and play... and it doesn't matter if some of the photos are blurry or badly taken, they seem to think this is even more entertaining!

WHAT DO I NEED?

- Tablet or camera
- Image capturing programme
- Interactive Whiteboard

ADDED VALUE

We have found that re-capping on the day's events not only improves memory but this activity also encourages children to tell their parents what they've been doing in school that day - rather than just saying "I can't remember" when they are asked!

ROUND ROBIN WRITINGS

6+ YRS



OVERVIEW

This activity is great for collaborating with other learners in the same class, interacting between classes in the same school or even getting together with learners in other schools, both nationally and internationally. The activity we used was based on story writing but it can be easily changed to develop different genres of writing across the curriculum (timelines, biographies etc.)



DESCRIPTION

First set up a network of correspondents who want to participate in writing an on-line story. For your initial attempt, you may prefer to try it with groups within your own class or classes within your school. You can then expand the activity, writing Round Robins as a cluster or group of schools where you have connections.

It basically involves one group of learners (in pairs, small groups, or a class group) writing an opening paragraph to a story. They then email (or twitter!) their opening paragraph/line to the next group in the round who add the next paragraph and send it on. The story continues to 'do the rounds' for a finite number of turns or until it is finished. This was an extract from an example where we entered the first sentence.

1. *'The boy entered the cave with great caution, knowing he would not like what he'd find there...'*
2. *'The cave was dark and damp, his small torch was of very little use. As he turned the corner, he entered an cavernous space...'*

If all subsequent emails or tweets are made available to all groups in the round, learners can follow and critique the story's progress, evaluating contributions and discussing progress. The round usually comes to a natural conclusion, at which point the story can be published on the school website(s).

Learners can create original characters for their stories at www.clayyourself.com. These can be printed before learners write profiles for them and include them in their creative writing. Clayyourself allows you to produce an avatar, generate a pen name, create a script and record it! It's totally free and you do not need an account. This fun app also gives practice in identifying adjectives, nouns, past and present tense of verbs.

WHAT DO I NEED?

- Access to an email account or twitter account.
- Partner groups, classes or schools. If you use twitter, the safety guidelines in the activity Twitter Role-play will ensure that only those permitted have access to the round-robin.

ADDED VALUE

We've found that this type of activity increases enthusiasm and participation even amongst reluctant writers. As the onus is on writing a line or a paragraph, learners can concentrate on a very short piece without becoming bogged down by 'the bigger picture' e.g. overall plot. The sense of anticipation at receiving the next round robin also serves to boost their eagerness to read more of the story and to write their own contributions. Also, forming an opinion on others' contributions helps them develop their own writing skills.

HINTS & TIPS

If you are opting to write a round robin with other schools, draw up a list of rules beforehand, such as 'all participants must respond by adding to the round within 3 days'. This ensures that learners aren't waiting for long periods of time for the next instalment. Also, the more partners you include, the longer it will take for the round to return, so you may like to limit participants to 3 or 4 groups.

If you are using twitter, (very good for restricting the length of the contributions), then make sure you set up a hash-tag for the story so that is easy for others to find e.g. #cave2013

SAFETY

Ensure all correspondence happens through you, the teacher. Emphasise to learners the importance of not sharing personal email addresses etc. on the web.

OTHER IDEAS

- Experiment with Wiffiti and Voice-thread to tell multimedia and non-sequential stories (Just Google both of these!)
- Allow children to link some of the key words / interesting words / difficult words in the story with hypertext links to more information or pictures or audio files e.g. sounds of the sea, animal noises, storms etc. This means that the story can grow in 'three dimensions' and allows more children to contribute
- Paste the final story into a word document, save as a pdf and upload onto a Kindle so that other children can read it.
- Use twitter to write stories! Many writers and poets have experimented with Twitter's 140-character format to bring new, serialised works in small chunks to draw people's attention to their work. Some teachers may like the idea of asking their pupils to apply their writing skills to such a restrictive platform. It teaches discipline and clarity of thought and some children who feel daunted by writing a longer story find this manageable.

FRACTION FAMILIES

7+ YRS



OVERVIEW

We think Visnos is the best software ever for teaching fractions – and it's free! It is also very adaptable and can be used with different year groups so long as you choose the age-appropriate 'family' of fractions for your wall. (In this activity we refer to fractions as belonging 'families' e.g. *The Twos* would be halves, quarters, eighths and sixteenths and so on. You can also choose *The Threes* or *The Fives* or, for older and/or more able learners, you can choose 'large' which gives you every fraction family or 'mixed' which gives you a random selection of fraction families.



DESCRIPTION

We strongly suggest you view the audio/visual demo outlining all the functions at www.visnos.com/demos/fraction-wall before you use it in the classroom.

Show the blank fraction wall to the class. Explain what it is and give a quick demo of how to use the mouse to highlight individual fractions. Explain to them that they are going to investigate fraction families and how some fractions can actually have exactly the same value. Tell them that we call these equivalent fractions.

Ensure the 'Eq' is showing a green tick, not a red cross and that you've selected the appropriate family. Then click on, say, $\frac{1}{4}$ on the fraction wall. Ask learners what they notice. Draw their attention to the 'totals' boxes running down the right hand side of the fraction wall. Ask them what these fractions tell us.

Ask learners to use the fraction wall to find as many equivalent fractions as possible. You may want them to write their answers like this $\frac{1}{4} = \frac{2}{8}$. Explain that they only have 5 minutes and when you call them back you'll be discovering who found the most.

When you have done this (and checked the answers!), you can opt to move on to a more difficult wall, repeat the activity using the same wall but ask them to find equivalent decimals or percentages, or display a random wall and ask them to verbalise their observations as a means of consolidating what they've already learnt e.g. "One half is equal to two quarters".

WHAT DO I NEED?

- www.visnos.com/demos/fraction-wall#launch work books or work sheets to record answers.
- Interactive whiteboard.

ADDED VALUE

- The concept of 'a fraction' is difficult for many learners to understand - equivalent fractions even more so! This interactive fraction wall is very non-threatening yet demands that learners are completely engaged. Using it as we've done here, as an initial introduction, helps capture learners' attention and is a great visual resource for learning an abstract concept.
- We love www.visnos.com because it is easy enough for less confident learners (and teachers!) to use.

HINTS & TIPS

- You may decide (especially with older and/or more able learners) that learners would benefit from watching the online demo. The demo can be stopped or paused at any time so as not to overload them with information about all the functions.
- We have referred to fractions as belonging to families, you must decide if this is appropriate for your learners. Either way, it doesn't affect the learning outcomes of the lesson.
- We've found that this activity works particularly well when learners work in pairs, thereby providing peer support and feedback throughout the task.

SAFETY

This software is 100% safe. There are no links to other sites and learners do not interact with other users. The software was created by a teacher for teachers!

OTHER IDEAS

- www.visnos.com/demos/classroom-timer#launch
 - www.visnos.com/demos/fishtables#launch
 - www.visnos.com/demos/clock#launch
- And many, many more! Check them out on the Visnos site.

Big thanks to Michael McDaid who allowed us to pilot this software and include it in the book!

KINDLES IN THE CLASSROOM

7+ YRS



OVERVIEW

Teachers are sometimes very unhappy about the use of Kindles or other e-readers in the classroom. Some felt they worked hard with their pupils to develop a love of books and e-readers were, in some strange way, threatening this. We are convinced that children should learn that 'books' come in many forms; paper based, readers that use electronic ink (such as Kindles), on a tablet, on a smart phone, on a computer monitor. They are all ways of accessing books and can - and should - co-exist quite happily in the classroom. This is especially important for those kids who have a mass of electronic devices at home but only a few paper-based books.

DESCRIPTION

In order to get the most out of using e-readers in the classroom, schools will have to make a commitment to purchase more than one. In this example, the teacher has 6 Kindles that she uses for group reading activities. Her class has access to these once a week so each group of six learners has access to them once a fortnight. She feels this enables her to keep a balance between learners using e-readers and traditional paper books. That said, she is looking forward to the school investing in more e-readers that will enable her to use them in other teaching and learning contexts.

Learners already have their group reading text that they read daily for 10-15 minutes either independently, as a group or under the teacher's guidance. When it is their turn to have the e-readers, the teacher usually sets a short-term or stand-alone task such as reading the first chapter of a book before discussing the text or reading a poetry anthology that they can dip in and out of once a fortnight.

If they read an opening chapter of a book that they enjoyed and would like to continue reading she often provides them with paper copies of the text. When they use e-readers to read poetry anthologies she asked the group to prepare a 5 minute presentation to the class on why they did or didn't enjoy the poetry (supported by quotations) and to make recommendation to classmates as to why they should or shouldn't choose to read that anthology on their next 'Kindle Day'.

WHAT DO I NEED?

- Kindles or other e-readers.
- An open mind!

ADDED VALUE

For us, this is the most important aspect of using eReaders. We have found that Kindles offer so many additional benefits. In particular -

- Slow or 'reluctant' readers quite often respond better to e-readers because they have interactive aspects.
- Learners tend not to associate them with a previous history of 'failure' whilst reading - they are new and somehow "different".
- Learners can be shown how to adjust the font type, the font size and the page orientation so that they can choose the combination they find easiest to read - especially good for some dyslexic learners.
- If they get stuck on a word they can (in many e-books) turn on the sound so that they can hear the word spoken
- If they do not understand the meaning of a word they can click it to find a definition
- They can make a mark or comment in the margin to note any bits they don't understand, which the teacher can then follow up



HINTS & TIPS

We found that choosing books with a speech synthesiser and allowing them to switch it on when they start losing track of the story or getting tired, renewed learners' interest and was particularly motivating for slower readers.

It does take a while for learners who have not had access to e-readers in the past to get the hang of things. If you are seriously thinking about buying e-readers, we would go for the 'older' ones with a keypad - they are much easier for children to use.

OTHER IDEAS

- Select particular words e.g. 'find five adjectives', 'find three words you didn't know' using the mark up function
- Select a particular word and write its meaning as a margin note then check their definition against the Kindle dictionary definition
- Use the Amazon Kindle store to explore different 'genres' and different ways of classifying books
- Look at some of the book synopses then write their own for a book of their choice
- Another easy (and fabulous) idea is to save children's own stories as PDF files and upload them onto a Kindle for other children to read

THE SKYPE'S THE LIMIT!

7+ YRS



OVERVIEW

Skype is a surprisingly easy communication medium to master and, for the most part safer than other modes of communication such as phones and email. You can text, telephone, use live video if you have a camera, send files and make group calls. The possibilities are endless and teachers are constantly finding new ways to develop learners' skills and understanding. In this activity, the teacher opens her classroom to the world whilst remaining confident that she is in complete control of the teaching, learning and safety issues.



DESCRIPTION

First you need to create a Skype account – it's free and it's easy. You will need to download the software but the step-by-step guide is fool-proof. Log into your account and click on *Add Contact*. You will be asked to provide the email address of the person you'd like to add. It is a good idea to start your list of contacts by adding classes in the same school, colleagues and classes in other schools and suitably vetted people in the community e.g. the local children's librarian. Pupils do NOT need their own accounts.

The people you have added will receive an email asking them to accept you as a contact, which they can either accept or decline. In most cases you will have already spoken to them, checked that they are happy to be your contact and, importantly, that they have Skype!

When your contacts have accepted and added to your list, click on 'Call phone' next to the chosen contact. You will need to pre-arrange with your contact a set time and date for the call to take place. We used the interactive whiteboard and a lap top computer with a built in webcam facing the children so that both classes could see and hear each other.

In our lesson, the teacher wanted pupils to develop their understanding of the geographical differences between the inland town where their school was located and a seaside town. The teacher in the contact school is an old friend of hers and together they have planned a series of Skype interviews to develop learners' understanding of contrasting environments.

Learners had already drafted questions they wanted to ask and each class took turns in asking questions. When they were asked a question, learners were allowed to put their hand up if they felt they could answer. During the interview, learners were asked to write down the responses.

Over the coming weeks, other calls were made in order for learners to delve deeper and inquire further as more questions and queries arose. To end the unit of work, each class presented their Contrasting Localities Project to the other via Skype.

WHAT DO I NEED?

- Skype account
- An internet connection with the right ports open (80 and 443)
- A web cam if you want to make a video call (recommended)

ADDED VALUE

- The world literally is your lobster... I mean oyster.
- Endless applications (see below for just a few)
- Develops skills that cannot be developed through other modes of electronic communication e.g. email is 'asynchronous' whereas this is live and requires learners to 'think on their feet'
- You remain in control of the communication channel at all times

HINTS & TIPS

- Having set up the account, you will effectively become 'gatekeeper' to your Skype account. You get to choose who is added to your contacts and you will have control over every call that is made or received. It isn't possible to receive unsolicited calls – if you get a stray name you don't recognise, you don't answer the call and block the number with one click – and when you are logged out of Skype no one can call you.
- If you are happy to have only one contact in your list and that is someone you've known for 30 years, who is also a teacher, and happens to be teaching in the classroom next door, that's fine. It's a start!
- Make a test call first, if the video call freezes or disconnects, because of lack of bandwidth try audio only or SMS.
- Skype comes under that category of software called Voice over Internet Protocol (VoIP). There are others you could use instead such as PhonePower, Lingo, Vonage
- One problem might be that your server blocks access to Skype so ask your server host to 'unblock the port' that Skype uses. Skype is one of those applications that works through the internet but is not on the world wide web. To see how the rest of the world is using Skype in the classroom go to <https://education.skype.com> 43,000 teachers can't be wrong!

OTHER IDEAS

- Practice a foreign language
- Compare weather patterns nationally and globally
- Set up international quizzes or spelling bees
- Have an inter-school debate
- Link with a 'mystery' school, and discover their location through deducing a series of clues or riddles
- Skype teacher/parent meetings: why not?
- Interview artists, authors, athletes, and people in the community who have 10 minutes to spare.
- <http://edudemic.com/2012/11/online-colleges-50-creative-ways-to-use-skype-in-the-classroom/> for loads more ideas
- Use Skype for learning a skill – maybe you can find someone who could show your class how to make a cake / turn wood / name different trees (use an iPad) etc.

TOONTASTIC!

7+ YRS



OVERVIEW

Pupils investigate writing in the comic book genre. They will learn how to use dialogue to express their ideas and create fun and original story lines. This is particularly good for investigating sequencing and plot.

DESCRIPTION

Ask the pupils to bring their favourite comic book to school. Discuss the typical techniques used in comic books e.g. different kinds of speech bubbles, placing of characters in relation to bubbles, sequencing scenes.

Divide the pupils in to small groups and ask them to create a situation in Creaza Cartoons by choosing a background, characters and characters' emotions. This is really easy to do, but if you'd like further instruction, put the tutorial URL (below) into your browser. If appropriate, you can play the tutorial for the learners too, it's very accessible.

Learners can either create their own cartoon or pass the opening of their story on to another group. Once their stories are finished, they can print them to turn the into fantastic comic books! The comic books can be shared through a link and learners can watch and evaluate each other's work.

WHAT DO I NEED?

- www.creaza.com (web 2.0 tool, no need to install anything, you only need to create an account)
- tutorial on: www.creazaeducation.com/cartoonist

ADDED VALUE

- easy to share with parents
- learning to work in groups, respecting each other's ideas
- exploring the possibilities of a new tool
- learning to work independently with ICT

HINTS & TIPS

It is worth noting that the smaller the groups are, the more input each child will probably have into the cartoon. We recommend no more than 4 to a group, but 2 learners per group is ideal.

Learners who find spelling difficult may benefit from using these tools alongside this activity:

www.clasohm.com/lmt/en/
(word prediction)

www.wordtalk.org.uk/Home
(text to speech + talking dictionary)

www.ghotit.com/
(spelling and grammar check in context)

SAFETY

Remind pupils to not use personal information e.g. actual addresses, phone numbers etc. in their cartoons!

OTHER IDEAS

- Develop editing skills by asking pupils to evaluate, edit and publish others' work.
- Recant personal stories using the characters provided.
- Create new fairy tales.
- For older pupils, why not try www.toondoo.com this software has more features and looks a little more authentic.

PINNING DOWN THE PAST

8+ YRS



OVERVIEW

History Pin is an online tool that allows us to add and annotate photos from different periods in history to a world map. It can then be used as a photo bank of evidence for research purposes – or just a walk back in time.

HINTS & TIPS

Choose clear photographs and encourage learners not to 'pin' duplicates onto the site.

DESCRIPTION

Take learners on a tour of History Pin. We like to type 'Titanic' into the search box and show them what has been posted. Of course, they find this is very emotive and ensures high levels of engagement from the get-go!

Next, focus in on your local area. Discuss what has already been 'pinned', also discuss what is missing! The results vary for different localities, but as a general rule, the larger the town or city you live, the more 'pins' there will be.

Tell the class that their task is to source one photo, picture or piece of information that they would like to 'put on the map'. It's fine to post pictures depicting their family history e.g. a picture of their grandfather, the house where they live and so on, but they will need permission from their parents!

To add to this, you could go to the library, town museum or the city council and ask for pictures to add to your map. Local newspaper offices are also a good place to look.

Finally, pupils gather the information that will go in the text and add the text and the pictures to www.historypin.com. There is a great tutorial on the site that shows you very simply how to do it.

(Whether you create the free History Pin account or you allow learners to do so is up to you.)

SAFETY

Be careful with professional photos e.g. from a newspaper. You have to get permission for their publication online unless they are free of copyright. Obviously, there is no problem with personal photos – you only need parents' consent.

OTHER IDEAS

- You can increase the difficulty by inserting videos or audio e.g. an interview with Grandma or a video of a school visit to a local site of historic interest.
- Download 2 or more photographs of the same place taken at different periods. Play 'Spot the Difference' – see how many changes there are. Encourage pupils to find explanations for the differences.
- Make a collection of photographs showing similar objects or features over the years e.g. 'buses', 'toys', 'clothes'

WHAT DO I NEED?

- Internet access
- Pictures saved as jpg or png images

ADDED VALUE

It is rare to find such a variety of historical evidence all gathered together in one place. This software is already proving to be a one-stop-shop for general research on places and the people who live(d) there. Importantly, it gives learners the opportunity to explore history from primary sources.

VIRTUAL LIBRARY

8+ YRS



HINTS & TIPS

Check learners' reviews and correct spelling and grammar if you need to. You can do this even after they have added their books to the profile shelf - just click 'edit'. You may want pupils to limit their review to 100 or 200 words. We believe this encourages them to be much more concise and it helps hone their writing skills. Studying the summaries on books they have in class will help them understand this genre of writing. You can also use Kindles - click on a book in the home page then right click the controller to read a summary. Check out our profile www.shelfari.com/o1515002939/shelf

SAFETY

It is best to keep your password private and not use your personal Amazon account (Shelfari is owned by Amazon.com) to access Shelfari in the classroom. If you would like to contact other members, pre-arrange with colleagues in your own school or in other educational institutions. It is safer to not interact with unknown users.

OTHER IDEAS

- Post book reviews
- Discuss favourite books with other learners
- If you've already tried out the unit on using Wordle, why not ask pupils to create a Wordle using the tags they created for their favourite books? You can have a 'Guess the Book' quiz where pupils have to guess which book is being represented by the tag Wordle!
- Have your class set up a profile for younger children e.g. "Nursery". What books did they enjoy when they were that age? Which ones can they remember? Fill the shelves with recommended books and reviews and share it with the nursery class parents in the lead up to Christmas.
- Interview someone who was born in each decade since the war. What books did they enjoy as children? Have fashions changed? At what age did they start reading 'grown-up' books? Find out the relative cost of books then and now. Set up a 50's profile and fill the shelves with books children in that era said they liked or were popular. Read one of the books.

OVERVIEW

Shelfari is a great online multi-purpose resource that learners can use to compile a virtual library of all the books they have read, plan to read or are reading now. After reading a book they can write reviews and share these with other classes and/or schools that they add to their 'Friends' list. They can also use the search facility to source books on a particular theme or by a particular author. It's a great way for learners to publish their work (book reviews) and decide which books to read next based on other people's reviews. The debates can become very lively!

DESCRIPTION

Go to www.shelfari.com/ and click on register. Create a profile name (we used A Class for ours!) and provide an email address. Create a password that only you, as teacher, know. We suggest that you DON'T share this with learners unless you are happy for them to access the profile from home. In order to create your class library, you can either ask each child to choose his or her favourite book of all time or have a class vote/ballot and create a Top 10 list. You can then extend the learning by asking them to write a review of their chosen book(s).

Use the Shelfari search box to find the books on their database and 'add' them to your virtual library shelf. You are taken through the reviewing process every time you add a book but none of the information requested is mandatory so you can include as much or as little as you want. We opted to include a short review, gave each book a star rating and we added 'tags' for searching (this in itself was a great vocabulary exercise). You can 'skip' any part that is not required or considered too difficult for your learners.

Once you've done this, you can use Shelfari for a host of other purposes. There are only 4 bookmarks at the top of your profile page and these are all fairly self-explanatory: Home, Profile, Books and Community. 'Home' takes you to the homepage, 'Profile' takes you to your profile page where you can add, remove or edit books on your shelf. 'Books' enables you to search for books, authors etc. 'Community' enables you to contact others or see what other individuals or groups are reading or saying about books.

Using Shelfari is like having access to the biggest library database in the world in your classroom!

WHAT DO I NEED?

- Internet access.
- An email address.
- www.Shelfari.com

ADDED VALUE

Learners can publish their writing in the form of book reviews and can gain access to national and international trends in reading habits. It also enables them to share their experiences of literature with the world. Whereas reading has traditionally been quite an insular experience, this software gives learners experiences of how the world of literature is changing in the 21st century. The graphics are fun as well - you actually get to see the book (and if you are looking for something to read, you may as well judge a book by its cover!).



OUR 3D CLASSROOM

8-11 YRS



OVERVIEW

Photosynth is a powerful set of tools for capturing and viewing the world in 3D. You can share your creations with friends on social media sites, publish them to the web or embed them in your own blog or website. In this activity, learners create a 360° photograph of their classroom and publish it on the school website.

DESCRIPTION

Explain to the learners that they will be taking a set of photos of their classroom in order to assemble them in one continuous, panoramic 360° image. It may be useful to show them examples on the Photosynth website. Explain to them that in order for the software to create the image, they will need to provide the material in a specific format e.g. each photo must have some common points (overlap) with the next one so that a 360° photo can be made. They will need to take 10 photos per 3m.

Divide the children into groups and explain that each group will be responsible for taking the photos of a specific part (3-6m depending on number of learners and groups) of the classroom.

Show learners how to take the photos with a digital camera and how to use the picture viewer on the camera to assess the quality of each photo. It helps the quality if you use a tripod so that pictures are at the same level and just turn the camera on top – but it's not so much fun!

When they've done this, upload all the photos to a folder and delete the ones that are not required (there will always be one or two unusable photos!)

You will need to install the Image Composite Editor and Photosynth Application in order to get started. Just follow the instructions on site! Once installed, go to the 'create' page and follow the instructions to create your image. More detailed guidance and help is available here: <http://photosynth.net/help.aspx>

When you have finished, publish the photo on the school webpage, blog, class wiki or Glog. Pupils can share their classroom with parents, friends and children in other schools. Find other 360° class photos by typing "class" into the search box on the Photosynth webpage.

WHAT DO I NEED?

- Digital camera
- Internet access
- <http://photosynth.net/default.aspx>

ADDED VALUE

This software allows learners to create sophisticated 360° single location images and multi-angle 'Synth' images, which they can use in projects, presentations and social media sites. Some of the site features are unique to Photosynth.

HINTS & TIPS

Remember to charge the camera(s)! It is best not to hurry the process and maybe allow learners to experiment with the camera first. It helps a lot if learners understand the importance of having a 'continuity' of photographs, so it may help to place a marker on the floor to indicate where they should stand whilst taking each of their photographs.

Set the zoom function on the camera and tell the children that this should not be changed!

SAFETY

If learners appear in your images, ensure you have parental permission before uploading to the web.

OTHER IDEAS

- www.youtube.com/watch?v=bQsbi1uDkrE for ideas
- To create amazing artwork using your own photographs, try www.befunky.com. Learners can create pop art images, add special effects, clipart images, speech bubbles etc. to their own photographs. If you're on Mac you can use Photobooth, which is similar.
- Look at a picture of Monet's Water Lilies! The pictures we see on cards make it look small and flat. The originals (x2) are in the Orangerie in Paris and are 'Photosynth' paintings – they go round 360° www.nytimes.com/2006/05/16/arts/design/16oran.html?_r=0

SCIENCE SKETCHES

OVERVIEW

Comic Life is our all-time favourite software for primary classrooms. It is one of the few bits of software we mention that is not free (costs €25 after the free trial period) but worth every penny. This is an excellent resource for developing most forms of instructional writing. It is also a great way of introducing the concepts involved in following various practical instructions e.g. how to play musical chairs, the rules of football etc. We love using it for planning science experiments – usually a chore for kids, but done this way they actually enjoy it!

DESCRIPTION

Having decided on a science investigation question e.g. “Which soft drinks contain the most sugar?” discuss with learners what are the features and characteristics of a strip cartoon e.g. speech bubbles, dialogue boxes, freeze-frame images. If they are unfamiliar, you could provide examples of popular children’s comic books e.g. Manga.

Explain that they are going to write a plan and write up their science investigation as a comic strip. Discuss with them the advantages of using this genre e.g. combination of easy-to-follow images with instructional text, clear, simple, fun, not too wordy!

With the aid of the interactive whiteboard, you can give a quick tutorial on using the software to the whole class. Alternatively, you can use a desktop machine and give group tutorials. Or because the software is so easy and beginner-friendly, just let them play with it. Most 8-10 yr olds will be able to use it confidently in about 10 minutes. Even teachers can master it in about 20!

In the meantime, it is a good idea to ask learners to create a storyboard of their Science Investigation Cartoon on paper. This way, they can decide the type of images they will need, where they will need speech bubbles and narrative boxes and what text they will need to include. When they have produced an effective plan, they can begin to create it using your chosen software. (Ours is Comic Life but we should mention there are others). The use of a strip of ‘frames’ is really good for helping pupils sequence their thoughts.

After they have finished, they can swap plans with peers for feedback. If you have set success criteria at the beginning, this is very easily done and incredibly effective.

Learners should be allowed an opportunity to edit/re-draft their work if needed.

WHAT DO I NEED?

- Paper on which to draft their plan.
- Appropriate software – we used Comic Life, it’s fabulous, available for Mac and Windows AND free for a month’s trial. After that you have to pay a small amount, approx. €25, which is very cheap for what you get.
<http://comic-life.en.softonic.com>
(And children love the whizzy, squelchy, comic noises it makes as they work so make sure you have the speakers turned on!)
- Digital cameras if pupils want to stage, photograph and upload their own images to be included in the plan. (Alternatively, they’ll need access to the web in order to source appropriate images.)
- You can also use programmes such as PowerPoint, either to display pages created on Comic Life or independently to create an instructional presentation.

ADDED VALUE

For us, the biggest attractions of using something like Comic Life are that:

- Children who are not very artistic or find difficulty in writing love being able to produce a piece of work that looks very professional.
- The programme is very easy to use and children can get started in a few minutes. Most of them will need very little support. I have used the programme with 8/9 year olds with NO instruction other than to give them 10 minutes playing with it and wandering around helping if they got stuck. Out of a class of about 20, at least two thirds needed no help at all!
- Initially, they will probably only find out about choosing a ‘template’, dragging photographs, adding captions, speech bubbles and lettering. This is fine. Each time they use it, they will discover more functions (under ‘details’), learn how to change fonts, colours etc.
- There are lots of ways of exporting the finished product - straight to a website, as images to be stored on the computer, by email etc.
- It is fun to use and fun to read. For example, most children find planning a science investigation and writing it up fairly boring and their reports become formulaic and repetitive. Creating a strip cartoon is a new and appealing way of presenting their results without compromising the statutory curricular skills embedded in the activity. (e.g. ‘identifying variables’ can be included in the narrative boxes.)



HINTS & TIPS

Children can work on this activity in pairs (to develop collaboration skills) or individually if you want to develop their ability to work independently. It also depends on the IT provision in your school; if you have enough computers for each learner/pair of learners it is relatively stress free. If you have one per class, you could create a timetable so that individuals or pairs have an allotted time-slot. As the preparation work has been done before hand, an effective plan drawn and important decisions made, we have found most 10 – 12 year olds can complete their comic strip in 30-50 minutes.

SAFETY

This is 100% safe. Learners cannot communicate with other users.

OTHER IDEAS

Other tried and tested ideas for using Comic Life:

- Making greetings cards for all occasions
- Keeping a diary of what they have done for a week
- Telling an historical story or just loading photographs of historical figures and adding speech bubbles about what they may be saying to each other.
- Describing feelings and emotions - Teacher or children collect 'thought provoking' pictures (e.g. environmental damage, children in war zones etc.) then add a picture of themselves with a 'thought bubble' above their heads. Record in the speech bubble what the picture made them think or feel.
- Summarising dialogue and retelling a story or play in their own words.
- Making lively PowerPoint / Keynote presentations
- Designing a personal name plate - we had children write their name, choose a font, colours, background etc. print, then laminate and use them to label their drawers.
- Making graphic items for wall displays!
- Letting children draw pictures (with thick felt tip for clarity), scanning, then loading their images onto comic life and creating their own, illustrated story.
- Representing ANY sequential events e.g. frogspawn to frogs, caterpillars to butterflies etc. We have also used it in dance - taking photographs of folk dance sequences and putting them into strip form with narrative explanations.
- Using some of the non-linear templates, making posters to advertise school events (always impresses the parents!)
- Discussing the templates themselves e.g. there are strip cartoons, manga templates, super-hero templates. Lots of interesting conversations about what makes them different.
- Graphic art exercises on choosing fonts / colours to represent pictures and actions e.g. Which fonts look old fashioned? Which would you use to title a picture of a computer? A space rocket? A dinosaur? A horror film?
- Typing one new word they have learned (e.g. last week, in the last book they read etc.) in display lettering and stretching, rotating, enlarging it. Talk about transformations in maths.



MINI BEASTS

3-7 YRS



OVERVIEW

This is an early introduction to using digital cameras and video. Learners pretend to be different insects or crawly things and record their journeys through the eyes of their chosen mini beasts. They then use their footage to publish a video (with background music) on the internet.

DESCRIPTION

Depending on age and number of cameras, you could do this with small groups or with the whole class.

Use a simple video camera or mobile phone and get learners to pretend they are beetles, butterflies or another creepy-crawly of their choice! Beetles, slugs, worms or other crawling insects take a camera, crawl on their stomachs through grass and film what beetles may see. Butterflies (and those that have chosen to be flying insects) stand up as tall as they can and fly around with the camera, swooping down onto bright flowers etc. Play it back so that the learners can see each other's film.

Upload footage onto the computer and, if you like, edit them all together. You can use i-Movie, Movie Maker or something instant like Animoto.

Let the learners choose some music for their video and add it as a sound track (Nikolai Rimsky-Korsakov's *Flight of the Bumblebee* is an obvious favourite but do check it's licence free if you're publishing the video in the public domain). Add titles to your video.

Publish on You Tube if you want to show their parents.

WHAT DO I NEED?

- A video camera or a mobile phone that takes video,
- A computer or other device to upload the output.
- If you want to edit the output, you will also need video editing software, either built in to your device or downloaded as an application
- (If you need more guidance on using editing software, check out the unit "You've Been Framed" in this handbook, it gives you step-by-step guidance)

ADDED VALUE

We often ask young learners to imagine things from a bird's eye view, but it is a difficult concept for them. In this activity, not only do they get to 'live' this concept, but they also interact with it as they role-play. This idea and understanding is further consolidated when they watch their edited video. It is also a good introduction to talking about plans and maps.

All too often video is used just for recording a set event e.g. the school play. There is nothing wrong with this but we really need to think how we can use the technology in a creative way to allow us to do things we could not do before.

HINTS & TIPS

Make sure cameras are charged and that you have checked over the area you are going to use is safe i.e. there's no broken glass etc. Make sure that the pupils know how to use a video camera.

SAFETY

Make sure that if the film shows images of children and you are going to publish in the public domain, that you have parents' permission.

OTHER IDEAS

- Let learners use cameras to take some pictures of snails, beetles, butterflies or choose a picture of a butterfly on Google images. Turn it in to a colouring sheet using iPhoto or Picasa. (move the exposure, contrast and sharpness to max. Move saturation to minimum.) Print off the black and white ones in different sizes. Let learners copy the colours from the original (if they are learning about colours) or colour however they want. Cut them out and stick on a wall display or stick on bamboo canes and 'plant' them in the garden. Young learners really like making their own pictures to colour and it's the first stage in learning about manipulating images. Even 6 year olds can do this - honest!
- If it really is too wet to go crawling through the grass, try taping a video camera on the front of a toy car and pushing it round a Lego town or a village made of junk.
- Let the older children make a short film of places, people and objects in the school but 'walking' around on their knees holding the camera. This is approximately the eye level of the youngest pupils. Try 'looking up' at taller people or high cupboards. What does the school look like when you are this size? Is it a scary place?

READY, STEADY, COOK!

4-6 YRS



OVERVIEW

One of the things that characterises the place where we live are local recipes and dishes. In this activity, students develop their own recipes based on family tradition and home cooking. Their recipes are uploaded onto a classroom blog.

DESCRIPTION

The first step in this activity is to research some local, regional or national dishes – even better if you can arrange a tasting session! Discuss the ingredients and which ones make the dish sweet, savoury, tangy, bland etc. Explain to the class that they're going to choose one dish/recipe and re-invent it to make it their own by changing ONE ingredient. So for example, most countries have their own versions of broths, stews or soups and children would need to add/change one ingredient, perhaps including a vegetable from another country e.g. pumpkin.

Get the class to create an illustrated recipe sheet by searching the internet for pictures of the ingredients of their dish. Here's one class in action:
www.youtube.com/watch?v=hZJQhZXC-zY&list=UUtFkoZr-mhvrgujlxsK4mSA&index=9&feature=plcp

If for example they need "milk" in the recipe, children can write the word in the search engine, search from 'images', choose from all the pictures and download the one they want. They then have to note what quantity of each ingredient is required (it may be necessary for you to give them this information).

When you have all the pictures, use an interactive whiteboard to write each step of the recipe and to add the pictures they have downloaded.
www.youtube.com/watch?v=b7cVrKfcYtM&feature=player_embedded

Once the recipe is completed, upload it to a blog with a message addressed to learners' parents, giving them the URL of the blog and inviting them to cook the recipe at home with their children. Encourage them to take pictures of children while they are cooking. Ask parents to email the photos to school.

Use the interactive whiteboard to open the emails from parents and allow children to upload the photos of them cooking at home to the classroom blog.

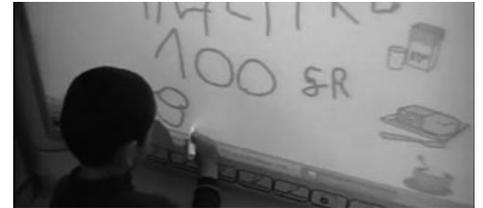
If you do not have a classroom blog, you can use Moodle (if you normally use that) or set up a Glog. The lesson "Glog It!" tells you how to do this.

WHAT DO I NEED?

- A interactive whiteboard.
- E-mail.
- Software to display the results e.g any blogging software, Glogster, Moodle

ADDED VALUE

This activity is highly motivating and interesting because the family is included in the learning process and participates in the learner's experience. Using it to create better home-school links is also very worthwhile.



HINTS & TIPS

You need to inform families about this activity beforehand. Encourage them to enter into the spirit of things and to dress their children as cooks. You may like to highlight the opportunity for them to have fun as a family. It is unlikely that every child will participate but do not be disappointed, all learners will have the opportunity to share in the preparation and resulting blog.

Have a look at a teacher's blog:
<http://etapainfantil.blogspot.com.es/>

Although all teachers will be sensitive to the domestic situations of the children in their class, this activity can be a particular problem for children not living with their parents or where parents are unsupportive or do not have the money or facilities to participate. You will need to build in special roles for these pupils well in advance.

SAFETY

Make sure that the images of children that are going to be published in the public domain have parents' permission.

OTHER IDEAS

- You can upload any class activities on your blog once it's set up. Glogster is also great (see Glog It!) and look at ours <http://nicdan.edu.glogster.com/butterflies/>
- Find a school in another country and exchange recipes.
- Make a 'How-to-do-it' video showing step by step instructions for preparing simple dishes.
- Use Twitter to crowd source responses to "What is your favourite thing to eat?"
- Track the 'life story' of one ingredient e.g. milk or flour from its origins right up to its use in the recipe. Use You Tube or web images, sequence them and link them to QR codes to tell the story.
- Set up a Pinterest board and get children to add pictures of their favourite things to eat.

LET'S e-MOTE!

OVERVIEW

Helping younger learners to recognise their own and others' feelings is a teaching mainstay. This activity enables children to investigate the nuances of human feeling from the very basic "I am happy" to the increasingly sophisticated recognition that artwork, pieces of music or even their own or the behaviour of others impacts on emotions. This activity should be done over a period of time. You may want to plan a lesson a week or a lesson a day for a week.

DESCRIPTION

Search Google images for pages of emoticons. Find a page that is fairly high resolution (As you run the cursor over them on the screen, choose the ones with the highest numbers!) Download them onto your desktop. Enlarge them (if necessary) and print them off.

Cut out the ones you want and laminate enough sets for reach group of say four children. Show learners a collection of emoticons. Explain what they are and how they are used in the digital world. Ask them to describe the feelings portrayed by the emoticons e.g. sad, happy, confused etc. Then ask them to make the sounds that matches the emoticon e.g. sad/crying, bored/sighing, as you hold each one up.

Then use digital cameras to take pictures of learners expressing feelings e.g. "Make a sad face". Increase the difficulty by asking them to make a confused, nasty or 'dreamy' face. Again, record these using a digital camera. Upload the photos into a Powerpoint presentation or, even quicker, just connect up the camera and leave the pictures on the desktop or wherever your computer stores them. (e.g. with a Mac they will go straight to iPhoto)

Show the pictures to the class using the interactive whiteboard. Again, ask them to guess the emotions being portrayed.

On the interactive whiteboard, show them a series of emotive pictures and artworks; these could be photographs of a birthday party, newspaper clippings e.g. a scene of deforestation or a particularly effective artwork e.g. The Potato Eaters by van Gogh. Ask them to describe how these images make them feel. Encourage them to expand on their answers, giving explanations as to why they make them feel sad, happy, scared.

Once they have collected enough visual material, print them off and display as much as possible on a pin board or display board in class. Add comments made by learners. You can do this yourself or allow children to do it, depending on their age and ability.

Finally, explain to them that you'd like to create an electronic version of their display online using a site called Pinterest. Show them examples of Pinterest boards created by other people (we particularly like www.pinterest.com/astarchild/happy-kids/); discuss some of the images pinned to this board. You can also have a look at ours www.pinterest.com/nicdaniels/let-s-e-mote/

We would recommend keeping your board 'secret' when setting it up. When you add a pin to a secret board it won't show up anywhere else on Pinterest — not in the category sections (e.g. Popular, Everything) or in anyone's search results, or in your followers' home feed, your own home feed, or even pins or activity pages on your profile.

Now get pinning! Instructions on how to create an account and to start pinning can be found below in Hints and Tips.

WHAT DO I NEED?

- Interactive whiteboard
- Images of paintings, photographs etc.
- Emoticons (type emoticons into Google images!)
- Digital camera
- Internet access

ADDED VALUE

Physical classroom displays must be changed frequently. Pinterest allows you to create a permanent yet ever-evolving classroom display that can be built upon year after year. It is a great way to keep a record of teaching and learning in any given subject.

HINTS & TIPS

Go to www.pinterest.com. Set up an account. It's very straightforward. If you already have an account for private use, we suggest you open a new account. Do not use your own.

When you've created an account go to 'Create a Board'. Type in a Board name e.g. Class 5's Feelings Board. Choose a category e.g. Education, click the button to make the board 'secret' and leave the box "Who can Pin?" empty. Everybody who pins to this board will do so through the account you set up. You can change this at a later date if you want classes in other schools to pin to your board.

Click on 'Add' to start pinning. You'll be given the choice to 'Add a Pin', 'Upload a Pin' or 'Create a Board'. If your image is on the computer, choose 'Upload a pin' and select the image from the appropriate file on your computer. If you are pinning an image from the internet, you'll need to choose 'Add a pin' and cut and paste the URL for that image in the box. Either way, you or the learners will need to provide a comment in the comments box. The comment can be a maximum of 500 characters, which is usually more than sufficient.

Keep on pinning! It's quite addictive and so much fun to see your board growing with every pin!



SAFETY

If the little rascals search for anything remotely inappropriate on Pinterest, they will be presented with the following warning: **Reminder: Pinterest does not allow nudity. Pinning or repinning photographs displaying breasts, buttocks or genitalia may result in the termination of your Pinterest account.**

OTHER IDEAS

- Use the IWB 'pens' to draw over the pictures of the faces on the IWB, showing mouth up/ down/straight and eyes (round, wide open, shut).
- Do the same using audio only. This time they make sounds to depict emotions and record them (you may decide to allow them to use words or not). Again, see if the children can guess how the person being recorded is feeling. Match the sounds to the pictures.
- Print off the pictures of their angry / sad / happy faces and let children match words with pictures. Or you could use them to play a Pelmanism game.
- Let the children explore the emoticons on Skype or MSN or Yahoo etc. Print off a sheet of emoticons (just use the easier ones). Can they 'decode' them? Let children match them to the photos they took of each other. You can also give the children disks of paper so that they can create emoticons of their own e.g. to match the photographs of their faces.
- Let them use emoticons in their books to describe how they felt about a piece of work.
- Record each day in emoticons and use them as the basis for reflecting on the week. This helps develop a sense of time.

GLOG IT!

OVERVIEW

Whenever you want learners to present information to others, why not get them to 'Glog' it using Glogster! This software is perfect for creating posters, fact files, project boards or 'How to...' instructions. It also serves as a good entry-level activity to blogging. In this lesson we used it to create information blogs but once you get the hang of it you'll begin to see how adaptable it is.

DESCRIPTION

Go to the home page of Glogster at www.glogster.com. Don't be tempted to purchase one of the packages on offer. There really is a whole lot you can do without signing up for an account and paying a fee. Click on the 'Take a Tour' tab for a quick tutorial. You can also show learners the excellent examples by clicking on 'BEST GLOGS' or copy and paste this URL into your browser: <http://nicdan.edu.glogster.com/butterflies/> for one we created earlier - it contains all the elements covered in this unit.

On the 'What is Glogster EDU' page, scroll down and click on 'Try it Now' in the 'Glog - Creation Interface' box. This immediately takes you to a new Glog page. Choosing 'WALL' from the scrolling magnet tool on the left enables you to select a background or wallpaper for your Glog page. There are hundreds to choose from so it might be a good idea to warn learners before hand, explaining to them that they will need to choose wallpaper that best fits the theme of their Glog e.g. 'PETS'. Click on your chosen wallpaper then click 'USE IT!' (you will need to click on 'USE IT!' every time you want to add something to your Glog). Close the window by clicking on the red cross in the left hand corner.

It is probably best to ask children to concentrate initially on adding text. This will help learners to focus on choosing pictures, videos etc. that are appropriate to the text. If they do it the other way around and choose the pictures first, they will probably find they have to edit their Glog much more at the end, replacing pictures that don't go very well with what they've written.

The process of adding text boxes and text is quite similar to Microsoft Word, Publisher etc. Click on 'TEXT', again, choose a theme or scroll through the hundreds of choices then click on the text box you want. Click on 'USE IT!' This will insert the text box into the Glog. Click the red cross to close the TEXT box. The text box will have appeared in the Glog. Now you can resize and rotate the text box as you wish.

In order to insert text, click the EDIT thumbnail on the text box. Tell learners to type or cut and paste their text (from elsewhere) into the text box. They can also change the font size and colour, add effects to the box (like a shadow) or add a link to another webpage in the textbox. Adding a link is fairly straightforward: Click on the link button and follow the instructions in the ADD URL pop-up. After you've done this, the link won't appear until you've saved the Glog. You may want learners to save their Glog and go to PREVIEW to check that the link works.

Learners repeat this process for every text box they want to include.

Finally, if you'd like to add a video, click UPLOAD and use the pop-up window to find the video on your computer. It may take a little while to upload depending on the size of the file but you can check on progress on the tool bar at the top of your Glog. Whenever any download is complete, a purple star will appear next to the appropriate thumbnail on the scrolling magnetic bar. In this case, it will be next to VIDEO. Click here and the video should be amongst the other buttons in the video pop-up. Click on your chosen video and then click, yes, you've guessed it - 'USE IT!' Close the pop-up and the video will be in your Glog. Again, it can be resized and moved to wherever you want it in the Glog.

At this stage, learners will have learned the basics of using this software and will be happy to add, revise, edit and delete as they wish.

When they have finished, they will need to SAVE and PUBLISH their Glog - don't worry, the Glog can be edited after saving! You will need to register in order to save and publish but again, you DON'T need to pay any fees!

Why not ask learners to present their Glogs to the class? Ask for feedback! In time, others may read their Glogs and rate them. Ask them to review their Glogs regularly.



SAFETY

Single Free users can create private Glogs only and must know the URL of a Glog to view it. With Teacher Light and Premium, the registering teacher monitors the content and accessibility of all student Glogs. Once you set up a teacher account, your registered students will only be able to see the Glogs created within your virtual classroom. Additionally, students can only communicate with other students in their class, and only via Glog comments. Students cannot send private messages.

OTHER IDEAS

- Create a diary-style Glog, perhaps inspired by a favourite book e.g. *Diary of a Wimpy Kid* by Jeff Kinney.
- Time-capsule Glog, where learners make a historical record of what it is like to be a child in the 21st Century.
- Make maths glogs e.g. about the number '2' or '3' or '4' etc. or about shapes or particular fractions or "measuring things".
- For a special display you can screenshot your class Glogs and print them or link them to QR codes that you can print and post around the classroom for e.g. parents' evenings.

WHAT DO I NEED?

- Internet access, video clips, sound clips, pictures, photos... whatever learners decide they would like to include on their Glog!
- www.glogster.com

ADDED VALUE

This software has two main strengths. Firstly, as a publishing forum, learners can create professional looking, multimedia presentations using very clear and uncomplicated software. Secondly, it is a great way to use video clips, audio footage etc. from other units in this handbook and combine them in one purposeful presentation! See units "Reading Recitals" (Audacity) and "You've Been Framed" (Windows Moviemaker).

HINTS & TIPS

Examples can be found by copying the following URLs into your browser:

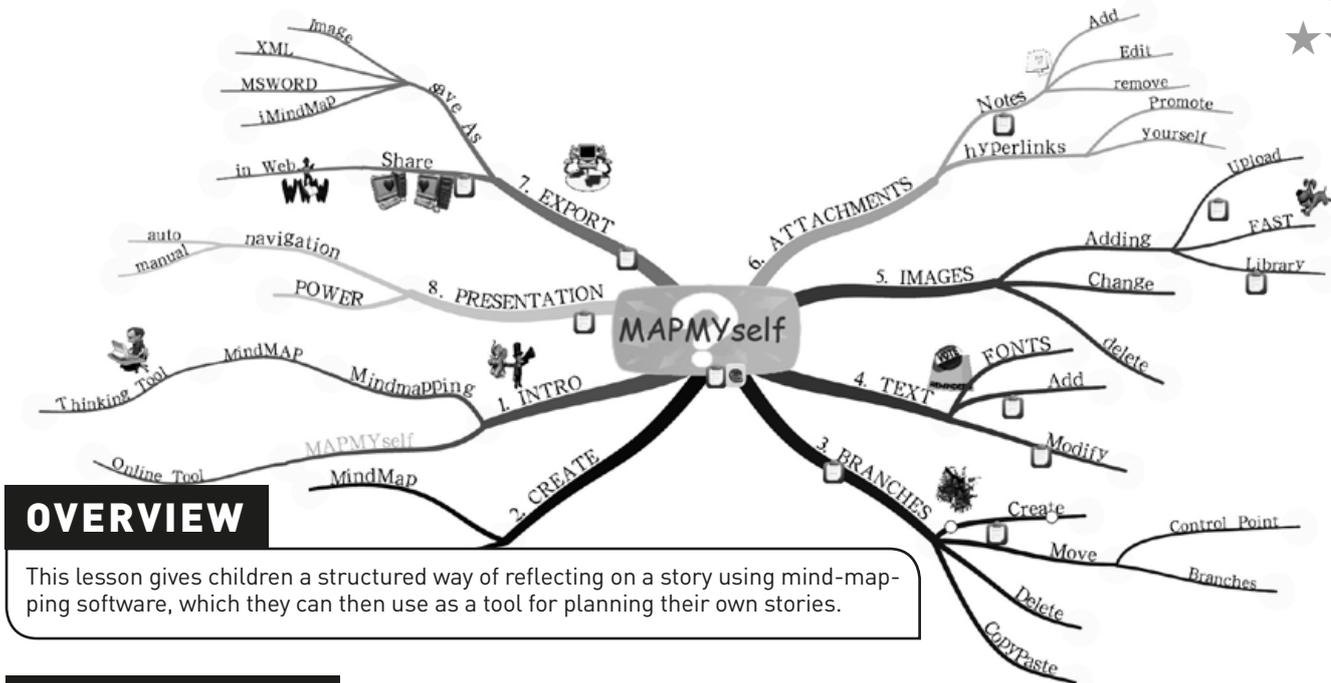
<http://nicdan.edu.glogster.com/butterflies/>
<http://nicdan.edu.glogster.com/tacple/>

If learners are using this software for the first time, it is better to have them work in small groups. It is also a good idea to work with only a few groups at a time. Having the whole class trying to produce their own Glogs at the same time when you may not have much experience in using the software yourself could cause a lovely lesson to become needlessly stressful!

When learners are proficient in using this software (which happens very quickly) this could be given as homework e.g. 'Create a Glog about a character from history'!

TALL TALES

7+ YRS



OVERVIEW

This lesson gives children a structured way of reflecting on a story using mind-mapping software, which they can then use as a tool for planning their own stories.

DESCRIPTION

This activity is suitable for a wide range of ages and abilities as long you adapt your working method – which, as teachers, we always do!

Start off by down loading mind-mapping software. We used iMindMap. It's a bit fiddly to use but it's free! There are lots of others to choose from – it is just a case of trying a few out until you find one you like.

Begin by reading an age-appropriate story to (or with) the class. After you have finished, start constructing a mind map of the story on the interactive whiteboard. Start with 'WHO' and ask the children to tell you everything they remember about the characters and add the text to the mind-map. Next you can add the branches 'WHERE', 'PROBLEM' and 'SOLUTION' and complete each branch.

You can complement the mind-map by adding pictures or drawings. With younger children you may want to search or scan pictures in advance and add them as you go along. With older children you could ask them to find their own pictures or draw their own which they can scan and add to the mind-map.

It's always fun to have a quiz where the learners use the mind map to find the answers if they need to e.g. "Why did the main character..."

As a follow up, older children can use mind-mapping software to create a structure for their own stories rather than having to produce a written plan.

HINTS & TIPS

Mind mapping freeware available on line is not always easy to use and it really does depend on the individual. Always try it out before using it in your lesson and if it doesn't work for you, just try another!

WHAT DO I NEED?

- Tablet or camera
- Interactive Whiteboard
- iMindMap

OTHER IDEAS

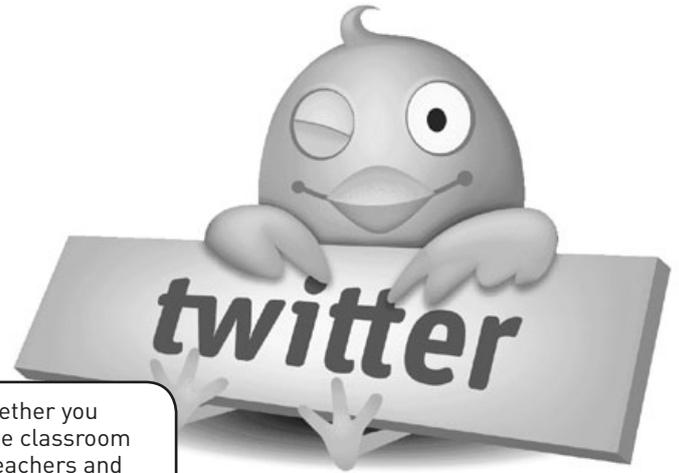
- Mindmap ideas and structures for projects, presentations, reports etc.
- Map historical events e.g. causes and effects of World war II.
- Use mind mapping as an alternative to brainstorming ideas.
- Use it as a planning tool for project work.

ADDED VALUE

This activity gives children a perfect tool to reflect on a story and organize a series of events chronologically. It also gives them an easily accessible exemplar plan for any future storytelling/writing activities.



TWITTER ROLE-PLAY



OVERVIEW

Lots of teachers tell us they don't use Twitter but irrespective of whether you use it socially, it is a fabulous e-learning tool and using Twitter in the classroom doesn't need to be frightening! In fact, it can be very liberating for teachers and learners because it is familiar, flexible and fun. Here we've used it to teach aspects of history, especially to help learners understand the feelings, concerns and experiences of people in the past.

DESCRIPTION

Take an historical context – we used the children who were evacuated from big cities in the UK at the beginning of World War II as it happened to be International Year of the Evacuees.

You will have already investigated in a previous lesson, who the evacuees were and why they had to leave their homes in the cities, preferably with some pictures and artefacts for them to look at. At the end of that lesson, look at children's names that were popular at that time and allow learners to choose a name – Alfred and Betty are always popular! Set up accounts on Twitter for each child in advance using their chosen name. e.g. MaudEvac and also a hash tag for the activity e.g. #YEJevacuee (Where the initials represent the name of the school).

Don't make the hashtag too long as it counts in the number of characters you are allowed but make it very specific or you might have other people interested in evacuees joining in. (But maybe you think this could be fun too)

Set the scene (with all the drama that teachers are capable of!) It is 1939 and London is being bombed (cue sound effects!)... remind each child of the name they have chosen and let them decide on a character to go with the name and what role that character played e.g. an evacuee, a mother still living in a big city, children or adults in the host family, a father away at war etc.

Tell them they are going to role-play what it was like to be their character from history; they have to write about how they are feeling, what their new homes are like, the differences between town and country, what it is like going to a new school, how they miss their children etc. The only difference is that although it is 1939, Twitter has been invented!

If learners point out (and they will take great pleasure in doing so) that people didn't have Twitter in 1939, explain to them that they must think of Twitter more like a traditional diary or series of postcards to their parents.

Allow learners to tweet their thoughts, comments and experiences and have others respond. Discuss the posts and ask characters to elaborate e.g. "Why do you feel frightened Alfred?" In order to do this, you should set up your own account and role play a character as well – being the school teacher in the village to which the children have been evacuated is always a good one!! To end the unit, learners can write a week's worth of diary entries, create a presentation on the lives of, say, evacuees or create artwork based on their 'experiences'.

WHAT DO I NEED?

- Internet access.
- Accounts on www.twitter.com (one for each child and yourself).
- A way of accessing twitter e.g. mobile phones, tablets or computers.
- Interactive whiteboard to display the twitter posts is also useful.

ADDED VALUE

Being 'removed' from sharing ideas face-to-face, learners are often more willing to engage as the fear of 'being wrong' isn't as daunting (this is where the pseudonyms are very useful).

Having everyone contribute, ensures that posts become increasingly thoughtful as they move through the more obvious contributions such as 'I feel frightened'.

The novelty of using mobile phones and/or twitter in lessons also increases engagement... and enthusiasm!

HINTS & TIPS

If there are issues with using mobile phones in schools either a) think of changing school policy b) use computers or tablets or c) set the task as homework so that children can use their computers or phones at home. If you set it as homework, you will need to tell everyone they must post at least 2 tweets and respond to at least 2 (or similar) to keep the momentum going.

Explain to the children what the #hashtag is for and also explain that they can direct their tweet at a particular person by using the @ symbol in front of their name.

SAFETY

If you are worried about safety you have several choices. You can delete all the accounts when the activity has finished, ask parents' permission for learners to set up their own accounts using their own (or parents') email addresses or create ONE account that you supervise and provide the login information to pupils so that they can use it to post their ideas. With this last option, learners' comments will all appear under the same name, this is OK if you set the lesson up based on a character from a book e.g. Carrie's War and explain that "We're all going to pretend to be Carrie" but not so much fun.

OTHER IDEAS

- Do the same thing using other scenarios – Scott's Last Expedition is a good one. Children choose to be geologists, scientists, meteorologists, cooks, dog handlers, navigators etc. and tweet about what they can see or what they are doing or feeling. (Our favourite tweet EVER was the pupil who was Boysie Oates tweeting #polar@cptscott I might B sometime)
- Another good one for older children is to tweet a scene from Shakespeare or other play they are studying. Quite apart from the fun value, pupils really did have to understand the text in detail to be able to tweet it.
- Use a combination of Twitter and Google Earth as a unique mapping activity. Ask your Twitter network for 'Where am I?' type challenges. That is, they give a clue to where they are such as 'It is snowing quite heavily. It is midday and it is very dark'. Do this in advance of the session to give people time to respond. Let the children tweet a question back to get more information. The challengers can also take a photograph and send that. Guide the children quietly – you want them to be explorers not tourists! Encourage the children to find out about the area of the GeoTweet – find proof – we found the name of the local garage for one! Tweet back the proof to the sender to say you have found them. Maybe ask a further question about the area.
- Use your Twitter network and get the children to compose a tweet such as #YsgolEvanJames What was the word you had most problems spelling when you were in school? or #class4Newtownprimary What word do you still find difficult in spelling? (Ask your friends to 'retweet' to their networks as well) Get the children to make a list of the replies. If you have enough replies you could make a bar graph of the results. Then instead of the standard spelling list, ask children to choose 5 (or more) of these words to learn instead. If they want to, children could tweet back to the original person (the one who admitted they could not spell that word) telling them that they are now able to spell it. We had a great response from one well-known sports commentator who confessed he still had trouble spelling 'goal' and invariably spelled it 'gaol'. When one football-mad child tweeted him to say he could now spell both words and knew the difference, he got a great 'Congratulations!' tweet back.
- And loads more here www.teachhub.com/50-ways-use-twitter-classroom



PUBLISH ME

8-12 YRS



OVERVIEW

This software enables learners to publish their own online books. Although it is very well suited to creating picture stories, there is no reason why learners cannot create non-fiction books and magazines too! The software is fairly straightforward - learners will need to upload pictures, add text and change page colours.

DESCRIPTION

Go to the Picozine site and subscribe yourself and give yourself a nick name like Class4. All children can then use the same account. There is no password.

When you have done this, children can all log in and click on the small tab 'Create new pico-zine'; to begin creating their book. On the next page learners will need to enter a title and description but don't worry too much, these can be changed at any time. We found it useful for children to create a rough draft of their book on paper before they start (text and rough sketch of pics) - this saves a lot of fuss when they are working online. It is also easier if they select the photographs or scanned pictures they want to include and save them on the computer in advance. These are easier to find if saved in a clearly marked file on the desktop.

Following the on-screen instructions is fairly easy. Learners are only likely to need a quick tutorial on adding text, changing page colour and uploading pictures in order to get going. It took us about 10 minutes to familiarise ourselves with the Picozine format. We think it helps to explain to learners that their final book will need to be 16 pages in total (it is one of the flaws of the software that this cannot be changed) and that all the pages are displayed on the right hand side.

Tell learners to work systematically, either by adding all their pictures to the appropriate pages then adding text, or to complete a page at a time (text and pictures) before moving on. You'll know which will suit your learners best. As the process is quite repetitive, it allows learners to practise these functions thoroughly. Throughout the process, they are able to choose and change cover styles, page colours and photo format.

With photos and pictures, we found that un-ticking the 'fill page' box underneath the upload box prevented pictures becoming distorted. It really is up to them how much (or little) they format their book. The main thing for them to remember is to click on 'send the files' every time they edit or add something to their publication.

Once they have finished, they have several options on how to use their 'Pico'. They can download it as a PDF then print it and add it to the class library. They can use the embed code provided to upload it to the school's website, or send the link via email to friends and family!

We always like to ask learners to read their book to the class. This is a nice end to the school day and also develops learners' presentation skills.

WHAT DO I NEED?

- Internet access
- www.picozine.com

ADDED VALUE

Creating a professional looking book is always difficult, but here learners can do exactly that. They practise a broad range of core IT functions whilst making a book that is uniquely theirs.



HINTS & TIPS

It may be a good idea for learners to work in pairs to create their first Pico. Mixed ability pairings work well. View ours at <http://nicdan.picozine.com/index.php?rep=3386&art=174>

SAFETY

Learners should not include personal information (such as their real name or home address) when writing. Also, if learners are using photographs of themselves or peers, ensure you have parental consent.

OTHER IDEAS

- Create any type of books: story books, recipe books, poetry books, non-fiction etc.
- Create class books e.g. "Our Anthology of Winter Poems".
- Why not experiment with creating a class magazine!

CHILDREN OF ONE WORLD

8+ YRS



OVERVIEW

This activity helps pupils learn about children's lives in other countries and is especially effective for comparing and contrasting their schools. To see an example go to www.grundschule-falkenstrasse.de/projekte/kinder/projektperu2.pdf

DESCRIPTION

First of all you will need to find a partner school in another country. There are many ways of doing this. The most obvious of these is through the Comenius programme: www.ec.europa.eu/education/lifelong-learning-programme/comenius_en.htm but there are other agencies that provide this service, such as www.dfid.gov.uk/Get-Involved/In-your-school/global-school-partnerships/Contacts (UK). Alternatively, you may make contact with a like-minded teacher on a teachers' forum that you could link with. Don't be shy about trying to get in touch with teachers in other countries. Most of us have similar goals and interests.

Ask your class what they would like to know about a child's life in another country, for example, "How do you travel to school?", "What's the weather like?" Initially, write a long list of questions and edit them afterwards. To generate questions, another possibility is to take your children on a 'flying visit' on Google Maps to your partner school's locality, using street view to make detailed observations and to formulate new questions.

Use your final list of questions to create a questionnaire and email it to the partner school. Don't forget to ask them for photographs!

Whilst you are waiting for a reply (it can take a while), spend a few lessons getting the children to answer the very same questions about their school and locality. When they have done this, ask them to take photographs, draw pictures and collect evidence that could be used to illustrate their answers in a presentation. When you receive a reply, create a presentation with your class using software such as PowerPoint using the page template that allows two pictures side by side. Add information and photos so that you have your information on one side, and the partner school's information on the other. Send the presentation to your partner school or share it online www.slideshare.com

Don't forget you can connect and share information with your partner school via Skype, Twitter and Facebook. The latter two are much more practical for keeping in touch regularly and catching up with what your friends abroad are up to! Also, we love www.photosynth.net Use it to send 360° panoramic shots of your classroom and locality to your friends in other school. See an example: <http://photosynth.net/view.aspx?cid=dba9c819-0c38-44a1-b782-554243b01072>. You can find a whole lesson on this in the activity My 3D Classroom.

WHAT DO I NEED?

- a partner in another country (the further away, the better!)
- Internet access
- www.maps.google.com
- www.slideshare.com

ADDED VALUE

Whilst learning about other countries, cultures and the lives of ordinary people around the globe, nothing beats this kind of e-learning activity. Not only is the learning accurate, current and (often) instantaneous, but it is the kind of activity that develops and improves over time, allowing learners to develop skills over a longer period and to a purposeful end.



HINTS & TIPS

Try finding more than one partner to allow for one not responding. Make personal contact with the partner teacher directly (rather than with school management or administrators) by phone, email or Skype before you start working with your learners. Classroom teachers will understand how your class will feel if they have to wait for a long time for a response – or worse, if they do not get one at all.

SAFETY

Ensure all correspondence happens through you, the teacher. Emphasise to learners the importance of not sharing personal email addresses etc. on the web.

OTHER IDEAS

- EU snapshots of life – ask learners to draw a picture of "their Europe" (e.g. how the EU plays a role in their everyday life, what it means to be European). Then with the help of the teacher, the pictures are scanned and uploaded online. Create an online gallery where friends and parents are asked to rate the pictures – there will be 3 prizes: Highest Rated Photo, Most Artistic/Creative Photo, Funniest Photo
- Make a 'World Christmas Cake'. Find a recipe for a Christmas cake or fruit-cake. List the ingredients (the grapes that make sultanas and raisins, cherries, wheat for flour etc. – even the brandy!) Find out what countries produce these ingredients and collect pictures of them being grown and harvested. Use Prezi or PowerPoint to make a presentation. Share it with a school in each of the countries and say thank you for your cake!

e-ENCYCLOPAEDIA



WIKIPEDIA
The Free Encyclopedia

OVERVIEW

This is a twist on the traditional subject project. It is suitable for creating projects on almost any subject e.g. animals, history or geography or any specific area within these broader subjects e.g. horses, The Romans or India. In this example, learners were investigating beetles. More importantly, it familiarises children with wikis, an e-tool designed for collaborative work that they can use over and over again.

DESCRIPTION

Start the lesson by talking about wikis. Explain that wiki is a collection of web pages built in a way that enables anyone who accesses them to contribute new information of their own and amend content already there. It is also the name of the software that enables us to create, edit and link the pages. Basically a wiki is an on-line tool for working collaboratively and sharing information.

Show your class some pages from Wikipedia and explain what it is - an encyclopaedia built by its users. If you like, show them a printed encyclopaedia and ask what they think the differences are and what the advantages and disadvantages are. Explore a Wikipedia page and click on all the buttons you don't normally use, such as the ones showing you the history of an entry. If the children are old enough, you could also use the opportunity to discuss the 'Wikileaks' story and whether there should be controls over what is published on the web.

Explain that they are going to create their own encyclopaedia using a wiki.

There are lots of free programmes that let you create your own wiki. We used Wikispaces (www.wikispaces.com) because we think it's the easiest. The other wiki software you might like to try are PBWiki or WikiMedia.

This is a wiki we created in about 20mins using Wikispaces: <http://taccle2e-encyclopaedia.wikispaces.com/>. To find out how to do it yourself, just go to the homepage and follow the instructions. You'll be offered an interactive tutorial/tour of the site - take it! Once you have mastered it, let the learners watch it too. It is important to do this before the children start work as wikis are a great way of working collaboratively and organising and sharing work in progress - it sort of defeats the object to collect stuff first, then organise it and then upload it!

The learners or the teacher picks a relevant subject - in our case beetles - and learners are given the task of collecting as much information as possible about the topic. It will help if you start by drawing up a list of subheadings to help learners in organising their research and findings and putting these up on the wiki too.

This works well as a group activity where the class is divided into groups with each group having responsibility for one or more pages. For example, one group could look at butterflies, another at bees or ladybirds. Each group can then be sub-divided and pupils given specific roles e.g. Editor, picture editor, copy writer etc. You may also find it beneficial to discuss with them what types/sources of information are available e.g. text, pictures, photos, audio, video. As the learners collect the information, they will need to organise and store it straight onto the wiki. The goal is to create an online-encyclopaedia so that other pupils can use it as a resource.

In order to load content, you will need to explain that a wiki page usually has two 'modes' or views. The 'normal mode' is the actual finished page seen by the reader and looks like any other web page. This cannot be changed by every user. However, it will also have an 'editing mode' accessed by clicking on the 'edit' button on each page. This facility can be open to any user or it can be protected and restricted to designated users who access it through a log in name and password.

So, although each pupil might have a specific task (e.g. collecting pictures of ladybirds), they can also add to content that other people have put up on other pages, for example, they may find a very good YouTube video about grasshoppers that they can add to another group's page.

They can also make changes to other people's work and these changes will be logged on the wiki. Discuss how they will feel if someone changes or adds content to pages they have created.

WHAT DO I NEED?

- Internet access
- digital camera, audio recorder etc.
- www.wikispaces.com/ (or similar)

ADDED VALUE

Children are confronted with a multi-faceted task. They not only have to gather relevant information but also have to create web content to present it effectively. In addition, they learn that sharing information is an important part of communicating ideas and building knowledge and begin to address issues of 'ownership', 'editing' and 'permissions'.

HINTS & TIPS

- The pupils should not only get information from books and online search engines, but also gather information in the field. Provide them with digital devices and let them record sounds, take pictures and record themselves discussing topics and ideas.
- Initially, if you are not too confident, don't worry about adding widgets etc. If you find you like using wikis, then you can start adding more tools.



SAFETY

You should make sure that the information presented online is licence free if your wiki is going to be accessed by others outside your class or school

OTHER IDEAS

Other opportunities to use the same software:

- Make a wiki of characters in books they read individually and in class.
- Make a wiki entirely composed of 'noises' - noises in school, noises in the house, noises in the street, noises in the garden etc.
- Make a library catalogue for the class.
- Make a wiki for a class of younger pupils about a topic they are studying – for example, a wiki of nursery rhymes or types of buildings or mathematical patterns.
- Make a personal wiki - particularly good for pupils transitioning from primary to secondary school. They can start it in primary school (list their hopes, fears etc.) and continue it in secondary school. They can also upload "My favourite piece of work" or "Photos of us on our school-leavers trip."
- Go to the URL of a similar project in Romania <http://clasa1simonapetran.blogspot.com/>
You can create a wiki on absolutely anything – give it a try!

QR BOOK QUEST

OVERVIEW

QR code (abbreviated from Quick Response Code) is the trademark for a type of 2D barcode first designed for the automotive industry in Japan. Since then, the QR Code system has been universally adopted and pupils will have seen them everywhere. The code consists of black modules (square dots) arranged in a square grid on a white background. Here we look at ways we can use QR codes in the classroom.

DESCRIPTION

Gather together a collection of reading and reference books from around the classroom. Make sure they have barcodes on the back. Discuss with learners the facets of a book e.g. cover, spine, index, blurb, contents page, title, author etc. Finally, draw their attention to the barcode; ask them what they think it is. What is it for? Why do publishers use them?

Explain to them that they can create their own codes to store information about books. Show them how a QR code works (this can be from an advert in a magazine or on a product etc.) Or show them this video made by children for children www.youtube.com/watch?v=x9YR_1w4DJ8

Each child needs to choose a favourite book; this needs to be a book that they have read and know quite well. They then need to find something online that gives others more information about the book or the author or the story e.g. an online interview with the author, a video relating to the story or the Wikipedia page relevant to the author of the book. Even young or less able pupils can find a picture to illustrate the book!

On the interactive whiteboard show them how to find a free QR code generator – www.qrstuff.com is very good so is www.qurify.com. We used www.qrstuff.com There are only 3 stages: they choose 'Website URL' from the Data Type menu then paste the URL of their chosen webpage into the box labelled 'Website URL'. At this stage, you can ignore the 'Choose a colour' function. Choose 'download' - the simplest output type – and save the QR code to the desktop as a jpg or png file. Make sure that the jpg file has a recognisable name e.g. NicQRcode which can be identified by its owner!

Pupils can then create their own code, download it, print it, laminate it and stick it inside the front cover of their book.

Allow children to scan each other's QR codes. Ask them which ones they liked and why. On the basis of what they've learnt about the books they've scanned, ask them to choose a book they'd like to read.



WHAT DO I NEED?

- Interactive whiteboard + internet access
- A device with a QR reader installed on it (free apps available for all smartphones and tablets)
- Printer
- Laminating paper.

ADDED VALUE

The added value here is twofold; not only does this activity encourage learners to be excited about books it also enables them to link traditional reading material with the virtual world that is increasingly part of their lives. Check out the 'Other ways to use this software' to discover how, once you and your class are adept at creating QR codes, you can use this software in other new and exciting ways!



HINTS & TIPS

The usual classroom organisation stuff applies: you may want learners to work in pairs or groups the first time they do this (it can be less stressful). Also, if you're working with younger learners, you may want to stipulate that they all link their codes to the relevant Wikipedia page (or similar) rather than having 'free choice' of everything on the web.

SAFETY

We're assuming that their favourite book will be Harry Potter or War Horse, rather than Fifty Shades of Grey so the only safety issues relate to their internet searches. Your school should have sufficient firewall protection already so that nothing nasty appears during the course of this activity.

OTHER IDEAS

Other ideas for using the software

- Check the Tackle2 website as well – we really didn't have enough room to list all the ideas here)
- We love, love, love the idea of linking QR codes with work learners have created online. Take for example the Activity 'Getting Jiggy' or 'Fuzzy Feelings' in this handbook: learners can create a QR code for their jigsaw or blabber then glue this into their exercise books. Anyone wanting to see their work can then simply scan the code and it will take them straight to it! (Inspection teams will love it!)
- QR codes can also be sent home for parents to scan and appreciate their children's creations!
- When you're more confident, QR codes can be colour coded by the generator so you could create a reference colour code e.g. Green QR codes for science stuff, red ones for history etc.
- Put laminated QR codes up on the walls of corridors and walkways linked to interesting bits of information or videos. This 'dead' space then becomes a learning space.
- Use Google docs to create work sheets and answer sheets. Link the answer sheet to a QR code and then add the QR code image to the bottom of the worksheet before you print it. Pupils can then check their answers by scanning the code.
- There are lots of QR Code quiz ideas available on line. One we like is www.kerryjturner.com/?p=446
- Use QR Codes to create Treasure Hunts or Scavenger hunts around your school or village. One free bit of software which enables you to do this easily is available from Class Tools at www.classtools.net/QR/create.php
- Check out www.slideshare.net/jonesytheteacher/40-interesting-ways-to-use-qr-codes-in-the-classroom It's fabulous!

THE MUSIC MAKER

9+ YRS



OVERVIEW

Traditionally, teaching musical composition to children who do not play an instrument and cannot read music has been quite difficult (not to mention stressful!), especially when they are younger. This software enables learners to compose without having to write a musical score - they compose by ear, making decisions based on the musical effect created by the software depending on their choices.

DESCRIPTION

A good place to start this lesson is to play examples of compositions with a strong subject matter or theme. We particularly like Nikolai Rimsky-Korsakov's Flight of the Bumblebee and Leroy Anderson's The Typewriter. The inspiration for each piece is evident immediately. Do not tell learners the names of the compositions. Allow them to guess what they are about. Whatever their guesses, ask them why they think as they do. What is it in the compositions that make them think of bumblebees or typewriters?

Tell learners that they are going to compose a piece of music to reflect a chosen subject, this could be anything: elephants, war, their mother!

On the interactive whiteboard, introduce them to the Jamstudio software (www.jamstudio.com)

There is an automatic tutorial when you first visit the site that you can talk them through. Also, you could give them this step-by-step guide:

1. Click a chord in the **CHORDS** window to enter it into the **SCORE** window.
2. In the **MIXER** window, click the speaker button besides the instruments you want to play.
3. Click **PLAY** to hear your song
4. To change an instrument's sound, click on its **TRACK** and choose a new sound from the **SOUNDS** window
5. To speed up or slow down, slide the **TEMPO** bar up or down.
6. Click the arrows above the **SCORE** to create verse, bridge and chorus pages
7. Type page numbers separated by commas (no spaces) into the play page order field.

Either compose your own piece in order to show them "One I made earlier", or you can use ours: www.jamstudio.com/Studio/FWSongShare.asp?SongNum=1290598&SongId=1290843

If you're using our example, draw their attention to the musical elements, principally tempo, melody and instrumentation. Explain that each of these were deliberate choices that were made to portray a moth flying to the moon. The melody has a strong sense of beginning, middle and end - it doesn't begin or end too abruptly. Learners are now ready to make music!

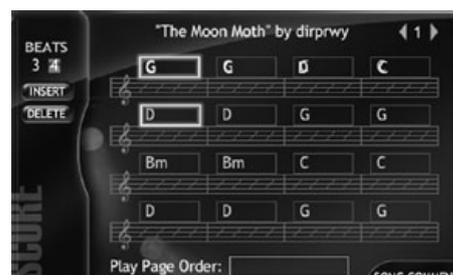
WHAT DO I NEED?

- Prepared thematic compositions e.g. Flight of the Bumble Bee/The Typewriter.
- Interactive whiteboard.
- www.jamstudio.com

ADDED VALUE

Teaching learners to compose using a graphic score and un-tuned instruments is relatively easy. However, creating melodies using chords is much more challenging. This activity is a great way to introduce learners to many of the concepts of composing with the added bonus of creating a polished piece of music by the end of the lesson. It is possible to email finished compositions to parents! Click the **SHARE** tab and follow the prompts.

It may be useful to discuss some of the assumed settings on the software with learners e.g. there are 4 beats to every bar, and one chord in every bar. The chords are in 'G'. The beats and the key can be changed, but unless you and the learners are very confident in composing music and are familiar with the software, we suggest you tell learners to leave these settings unchanged.



HINTS & TIPS

You don't need to register in order to use the software. However, if you do choose to register, you don't need to pay any fees in order to access the functions you'll need for this activity.

You may choose to ask learners to compose a group piece, this enables up to 3 learners to share a computer if you do not have enough for everyone individually.

If you're looking for simpler composing software, try www.isleoftune.com. This would be suitable for younger learners and learners with entry level IT skills.

If you'd like to try more challenging software (quite easy to use but takes a bit of navigating) why not try www.soundnation.com

OTHER IDEAS

- Experiment with creating advertising jingles or radio jingles.
- Use compositions as backing tracks for presentations on PowerPoint or video.
- Ask children to write lyrics for their compositions.

TIME IS AN ILLUSION?

9-12 YRS



OVERVIEW

Understanding how the world and everything in it changes over time is essential in order to understand the concept of a day, week, season, year and the general concept of 'time'. The children will have the opportunity to analyse how an object transforms over time, be it a plant growing, shadows changing throughout the day or, as in this case, an apple decaying.

DESCRIPTION

Albert Einstein said "Time is an Illusion". Discuss this with learners and explain to them that they are going to try and 'capture' time at work. Explain that they will take one picture a day of a single apple over a period of time. A month is usually enough to provide a good example but 3 months is even better.

Place the fresh apple on a plate and leave it somewhere where it will not get disturbed but is easy to photograph. It is best left out in a light position. Spraying with water every few days can help the process along! Place the camera on a tripod, take a picture and, if possible, leave in situ for the duration. If this isn't practical, put markers on the table or floor so that you can re-position the camera correctly after it has been removed. The set should remain as undisturbed as possible. Of course, pupils will be able to see the apple throughout the process, but this will not detract from their amazement when they watch the final sequence.

Take a picture a day until the apple has rotted – let the children decide when this is. It can take 1-3 months, depending on temperature, humidity etc. When they have a complete set of pictures, upload to a computer. You can display them in several ways. The easiest is to put them into whichever photo-handling programme your computer has installed and create a slideshow. Set to auto to change the slides every second or so.

If you prefer, you can create a PowerPoint presentation and create a slideshow. Be careful with the alignment of the photographs so that the image stays in the same place and there is no jerkiness between slides. We set the slide transitions to Fade and the time between each transition to 00:01 seconds. Later on, you can slow the transitions down so that learners can study the process, but initially it is most effective at high speed.

They are now ready to play their Time Video... but be prepared for very loud exclamations of Yuk! Ugh! and other revolting noises.

Learners usually want to 'share' their results with others. If you have made a PowerPoint, upload it to Slideshare then use the embed code from Slideshare to add it to the school website or share it on their personal website or Facebook page.

Afterward, ask them "Is time an illusion?" but be warned, the discussion is very lively!

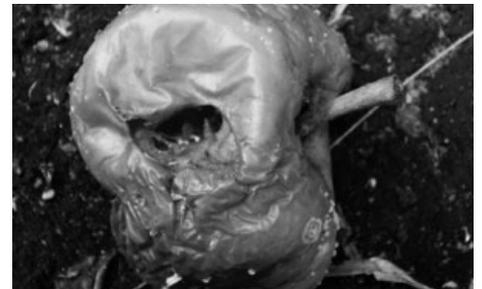
WHAT DO I NEED?

- Digital camera (with a tripod)
- A nice juicy apple!
- You could use other software, for example I-Move or Movie Maker instead of PowerPoint if you are familiar with these

ADDED VALUE

Prior to computers, we depended on flick books to create this effect. Thankfully, now we don't have to!

If you want to cheat a bit – sorry, speed the process up – make sure the apple is in a warm, moist place. A sunny window sill over a radiator is good, especially if you put a saucer of water on the radiator just below.



HINTS & TIPS

If you're taking photos over a long period, let's say the full 3 months, it isn't necessary to use every single photo. Just choose photos that show a significant change or development. The more photographs you use, the faster you can set the slide transition – there is a whole maths lesson in that.

OTHER IDEAS

- Allow learners to choose their own objects to record over time. Make sure they are fruit or vegetables (a slice of watermelon rots quickly and is fairly spectacular) – animal matter will smell and attract flies.
- Just for fun, run the slideshow backwards and see the process in reverse!
- Discuss how organic material changes faster and most radically, whereas inorganic matter can remain unchanged for months, years, decades... even thousands of years.
- Create a mini landfill site in class by placing soil and a collection of organic and inorganic objects together in a transparent plastic box. Record how these change (or remain unchanged) over time. Use it to create a video highlighting their findings regarding disposing of waste in landfill sites. (If you create your landfill in an old fish tank, you can make time lapse photographs of this too – but beware of the glare from the glass – plastic tanks work better!)
- Go onto You Tube and type 'decay' in the search engine – there are some truly revolting videos of dead animals being eaten away by bugs and all manner of decaying fruit and vegetables. Given that maggot infested dead animals are not the sort of thing you want in your classroom, it is worth watching someone else's efforts. Best not to do this before lunch....

LINE AND PATH MATHS

OVERVIEW

Google Earth has been around for some time but it just gets better and better and continues to offer opportunities for great cross-curricular teaching and learning. Here, we used the Line and Path measuring tools to find distances that are challenging to measure. (For ease of writing, Google Earth is sometimes referred to as GE in this activity).

DESCRIPTION

Before starting, go to the Google Earth website. If the software isn't already installed on your computer you'll need to do this before starting – it's not difficult and the entry-level software is completely free! Once it's downloaded it should start up immediately. If it doesn't, click on the GE icon on your desktop. When the GE window opens, close any pop-ups that may appear unless you'd like to take a tour of the site or learn about new tools added to the software.

Ask learners to experiment with the circular controls in the right hand corner of the pane. These control rotation and direction and are easy to use after a little experimentation! They can also manipulate the earth with the cursor and mouse – encourage them to have a go! Tell them to position the part of the Earth you are investigating at the centre of the window (if the Earth continues to revolve having done this, click in space and it should stop) To zoom in, slide or click on the magnifying slider underneath the circular controls. Continue to do this until you reach the level of magnification that you need.

The first time you do this exercise, use a feature in your local area so that children can visualise how big it is compared with its size on the map. To start with, find a regular shaped feature on a map – a local football pitch is ideal – and ask children to measure the perimeter using the line and path function. This icon is at the top of the pane and has a small blue ruler on it. GE will do this automatically and this may be enough to start with.

Progress to irregular shapes such as parks and gardens or the school yard. Explain that if they have irregular or curved shapes, the more 'points' or lines they divide the perimeter into, the more accurate their calculation. Get them to check this out for themselves. Compare their answers with other people.

Depending on the age and ability of the children, you may want to move onto area. Area is done in much the same way. Start with a football pitch again. Explain that they should make a note of the length of the first side and then delete it and draw another line in order to get an accurate measurement for the second side (as consecutive measurements are added to each other). Then calculate the area $a = l \times b$.

(If you want to challenge pupils, ask them to subtract the first measurement from the total of the first two sides in order to get an accurate second measurement.)

WHAT DO I NEED?

- Internet connection
- GE download www.google.com/earth/index.html

ADDED VALUE

There are some online tools that make something that has always been problematic very easy. This is one of them. The days of trundling around the school with a metre wheel may be long gone! (We hope, anyway).

HINTS & TIPS

Don't get too hung-up about accuracy when learners are just beginning to use the software. We've found that accuracy improves with repeated use. Also, the features being measured are usually quite large, so inaccuracies will ultimately be very small - or will they? This is also a good starting point for teaching the skill of estimating length, perimeter and area and also for talking about accuracy - spurious and otherwise

OTHER IDEAS

Other opportunities to use Google Earth for Primary maths.

- Use GE to get approximate measurements of local geographical features.
- Move onto calculating the areas of irregular shapes. First divide the shape up into other regular shapes they are able to calculate - such as rectangles, triangles or trapezia (depending on age, ability and curricula) Tell them it is useful to do a rough sketch of the shape first to decide how they are going to divide it up. Add the areas together to get the total.
- Do the same to work out the ratio of green space to build up areas in their town, region or country as part of an environmental project. Or calculate the amount of woodland or arable land. Or the area of lakes to mountains.
- If they are old enough to triangulate the shape, then they can calculate the area using the path function on GE to get the perimeter.
- Find out the population of the local area or town from the web. Calculate the approximate area. Work out the population density.
- Find out how far they walk or drive to school each day.
- Wales is used internationally as a comparator for describing large areas - "a country twice the size of Wales", "the Amazon rain forest reduces by an area the size of Wales every year". So just how big is Wales?
- Get the older children used to 'guesstimating'. Once they know e.g. the area of a football pitch, can they roughly measure things in 'football pitches'? Can they guesstimate the size of features they can see on GE? Once they have measured, say, six to ten shapes with the line and path function, we found many children could estimate the areas of other shapes without measuring them e.g. "It's about half the size of the park" or it's about 2 hectares.



AWESOME ADVERT

10+ YRS



OVERVIEW

We use Animoto software for this activity. The motto on their website is “*Making awesome easier*” and it’s true! Learners create a 30 second advert on any topic they like. We’ve described an example where learners make a promo video of their school.

DESCRIPTION

Begin by showing learners videos created by other schools. www.youtube.com/watch?v=T7TI-AJi208 is fabulous!

Discuss the video with learners and explain that they are going to create their own video to ‘put their school on the map’. Explain that theirs (as it is their first attempt) only needs to be 30 seconds long. Get them create storyboards outlining what aspects of school life, locations, people etc. that they would like to feature. Then ask them to go and collect video footage and still pictures for their films. This is best done in small groups. You could assign roles like actor, presenter, stage manager, director and so on. (Proper badges add to the fun!)

When their videos and pictures are ready, the next step is to upload them from the cameras to their computer.

Then guide them to www.animoto.com and sign up to an account if you haven’t done so already. So long as you select the **Lite Package** there is no monthly charge. If you get pop-ups asking if you’d like to upgrade just close them down. When you’ve signed up, you’ll be taken to a tutorial. Watch it yourself but also watch it with the learners - it’s very short but also very informative.

Start off by clicking on **Create Video**. They will then be guided through the process of selecting a style for their video. If they get a pop-up asking them to upgrade, tell them to click the link underneath that says ‘I want to create a 30 second video’ and they will be taken to a page where they can add music, pictures, video etc. and rearrange them in the editing pane. They can preview and re-edit their advert at any time, so tell them not to worry about getting everything perfect the first time!

Finally, they should click **Produce Video** and they will have created the final version of their advert. If they copy the URL they can send it to friends via email or display it on the school website/social media sites.

WHAT DO I NEED?

- Smart-phones or digital camera and video camera, computer
- Internet access
- Online software at www.animoto.com (or similar software)

ADDED VALUE

Learners create highly professional looking, fun videos quickly and easily with no messing and no extensive editing! .

HINTS & TIPS

If you like this software and would like to upgrade so that you can produce longer videos and have access to more features, a year’s subscription to Animoto Plus package is only \$30-50.

The background music you can choose from can be quite loud so it’s best if the video footage does not have sound or it can be drowned out – if they really want to have people talking, then they need to hold the video camera very close to the person speaking or use a separate microphone. Or just speak loudly and clearly!

OTHER IDEAS

- Create holiday photo albums!
Here’s ours: <http://animoto.com/play/1CF1PYZb67JMKzT1VdbNgw>
- Create a ‘Class of 2014’ video of the school-leavers prom or collate memories of their time in school
- Make a video of games they play at break-time
- Make a video of skipping rhymes
- Film the younger classes dressing up
- Do a ‘behind the scenes’ video of a school performance or concert to supplement any ‘professional’ video (much more fun)
- Keep a record of their school trips
- Give different groups different and ‘opposite’ topics e.g. the best /prettiest things about our town and the ugliest things about our town
- Make a video about a community issue e.g. litter, recycling

or just use Animoto to create their own biography...

MY FIRST MOVIE

10+ YRS



OVERVIEW

This software couldn't be simpler to use, yet by the end of the lesson learners will have had a taste of producing, directing, scripting and casting their very own movie. It's also easy to differentiate tasks, allowing higher ability learners to experiment with plot and continuity by adding multiple scenes. We used Dvolver Moviemaker.

DESCRIPTION

Before starting, ask pupils to brainstorm film genres e.g. romantic, comedy, sci-fi, adventure. They should decide on one of these before starting the activity. This will focus their minds when it comes to making choices during the production process.

Go to the Dvolver homepage www.dvolver.com/moviemaker/index.html. Click the 'Make a Movie' tab on the Homepage. On the first 'page', they will be asked to choose a themed 'background' and 'sky' for the setting of their first scene. They can scroll up and down on the arrows in order to view the options. When they have done this and are satisfied, ask learners to click the 'Next' button. On the second 'page', they need to choose a plot. These are very simple. It's worth mentioning that having more than one character usually gives us more scope to 'tell a story'. Click the 'Next' button. On the third 'page' they need to choose their character(s). Remind them they can click on the 'Back' button at any time to edit their previous choices. Click the 'Next' button.

The fourth page is where the whole movie comes together because they have to write the dialogue. Tell them to take their time and to read the 'script' to themselves. It is very easy to allocate dialogue to the relevant characters. Tell learners that the longer the dialogue, the longer their movie will last. This will encourage them to expand their creative writing! Make them aware that for each line there is a maximum of 100 characters. Click the 'Next' button again. The fifth page requires them to select background music, or 'score', for their movie. Again, discuss the importance of choosing music that is appropriate to the subject of the movie. Encourage them to experiment, trying different scores and evaluating the effect. Click the 'Next' button.

Finally, they'll need to choose a title for their movie, type their name(s) where it asks for 'Director's Name' and to select graphics for the opening titles. They like this bit best! Click the 'Create my Movie' button. They can now watch their movie and send it to their (or the school's) email address. The email they receive will include a unique URL so that they can find their movie quickly and easily online.

WHAT DO I NEED?

- www.dvolver.com/moviemaker/index.html

ADDED VALUE

The added value here is obvious; short of hiring Pinewood Studios for a month, there would be no way for them to create their own movie other than using a computer! If you are still not convinced, these points should sway you:

- No downloading software (which is usually a pain).
- It is great for literacy and for assessing creativity, understanding of plot/storyline, IT confidence and creative writing
- It works across the ability range
- Both teachers and learners will pick it up easily – no lengthy preparations or long lessons with little to show for it at the end!
- It is virtually impossible to 'make a mistake',
- It's free!



HINTS & TIPS

We would advise running through the process quickly with the whole class on the interactive whiteboard. This just prevents you having to run through the process multiple times with small groups on a computer.

Create a movie yourself first! Show it to the class. Ask for feedback! Alternatively, use one we 'made earlier':

ET Turns Ugly:

www.dvolver.com/live/movies-716042

Spy-off:

www.dvolver.com/live/movies-716077

SAFETY

This software is very safe. Learners do not interact with other users whilst using it. You may want to limit which movies they are allowed to watch on the site – but we didn't find any that were nasty and unpleasant!

OTHER IDEAS

- Experiment by giving learners a short script for 2 characters and ask them to create a film using that script alone.
- Use it to introduce maths problems i.e. have one character relay a problem to another "I have 36 sweets and 4 children, if I wanted to share them equally, how many should I give each child?" The second character answers "Divide 36 by 4". Learners have to decide if the solution is correct and what the answer will be.
- Try some science reporting "We poured 50ml of water into a beaker" or "What important food groups do Earthlings eat?" sounds a lot less boring when spoken by an alien.

VOYAGE TO THE PAST

7+ YRS



OVERVIEW

Podomatic is a web publisher used to publish audio and video casts. We love it for its simplicity and flexibility. In this activity we have used it to develop learners' historical inquiry skills. Used in conjunction with recording / editing software such as Audacity, this makes the whole storage and publishing of audio files so easy.



DESCRIPTION

In groups of two, learners choose historical figures as a focus of their research. We've found that most learners would prefer to choose rather than have the subject given to them. However, there are times (during thematic work, for example) when it would be appropriate to provide a list from which they are asked to choose a subject/historical figure. If learners are choosing themselves, we've found it helps to provide a list of criteria e.g. Lesser-studied figures produce more interesting presentations because audiences are more engaged than if the presentation focuses on someone very familiar.

Learners are then allowed to research their subject using different search engines e.g. Google, WolframAlpha etc. and collect biographical notes including facts, anecdotes, descriptions and information from varied sources. They then use their notes to order the information about the chosen character using word processing software. They will need to choose a format for their work (an overview followed by a chronological report/timeline seems to work well) and to illustrate their work effectively.

Once they have finished this task, ask them to read the facts to their classmates. Learners should ask for feedback from peers and, if necessary, amend their work accordingly.

Afterwards they will do an imaginary interview with the historical character. Tell the learners that one of them will be the interviewer and the other the character. Give them a time limit – say two minutes – for their interview.

They can record the interview (using Garage Band, Audacity etc.) and publish it on Podomatic together with a picture and any text they want to add. This allows other people to listen to it and comment on it.

WHAT DO I NEED?

- Word processor
- Internet access
- Saved pictures on file
- Audio software (for information on how to use this look at the lesson on Reading Recitals or Podcast to Parents)
- Account on www.podomatic.com/login

ADDED VALUE

Children love to role-play! This activity is great for developing drama, literacy and IT in the classroom.

HINTS & TIPS

If you need to differentiate the task, allow pupils of lower ability to choose better known historical figures as there will be much more information (that is easier to find) available to them.

This activity depends on learners reading, annotating and re-presenting texts from many different sources. For reluctant readers, very often these include lower ability boys, encourage them to choose figures with dramatic histories (e.g. JFK, Julius Caesar) as they find these very engaging.

For the un-technical – Podomatic is bullet proof - cuts out all of the stuff about exporting audio as mp3 / wav / aiff files, downloading encoders, uploading to somewhere else and coping with embed codes – all those things that you really don't want to know about! For those that do, check out the next activity "Podcasts to Parents"

SAFETY

If they are using video of themselves during the interview, ensure that you have parental permission to do this as the podcasts are accessible to everyone online.

OTHER IDEAS

- Use it to publish stories the learners create and read.
- Make a videocast of the whole interview rather than just audio.
- Substitute explorers for figures in history.
- Interview the people that make your school work e.g. the caretaker, a teacher, the secretary, the head teacher.
- Interview 'characters' from books they have read.

PODCAST TO PARENTS

7+ YRS



OVERVIEW

Creating an audio podcast is much easier than you might think but it has many different applications. Here we've used it to develop literacy skills whilst also creating an opportunity to improve home-school links. Podcasting is so versatile that being able to use audio editing software is a key skill for teachers.

DESCRIPTION

You will need to download Audacity software – which is free. If you are not familiar with this software, the lesson on 'Reading Recitals' tells you how to do this and the basics of using it. Learners will have prepared a script outlining the week's news, telling parents what they have been up to in school, what their homework is for the weekend and details and dates of any upcoming events. You may also include reminders about school rules (no jewellery or the need to bring a full PE kit), which parents often appreciate!

Because you may not want to be fiddling with the pause button, or worse still, having to edit the final recording to eliminate mistakes, you will want pupils to practise reading their script before recording so that they get used to holding and speaking into the mic etc. When you're ready to record your final take, press the record button and silently cue the children to begin. You will have told them not to stall or stop if they make a mistake, but to correct themselves calmly and efficiently 'like they do on the TV'! It may not be perfect but it will be very endearing!

When they have finished recording, press **stop**. Go to the file menu and save the recording. Make sure you also 'save metadata'. Just type your information in the appropriate fields e.g. Names of pupils, date of recording etc. This is not essential but it makes files much easier to find and sort in the future.

Go to the file menu again and click on 'export as a wav file'. You can copy this file onto a CD, memory stick or attach to an email so that you can share it with parents. However, it will only run on their computer if they are using Windows. If you want to create a podcast to upload onto a web page (such as Moodle or on a blog), or if you want to share it with people using e.g. a Mac, you need to go to the 'file' click on 'export as MP3'. This may be a bit fiddly because your computer will need a decoder to do this. This may already be installed on your computer. If not, you will get a prompt telling you that you need to download one. Just follow the instructions to do this – it's free! Or else you can go directly to <http://lame1.buanzo.com.ar/#lamewindl> and download it yourself. When you've done this, your audio recording should save as an MP3. These file types move easily between platforms and can be embedded in websites. If all of this is making you feel faint – go back to the previous activity (Voyage to the Past) and use Podomatic.

WHAT DO I NEED?

- Audacity or any similar audio recording software. You may already have this as part of a bundle when you bought your PC. <http://audacity.sourceforge.net/download/>
- A decoder if there is not one already installed on your computer
- <http://lame1.buanzo.com.ar/#lamewindl>
- An external mic to plug into your computer. This is not absolutely essential if you have a built in mic but the results will not be as good.

ADDED VALUE

The added value here is in encouraging learners to investigate further the possibilities of online communication. Encourage them to discuss why this form of communication could be better than a traditional letter home e.g. Letters get lost or used as coasters under coffee mugs – email doesn't!



HINTS & TIPS

Initially (especially with younger learners) you'll have to direct the creating of the MP3 or do it for them. But learners will be able to complete the process with increasing independence in a very short space of time.

SAFETY

A list of dos and don'ts would be useful before beginning the lesson. 'Do's' would include all the positive teaching points like speaking clearly; the 'Don'ts' would include not referring to addresses, telephone numbers and email addresses on the podcast.

OTHER IDEAS

- Check out the unit Reading Recitals for ideas on how to keep parents up-to-date on learners' development in reading.
- Begin creating pre-recorded radio broadcasts: learners write a script, choose songs they would like to play and arrange interviews e.g. with the head teacher.
- Get children to commentate on school events such as sports day.
- Use it in every context for interviewing.
- Read aloud some story books for younger children and give them to the nursery classes.
- As a Christmas project, make a recording for someone as a present (such as their grandmother).

YOU'VE BEEN FRAMED

OVERVIEW

This software is more sophisticated and is not specifically created for children. Having said that, it is not complicated and is well within the abilities of learners in the recommended age range. Making videos is also a really useful activity as it can be used in so many curriculum areas so it's worth getting to grips with video editing software.

DESCRIPTION

If you do not already have Windows Moviemaker on your computer, you will need to download it from the web (use the link below). The download is free.

Note: Mac users will already have the equivalent software (iMovie) on their computers. This works rather differently.

When you are all set and ready to go, ask learners to open the programme. The screen will be largely blank, with a small black screen on the top right-hand of the screen (this is where their movie will be played). The business end of the operation is on the top left hand; it includes the usual tabs like 'file', 'edit', 'view' etc. Running down the side will be technical gizmos such as 'import', 'edit' and 'publish to'. Along the bottom will be the 'Storyboard'.

Learners will already have footage they'll want to use. This can be several short clips or one continuous video. This may have been filmed during a PE lesson, during a science experiment or whilst on their holidays in Cromer! It's up to you what footage is used!

The trickiest bit (which isn't that tricky really) is importing the video. You will have your video file in one of four places and these are listed on the links on the left: 'from digital video camera' (this includes phones), the 'video' file on your computer, the 'pictures' file on your computer or in the 'audio or music' file on your computer.

Click on the relevant link and locate the clip you want to use. Double right click on it and, hey-presto, in seconds, it should appear on the main Windows Movie-maker screen.

Drag the video clip you would like to use to the first blank square on the storyboard. If you click the play button beneath the screen in the right-hand corner, your clip should play. This is easy if you're only using one clip. For multiple clips, drag one to each blank square on the 'Storyboard'. The basic movie is now pretty much complete!

To give the movie a real film flavour, learners will need to click on the 'Titles and credits' link on the left. We suggest only experimenting with 'Title at the beginning' and 'Credits at the end' until learners are more familiar with the software and processes.

Click on 'Title at the beginning' and in the first box ask pupils to type in the film title. In the box below they can type their name(s). To finish, they must click on 'Add title'. Back on the main screen, ask learners to click on 'Titles and credits' again and then click 'Credits at the end'. Here they can type their name(s), role(s) etc.

If you want to share the movie with others, go to the 'Export as' tab and choose an option. You can export it to YouTube if you want to share it with the world or as a .mov file that can be shared with parents through e.g. Dropbox. If you want to put it on Moodle or on a blog you will need to upload to YouTube first, make it 'private' then click on 'share'. This will give you an 'embed code' which can be copied and pasted wherever you want to embed it. With some blogging software (e.g. WordPress) you can just copy in the YouTube URL without having to fuss with embed codes.



WHAT DO I NEED?

Windows Movie Maker, iMovie (for Apple Mac) or similar software.
Video clips from a digital camera or phone. It is also possible to download clips from the internet.

In order to see if you have Windows Movie Maker as part of your computer software package, click the windows button (usually bottom left on your desktop), and type the programme name in the search box. If it doesn't appear in the white pane above, you will need to download the software from the web at <http://en.kioskea.net/download/download-124-windows-movie-maker>

ADDED VALUE

The added value greatly depends on the context. For example, using Windows Movie Maker to edit, produce and publish learners' news reports adds a professional touch and real-life experience to literacy work.

School-leavers can film and edit a documentary based on their time in the school. This could be burnt to DVD and sold in order to raise money for their end of year trip.



HINTS & TIPS

If you'd like learners to develop their movies further, they can change the colour/ font of the opening titles and end credits. They can also manipulate the slide transitions (fade in/out) etc. and add a soundtrack or voice-over. More information, ideas and instructions can be found by typing the following URL into your browser: <http://straubroland.wordpress.com/2010/10/26/windows-movie-maker-for-teaching/> (Roli Straub, by the way, who created this, was one of the first cohort of Tacle-trained teachers!)

If learners are using this software for the first time, it is better to have them work in small groups. It is also a good idea to work with only a few groups at a time. Having the whole class trying to produce their own movie at the same time when you may not have much experience yourself in using the software could cause a lovely lesson to become needlessly chaotic!

There is a whole lot more to learn about Movie Maker if you want to progress past the basics outlined above. It really is worth it because being able to create professional quality videos of lessons, events, celebrations and so on can impact on every aspect of school life – as well as saving you money!

SAFETY

We suggest that you vet any video clips that learners use from the web. If you have any doubts at all, use only video clips learners have filmed themselves.

OTHER IDEAS

- Go on a maths walk and get the children to find e.g. right angles, tessellated shapes, fractals, patterns in nature, parallel lines etc. and point them out. Film the walk.
- Children stand tables in the classroom and slowly move the camera to film objects from above. Project onto the whiteboard, freeze the film and draw the outline of the shapes from above. Use as a basis for talking about plan views, mapping etc. Talk about – and show – Google Earth views of their school and draw the outlines.
- Get the children to make a few minutes of film about e.g. traffic, the market, animals in a field, children playing and use as a starter for writing a story.
- Ask children to make a short 'how to' film on e.g. using a protractor, making a mosaic, pressing a flower. Remember to get them storyboarding it first.
- Interview each other about e.g. their favourite book and why they would recommend it and interview visitors to the school – at every opportunity! (Governors, local authority staff, policemen, nurses etc.)
- Make a video alphabet – get younger children to draw brightly coloured letters of the alphabet. Hold them up and film each other saying the letter. Older children can then make some film to illustrate each letter e.g. animals, birds, cars, dogs etc.
- Film a PE or dance or drama lesson and use it as a basis for improvement.
- Ask children to video what they have been doing / their favourite school activities / what they learned on a field trip. Share it with parents at e.g. parents evenings or through the school website.
- Set a puzzle for the class (e.g. logic problem or lateral thinking problem) and get children to video their solutions. Find out whether their explanations are clearer when they know they are being filmed.
- Make a film to illustrate a poem or make an advert for...a favourite book, a local place to visit, why people should recycle.
- Make a time-lapse video by taking a 30 sec film every few days of e.g. butterfly eggs, tadpoles. Film more frequently when changes are taking place. Draw up a rota for the filming.
- Play around with green screening – film children against a blue or green background, and install green screen software on your computer. This filters out the green or blue background and allows you to add whatever background you want. This means you can e.g. interview famous poets / Romans / people in different countries! Here is a useful tutorial to show you how www.youtube.com/watch?v=dtFYD-2NRMc and here is some free software to do it www.123videomagic.com/download.asp (Thanks to A. Lydon).
- Get older children to make a video to show changing seasons, different weather etc. for younger classes (from Simon Haughton).
- If you have a robot or radio controlled toy, use gaffer tape to stick the camera to the top and record the robot's journey (from @bebevans22).
- Get children to practice giving directions. One group gives directions to a destination, another group follow the directions filming their route and recording what they are doing.
- Don't just record the school play or concert (although you can do that too!) – make sure you interview the cast about how they are feeling before and after the performance, film children getting ready, record moments in rehearsals, making scenery, making costumes, interview the audience after the show. Add some film of a child giving some background information on the playwright, composer etc.
- Pretend they are newsreaders on TV and read the school or class news for the week. (Make the TV screen out of a cardboard box).

SECTION 2: ISSUES

SECURITY, PROTECTION, PRIVACY AND SAFETY

In our experience, the biggest barrier to using e-learning activities – especially on-line sites – is that all teachers are petrified by press reports, local authority warnings, parental anxieties and their own conviction that the internet is populated by predatory criminals of one sort or another. Add to that the paranoia about children seeing things they really shouldn't, it is amazing that any teacher so much as switches on a computer in the classroom let alone connects to the internet.

Most of this is the stuff of newspaper headlines. Yes, there ARE dangers out there on the internet as there are dangers for kids crossing a busy street – it's just that the traffic on the world wide web is rather greater than the average road, there are far fewer accidents and they are rarely fatal. This is a good thing to remember. Just as with crossing the road, we have a duty of care to teach children how to use the Internet safely and effectively and this is really hard unless you let them do it!

Actually, in terms of on-line safety, the biggest problem is that the internet is populated by people who want to make money. Children are important as consumers and they can also unwittingly provide all sorts of data that can be sold – but that is not usually the sort of danger that is at the forefront of teachers' minds.

As a teacher you need to understand a few background things about computers before you start thinking sensibly about ways to keep learners safe. In particular you need to understand some basic stuff around security, protection, privacy and safety and the differences between them. We are using these terms in a specific way to make distinctions we think are important. Others may use them differently.

SECURITY

Firstly, the computers your learners use in school will almost certainly be connected to a local server – another computer that stands between the classroom computers and the outside world. This server may be located in your school or it may be somewhere else, for example in a local authority's IT department or in a private company that provides this service to the school.

Wherever this server is, it will be presided over by an IT technician or a whole department of them whose job it is to protect their system and make it secure. Any software that goes on that server, any website it accesses and anyone using that server potentially threatens its security. In the IT department's ideal world, their servers would have no contact with any other computer and no users. This is always their starting point. Remember that!

IT department staff are programmed to say 'No' to almost everything, then negotiate from there. Mostly, their trump card is to say "No! It's a security issue." – leaving the poor teacher who asked the question convinced that whatever the request was, it will lead to something terrible happening to their pupils. However, most of the time what the IT gatekeepers actually mean is that what you asked for, potentially threatens the security of their computer system NOT the safety of the learners.

The sort of things they worry about are: viruses, worms, bots and phish (yes, there is a whole computer world of minibeasts); whether there will be so much traffic that it will chew up their

bandwidth and their system will crash (for instance, if every user was downloading a full length feature film at the same time); spam mail clogging up their server or un-moderated comments appearing on their sites; unauthorised people hacking into their system, using ways into their server that bypass their firewall (more about this in a minute) and uploading programs that cause other things in their system to go awry. All of these are quite reasonable concerns from an IT perspective but not a lot to do with child safety – which is where your interest lies.

As an example, take Skype. A whole lot of IT departments refuse to support Skype – that is, they won't let teachers download it and they won't install it either. This is a great shame because it is a truly wonderful tool in the classroom. The IT police will tell you it is a 'security risk'. You will think that your *learners* will be at risk and back off. What they really mean is that Skype (which runs on the internet but not the web) uses a different 'port' on the computer that is their server and this has implications for how their server is configured, how their firewall is set up and so on. They are also worried that every learner in every school will want to send emails or have Skype conversations at precisely the same time and their whole system will go into meltdown.

There has been a debate running for years about whether Skype actually does have security risks and the general conclusion is that it doesn't. However, that argument does not concern you – from a *teacher's* perspective it is completely safe. In a primary school, the school will probably just use one Skype address or maybe one for each class. The only person using that address will be the teacher. Random callers on Skype are few and far between and all have to be 'accepted' before they can call or leave a message – neither of which will be seen by children anyway.

Apart from disallowing particular applications and sites for the reasons already mentioned, IT departments also create firewalls that dictate websites you are allowed to see and those that are banned because the content might be undesirable. Sometimes this 'decision' is made automatically by the installation of software that detects, for example, images, which have over a certain percentage of flesh tones, or sites that contain certain words (our colleagues working in ADULT Education are driven crazy by this). Sometimes, the decision is made by people working in the IT department who work on the principle of allowing access to as few sites as possible and then adding others on request – a 'white list' system. This is tantamount to frisking teachers on their way into school every day to make sure they don't have unacceptable, paper based material in their briefcases that children might see. We actually have personal experience of a three week wait whilst the IT department considered whether we could access the BBC Education website and these stories are all too common.

Whilst this approach may appear to keep learners 'safe' it does have its own dangers, such as preventing children from learning by blocking them and their teachers from innovative teaching and learning opportunities. It also stops children from learning about the dangers – imagine a child that had never been taught to cross a road suddenly having to navigate a motorway.

Make a stand – what learners may or may not have access to should depend on the professional judgement of the teacher. Having your art lesson sabotaged because the firewall objected to Botticelli's Venus having no clothes or not being able to show pictures of a pregnant woman's stomach as part of your carefully prepared health education talk is really unacceptable. (By the way, both of these examples actually happened!) We've all

heard people say, smugly, "Even if there is only a tiny risk it's not worth it!" Well, yes, but we don't try and teach children to swim on dry land in case they drown - even though there is a tiny risk of that happening in a swimming pool. Surely the rationale is that we teach them to swim, under carefully supervised conditions in the controlled environment of a pool *in order* to keep them safe!

Experience has shown time and time again that the greatest risk to children's safety, (whether in water or on the net or crossing the road) is ignorance - not recognising danger, not knowing how to avoid it or not being equipped to deal with it before it escalates.

So, if 'security' is mainly about computer systems, what are properly the concerns of the teacher? As we said above, we have broken these down into 'Safety', 'Privacy' and 'Protection'. This is not particularly technical but convenient.

PROTECTION

All teachers, *in loco parentis*, have a duty to protect the children in their care. So as a teacher, if you are responsible for learners when they are using digital devices, you need to take steps to stop them coming to any harm.

The first thing we would look at is the hardware. Computers *per se* are not harmful. Even if small children poke their fingers into holes in a computer, they are not going to be in physical danger. Far more of a problem is children having unsupervised access to computers - for example if you have computers in your classroom and children have to stay in the room during wet lunch hours. We would be absolutely ruthless about this - no computers to be used without supervision, preferably yours.

Our own preference is that in primary schools, the class teacher passwords all the computers (or terminals) in their class with the SAME password and tells no one except a designated person (there has to be someone in case you have a supply teacher or in case your classroom has to be used for something else) Before you are going to use them, you need to go around and log on before the children start using them. Most primary classrooms are lucky if they have more than half a dozen computers so this is not onerous. If the computers are networked or you are using a designated computer suite, the rules will be different. At the end of the lesson - walk around and make sure everyone has logged out. Do change this password regularly; children have an uncanny ability of discovering what the password is!

Beware the blank screens and the kids who *tell* you they have logged out - if there is a blank screen, click the space bar to make sure it's not just sleeping but properly logged off.

Digital cameras and camcorders that do not connect directly to the Internet are relatively safe. The only thing to watch out for is that children are not left with cameras at break or lunch times. This obviously would not be the case with the tiny ones but sometimes it is tempting to let the older ones have free access to cameras to work on a project. Be warned - if you do this, initially you will have to contend with children deciding to film other children in the lavatories or changing rooms. They do get bored with this very quickly, especially once you have done whatever teacher-ish thing you personally do in these circumstances. However, in the meantime you are likely to have had visits from irate parents. So be careful - unlimited access to cameras is a real privilege to be earned and handed out sparingly.

It is much the same with audio - the first time kids get to play with microphones and digital recording you will be deafened by "Miss, he said a naughty word!" How you deal with this again has to do with to do with your own classroom technique. As with everything else, it usually wears off very quickly. The good news is

that you can erase it very easily. That said, this behaviour can become quite persistent in some classrooms, in this case you must depend on your own professional judgement as to how to stop it.

WORKING ON-LINE

Once you allow children access to the Internet there is the potential for them to get into trouble. On the other hand, the same is true when you let them play outside in the yard. Except the risk is probably greater in the playground. We do not want to sound cavalier about this but we need to get the risk in perspective.

There are some basic rules.

1. Decide where your learners can and can't go on the Internet. This might be embedded in school policy or your own professional judgment call. Know where your personal boundaries are.

2. If you have a choice between using on-line software or software that you download as a local installation, go for the latter, even if it means you have to install it on every machine yourself. If you have a network, then that makes it easier, however, your IT people will probably not let you install any software yourself, which is the downside. There is also more free stuff on-line.

3. If you are using on-line software on the interactive whiteboard (smart board) then you only need to set up one account in your name. You will obviously check out the site as you are preparing the lesson to make sure that clicking on a link doesn't take you somewhere you don't want to be. One thing to watch out for is that most free sites, such as You Tube, will make their money out of carrying advertisements. The advertisements are constantly changing. Although most sites geared to children are very responsible about the adverts they carry, other sites you may want to use are less concerned. So try and do a last minute check on the site you are going to use right before a lesson - unless you are happy to explain what they are advertising - which can be awkward!

4. You will probably have a heavily firewalled system. If not, you will need some sort of nanny software installed which blocks inappropriate content before you see it. Failing that, look at the settings on the search engine or browser you are using because you will probably be able to adjust the filters to edit out unsuitable images at least.

5. Make sure you have anti virus and antispyware software installed - even though the anti virus software in particular can slow down your computer.

6. Accounts, usernames, email addresses and passwords!

If learners need to work on-line but they don't need to communicate with each other on-line, then my preference is to set up the account yourself, choose one log in for the whole class and one password. That is, everyone uses the same account. It means you can either log-in every computer to this application yourself so they are ready to go (meaning learners are at no stage 'roaming around' on the web) or share the log in and password and let the children do it.

(Children will always tell kids in other classes what the password is - not that this is a real issue because it will only access an application you have selected. However, if you want to avoid this, you can sometimes get away with having a very officious sounding password - e.g. Class5only. Other learners are less likely to use it than a password like 'chocolate'.)

The downside of this single account approach is that a lot of the freebie sites will have a restriction on the data you can

store on one account, or the number of times it can be used without upgrading to a premium (paying) account. If you have an entire class using the account, this limit will be reached very quickly. Also, it obviously does not work if you want learners to mail, Skype or tweet each other.

So the third solution is to let each learner set up a separate account for on-line software. We have had major arguments with our colleagues about whether to allow learners to choose their user names and passwords and whether they should be allowed to keep this private. Whilst we understand the ethical concerns – and with older learners it is an issue for discussion – the main reason for knowing the user names and passwords of primary learners is not only that it's safer, but also that they forget them. Always. The other thing you can do is to allocate them names (e.g NicClass4) and tell them all to use the same password, which you put up on the board. Most primary age children will readily accept this.

Also, some online applications will only let you set up accounts if they are linked to a unique email address. Again, one way of doing it is to use a combination of your class name, school abbreviation and learner's initials to set up an email account

E.g class06YEJND@gmail.com

So this would be Class 6 at Ysgol Evan James, Nic Daniels. (It isn't by the way!) Then you allocate passwords from a list and keep the master copy. The downside of this is that if you want to allow learners to publish their work, they won't get the satisfaction of seeing their name in lights. The alternative is to use software that allows you a choice of privacy settings (more below).

Finally, if you are doing some of the activities mentioned in this book, for example the Twitter role-play, then you really need to let learners decide on their own user names. However, you can still allocate them a password from a list or make them use the same one! In these cases, I would just close the accounts as soon as you have finished with the activity.

If all this sounds Draconian, just remember that whilst they are in your classroom, they are under your control and you can make professional judgments on how to protect them – especially at primary age. And you'll have all but the most radical parent behind you.

7 Discuss some ground rules with your class and write them up on the wall. Some could be based around the points above, for example, never change your password unless you are told to do so by a teacher. You would also want to include rules such as 'never saying anything hurtful to other people on line', 'being polite', 'not publishing photographs until you have permission from the people in the picture', 'never communicating with anyone outside the classroom unless under the direction of the teacher', 'not using a name until the teacher has OK'd it.'

8 Carry out checks – this is not snooping, it's protection. Check the history settings on the browser you are using and make sure that it is set to 'save all' history or something similar. (You can usually do this by going to the 'preferences' on your browser and looking for the 'security' and 'privacy' tabs). Look at the history after each assignment. Apart from ensuring learners have not been to 'undesirable' sites, you can see how they have approached the task by looking at the sites they visited. We would always tell children that we are going to do this; it's not meant to be a secret and it's important that they know that we are keeping them safe, not checking up on them, which implies we distrust them.

9 Get real - the average child is said to access their first pornographic web site, intentionally, at the age of eight. And by the time they are nine, 1 in 3 children will be using a social networking site. Children can be bullied at any age and let's not forget, bullying was not invented on the Internet!¹ This in no way diminishes the seriousness of any of these, quite the reverse. What it does indicate is that banning access to the internet is clearly not working and maybe we should be investing more in educating children on responsible use of the web than in trying to strengthen the blockades!

PRIVACY

Each time you use your mobile phone, access the Internet or log onto a website you leave a 'trail' of information behind. This trail is made up of data such as log-ins and log-outs, websites visited, content created or accessed, emails sent and received, chat messages and most recently, the geographic position of the user. The sum of this information is your digital footprint. Obviously, the greater your on-line presence, the larger your footprint is going to be.

Younger learners will obviously have a smaller digital footprint than your average teenager. However, as soon as they start using on-line applications – or even searching the web – their digital footprint grows rapidly. However, unlike ordinary footprints, they are not erasable – at least, not by the end users.

You may want to discuss the implications of this with the older learners. Do they really want future employers / university admissions tutors / their grandmother / their future children etc. to see photographs or videos of themselves doing stupid things?

One way of reducing, if not eliminating, your digital footprint is to make sure, if you are using software with different privacy options, that you understand and use them effectively. Mostly the privacy settings allow you to decide things such as what information you are going to 'share' with whom; who you are going to allow to share their data with you and who you are going to block; who will you allow to be your 'friend' and so on. Before you use any software, read the privacy statement first and if you don't agree with it, search around to find a similar site that doesn't request personal information

This is a tricky one in the classroom. Our feeling is that younger learners should never publish any content that can be accessed by people they don't know. From our point of view, this is largely to protect them from comments that some unpleasant people leave. We once had a group of 7/8 year olds who made a 'TV commercial' and videoed it. They put it up on You Tube and although the majority of comments were very positive, there were a few who made very critical remarks, in a way designed to hurt.

In terms of privacy, children in your class need to know that they must NEVER give out any personal information on-line or any information about other people – such as their parents. Discuss with them what this 'personal' information is (e.g. real name, address, phone numbers, email addresses.). They should also never respond to questions such as "What job does your Daddy do?" (fishing for information about family income) or even "What sort of pet do you have?" (we were bombarded with junk mail about rabbit food for 6 months). It's a good idea to visit some sites for kids. Pay particular attention when sites collect this sort of information and blacklist them.

1

• The single largest group of internet pornography consumers is children aged 12-17 [Psychologies Magazine].

• 1 in 3 10 year olds have seen pornography online [Psychologies Magazine 2010]
81% aged 14-16 regularly access explicit photographs and footage on their home computers. [Psychologies Magazine 2010]



INTERNET SAFETY

All of the above points are related directly to protecting your children in the classroom whilst they are in your care – and also protecting yourself. However, you could argue that what children do on their home computers is really nothing to do with you or you could take the line that, like road safety, it is part of your job. Similarly, some schools will routinely teach Internet Safety as part of the curriculum, some will not. Whatever your feelings, this book is about e-learning for teachers, not Internet Safety for Children. There are many organizations devoted to exactly this topic and thousands of websites where you can find exemplar curricula and resources. We do not, therefore, propose to deal with this topic other than to offer some websites we have used and found useful.

Common Sense Media is one of the best. It is a site devoted to internet safety but apart from providing guidelines for parents and children, it also has lots of 'safe' applications and games and a weekly online newsletter. (www.commonsensemedia.org).

The BBC Learning Zone also has some great materials, as does their CBBC channel (www.bbc.co.uk/cbbc/topics/stay-safe)

All of our learners in Years 2-6 are given free access to **Superclubs**. This is a safe 'social networking' site for children, where learners can build their own webpages, take part in competitions, and send emails to each other. Mediators are always online to help them and there are rules to keep everyone safe online. (www.superclubsplus.com)

Think U Know - contains Internet safety advice for those aged from 5 to 16, along with parents and teachers, this site is produced by CEOP - the Child Exploitation and Online Protection Centre (www.thinkuknow.co.uk)

Internet Safety Zone - Look in the 'Under 13s' section for useful safety advice and information. (www.internetsafetyzone.co.uk)

Kidsmart - An award-winning Internet safety programme for children. (www.kidsmart.org.uk/)

Know IT All - lots of useful advice for keeping yourselves and your learners safe on the internet. (www.childnet-int.org/kia/)

Kidscape - An organisation that helps to prevent bullying and child abuse. (www.kidscape.org.uk)

Finally, on the next pages is an activity we have found useful. You might like to try it with older learners.

Don't ever allow primary age children to download their own software – especially free games. Certain on-line applications have 'malware' embedded in them – malicious programmes that enter your computer when you download the host software and collect personal information. One of the biggest problems resulting from lax privacy is not so much a direct threat to the learner but that your computer (or their home computer) will be flooded with spam and advertising because personal data will have been collected and sold on to sellers.

Finally, be very, very careful with your own privacy. School authorities, never mind parents, are likely to take a dim view of photographs that are visible to the world on your facebook page showing you after a drunken night out – or worse. In 2012 a teacher in the UK was struck off the professional register after being suspended by their school for just such a photograph. There was an appeal and two firmly entrenched sets of lawyers argued the case for professional misconduct vs personal liberty. Irrespective of the outcome or your personal feelings – is it really worth the hassle? And do you really want to face a class of 10 year olds who have seen pictures of you topless?

By the way, school managers should periodically do searches of their school names on Google and other search engines to see what pops up. It's very common to find that an unofficial web site or chat room exists for their school. These can be quite useful! Teachers can use these sites to pick up on potential problems or conflicts, troubled students, complaining parents etc.

VIRTUALLY INVISIBLE?

OVERVIEW

This lesson is a basic introduction to learners on using the internet appropriately. Some of the issues and processes have been simplified to aid understanding, but the general scenarios are accurate and realistic. Learners are exposed to the possible consequences of inappropriate behaviour whilst using the Internet.

DESCRIPTION

Read the following scenario to learners:

Carla is 13 years old. She'd had a bad day in school yesterday, she and her friends had argued with some other girls in school. The other girls had made fun of the clothes Carla had worn to the school disco. One girl in particular had been very cruel to Carla. So when she got home, she set up a new email account and sent a very nasty email to the girls that had made fun of her. Today, she is regretting her action. What should Carla do?

Group the learners and tell them they have to decide what Carla should do from the following 3 options. They are only allowed to choose 1!

- A) Confess.** Tell the girls, the teachers and/or her parents what she's done.
- B) Go home tonight and send ANOTHER email to the girls apologising for her first email.**
- C) Nothing.** She set up a new email account after all, so no one in the world will know she'd sent it.

Work through the first option quickly. Discuss the possible consequences - Carla may be punished, but the fact she confessed straight away is likely to be taken into consideration by the school and her parents. You could also ask pupils to mind-map their ideas.

Move on to the second scenario. Ask learners what they think could happen. This option can lead to the consequences as outlined for A (above) or C (below). For now, focus learners' attention on the premise that the girls either tell the teachers in school (so the result would be similar to A) or that they retaliate by sending abusive emails back to the sender. Discuss the idea of retaliation and where that could lead Carla AND the other girls.

For those that chose option C (and if no group chose this option, tell them that you'd like to take it to its logical conclusion, just out of curiosity!) read the second part of the scenario:

The same evening that Carla sent the nasty email to Amy, one of girls that had received it, became quite frightened. She didn't know who'd sent the email and was worried that it could be a stranger, the email was very personal and very cruel, but there were no clues in the email as to who had sent it. She decided to tell her parents about it.

Ask pupils what they think could happen now. Some may know exactly what will happen, but don't reject or confirm any ideas yet. Just let everyone throw ideas into the pot. If you want to be particularly creative, you could spend the remainder of the lesson asking groups to write the final part of the scenario themselves before sharing their ideas with the class. You could then read the choice of final scenarios in the next lesson. Otherwise, discuss the ideas briefly before distributing the 3 scenario conclusions below to every group and ask them to either read them independently, or ask volunteers to take turns in reading aloud. (They look very repetitive but we have done this so that you can just photocopy them)

Scenario 1: Having told her parents, Amy's Mother contacted the school. Someone at the school told Amy's mother how she could find out who sent the email. So, Amy's mother logged into Amy's inbox and highlighted the email. She right-clicked the email and selected PRIORITIES. She then clicked on the bookmark DETAILS which brought up a whole lot of writing. Amy's mother grabbed a pencil and wrote down a long number called X-originating-IP. She then went to the website www.ip-adress.com/whois/. This website told Amy's Mother that the ISP (Internet Service Provider) was owned by BT. Amy's mum sent the email to BT and told them what had happened. Most ISPs do not take kindly to users sending such messages whilst using their services as this can leave them open to legal procedures even though they have not sent the message.

Nearly all ISP keep records of who is logged on and which IP address they have at the time they were using their service. So the company was able to find out who was logged on and using this IP address at the time that the email was sent to her daughter. BT contacted Carla's parents and told them that had this not been the first time (or if it were to happen again) they would contact the police. Carla's parents were told the school knew about the email. Carla's parents had to go for a meeting with the head teacher.

Scenario 2: Now, Amy's Mother was not an expert in computers, but after a quick search of the web she knew exactly what to do! She logged into Amy's inbox, highlighted the email. She right-clicked on the nasty email and selected PRIORITIES. She then clicked on the bookmark DETAILS which brought up a whole lot of writing. Amy's mother grabbed a pencil and wrote down a long number called X-originating-IP. She then went to the website www.ip-adress.com/whois/.

This website told Amy's Mother that the ISP (Internet Service Provider) was owned by BT. Amy's mum sent the email to BT and told them what had happened. Most ISPs do not like users sending these sorts of messages whilst using their services.

BT was able to find out who was logged on and using this IP address at the time that the email was sent. BT contacted Carla's parents and told them that had this not been the first time (or if it were to happen again) they would contact the police. Carla's parents had to contact the school and Amy's parents.

Scenario 3: Amy's Mother was horrified, so she phoned the police. A very nice person on the helpline told Amy's mum how she could discover who'd sent the email. So, Amy's mother logged into Amy's inbox and highlighted the email. She right-clicked the email and selected PRIORITIES. She then clicked on the bookmark DETAILS which brought up a whole lot of writing. Amy's mother grabbed a pencil and wrote down a long number called X-originating-IP. She then went to the website www.ip-address.com/whois/.

This website told Amy's Mother that the ISP (Internet Service Provider) was owned by BT. Amy's mum sent the email to BT and told them what had happened. BT was able to find out who was logged on and using this IP address at the time that the email was sent. BT contacted Carla's parents and told them the police had been informed. The police visited Carla's home.

Having done this, you can discuss the obvious - that all scenarios lead to the same basic conclusion - Carla is found out! Remember to state that these scenarios ARE more than possible, one of them is LIKELY and that there is no way to escape being traced via your ISP. Explain that the process would be similar for tracing online abuse in whatever online medium it occurred e.g. on chat rooms, blogs etc. Discuss what the consequences might be for Carla now. Ask learners how this information will affect the way they use the Internet in future. Clarify anything that learners remain unsure about and/or play the online Millionaire for Schools quiz below.



WHAT DO I NEED?

- Print the scenarios on cards, a set per group or use the interactive whiteboard if you want to display the scenario text as you or the learners read it.
- Check out the web site WHO@! (www.haltabuse.org/) which has been set up to provide advice and information about cyber bullying.
- Try out the quiz at www.millionaireforschools.co.uk/quizzes/956-Age-5-7-Teacher-Support-Content-Contact-Culture/play

HINTS & TIPS

A great way to end this lesson would be to ask learners to do what Amy's mum did and find the ISP of an email.

COPYRIGHT

USING ONLINE MATERIALS – WHAT YOU NEED TO KNOW!

If your pupils are downloading web content (images, video, music etc.) you need only be concerned about copyright if learners are re-publishing this content to the web – say as a Blog, Wiki or Slideshare presentation. Let's assume your learners have created a Glog using www.glogster.com and they have used footage taken by themselves on a digital camera, text they've written themselves and pictures they sourced from the internet. Only the web-sourced pictures would be subject to any licence as the learners will have produced the rest of the content.

This chapter will give you a brief overview of how copyright works

INTELLECTUAL PROPERTY RIGHTS (IPR)

IPR are the legal rights over 'creations of the mind'. These can be ideas, theories, discoveries, inventions, words, music, symbols or designs. In fact, they can be almost anything! IPR are designed to give legal protection to the creator.

Copyrights are one sort of IPR - along with trademarks, patents, trade secrets or industrial design rights.

COPYRIGHT

The person who creates the intellectual property owns the copyright from the moment it is created without having to take any further action. Once you create a 'tangible expression' of an idea in any medium, including digital works, you receive "all-rights-reserved" copyright automatically. You do not have to register or record this. However, you may give or sell the work to someone else along with the copyright.

The copyright holder has exclusive rights to

- Make copies of the work.
- Prepare derivative works based on it.
- Distribute copies of the work to the public by selling, hiring or lending.
- Present the work publicly, in the case of audio-visual productions.
- In the case of sound recordings, playing or performing the work publicly

This means you cannot download images, text, music or anything else from the web unless you have the copyright owner's permission to do so.

In e-learning terms, there are basically two areas you need to consider; the copyright on the software you are using and the copyright on the content that you or others create. There are slightly different protocols for dealing with each.

SOFTWARE LICENSING

A licence is a contract that specifies all the rules and clauses governing the use of a particular piece of software. They stipulate the scope of use, the installation and the copying, modifying and reproduction of the software. Below, we have listed some of the licences you may come across.

COMMERCIAL SOFTWARE

Retail or commercial software refers to software available only with the purchase of a licence. These may be single user licences, which may not be copied for others, or 'multiple user licences', which are common in schools and will almost always be marked by the word 'Copyright' and / or the symbol ©.

SHAREWARE

Shareware is copyrighted software that is distributed without payment on a trial basis and is often limited by any combination of functionality, availability or convenience. That is, it might be limited to a certain number of days or the number of times that you use it or you may not be able to access all of the functions until after you have bought a licence. Shareware is often offered as a download from an Internet website or as a CD included in a magazine.

FREWARE

Freeware refers to copyrighted software for which the author does not ask for payment (though they may request a donation). ALL the restrictions that apply to copyrighted software apply to Freeware. That is, you may not copy or modify it or redistribute it.

COPYLEFT

Copyleft is a form of licensing similar to the Creative Commons Share-Alike. It means the creator voluntarily gives up their rights and allows anyone who has a copy of their work to reproduce and adapt and redistribute it. However, there is an important restriction; any resulting copies or adaptations are bound by the same Copyleft licence. The Copyleft symbol is a reversed C in a circle.

'All rites reversed.' 'All wrongs reserved.'

This is a slogan typically found on copyleft material!

PUBLIC DOMAIN SOFTWARE

This is software free from any restrictions as to its use, modification or redistribution. This means users have the freedom to:

- Use and study the work without limitation
- Copy and share the work with others,
- Modify work and distribute modified/derivative works.

OPEN SOURCE SOFTWARE (OSS)

For regular users this just means free software. For software developers it means Copyleft software i.e. free of restriction except that it cannot be reused or redistributed other than under the same licence.

CREATIVE COMMONS AND OPEN CONTENT - "SHARE, REMIX, REUSE - LEGALLY."

Creative Commons provides free tools that allow users to mark their creative work with a range of symbols, each specifying a restriction they want put on their work. That is, the work is still copyrighted but others are allowed to use it without restriction other than those indicated by the following letters.

- Attribution (BY): You must attribute the work in the manner specified by the author or licensor (but not in any way that suggests that they endorse you or your use of the work).
- Non-commercial (NC): You may not use this work for commercial purposes.
- No Derivative Works (ND): You may not alter, transform, or build upon this work.
- Share Alike (SA): If you alter, transform, or build upon this work, you may distribute the resulting work only under the same, similar or a compatible license.

Therefore, so long as you adhere to the restrictions put on the work, you can use it. All Creative Commons licences carry the mark CC in a circle.

HOW TO LICENSE YOUR OWN WORK UNDER CREATIVE COMMONS

It is unlikely that primary learners will have the need to licence their work, but if you want to learn more about HOW to do this go to the first Tackle handbook (<http://tackle2.eu/category/tackle-1-handbook>) and look up the chapter on Copyright.

One way around all of this is to tell children that if they want to upload material into the public domain they have to restrict their searches for material to particular sites.

The Creative Commons site <http://search.creativecommons.org/> searches across other sites such as Google or Flickr and picks up those pages that have a Creative Commons licence meaning that you are free to use the material. Don't click on the button that says 'commercial purposes' or 'modify, adapt or build on' as this will restrict you even more.

Another rich source of material is the BBC Creative Archive, which includes material held by the BBC, British Film Institute, Channel 4, Open University, Teachers TV, Museum and Library Archive and ITN. This material is licensed under a different sort of licence that allows you to use it for educational purposes (www.bbc.co.uk/creativearchive/index.shtml)

HARDWARE

Most of this book has so far been about software. However, we get asked pretty often about what sort of hardware primary teachers really need and what should be on their wish list. The first question is fairly easy. ALL of the activities in this book can be carried out with the following bits of kit.

We are assuming you have at least desktop computers.

Cameras

Digital cameras (as many as you can get your hands on). Ask parents to donate their old cameras and camera phones to the school! Make sure they remove holiday snaps (or worse) beforehand. Don't be tempted by the colourful kitsch ones – the money is in the colour and the kitsch! Our favourite of the moment is the bottom-of-the-range Nikon Coolpix which will do just about everything you need, it's simple to operate and robust enough to stand up to the average primary classroom.

We also love Lego cameras. They look as if they are made from Lego bricks and have the little knobs on them so that you can integrate them in a Lego construction. (Make your own tripod, mount it on the top of a Lego crane, attach it to a Lego car and take pictures of the street you have just built...)

If you can afford a camera with a zoom lens, make sure it is an optical zoom. Digital zoom cameras are cheaper but basically they just enlarge the image as you would on a computer and as it enlarges, it pixelates and goes blurry. Not only do kids hate this but also you are actually paying for something you do not need.

Video cameras / Camcorder

Get simple, easy to use video cameras with as few buttons and functions as possible. Buy the cheapest that looks sturdy! Learners will do their editing on the computer so expensive cameras with inbuilt editing features are fairly pointless. Video cameras should ideally run on mains AND batteries - they cost a bit more to start with but otherwise you will be forever buying and changing batteries, which can prove very expensive. If you do go down the battery route, make sure they take standard batteries and invest in rechargeable ones and a charger.

Camera tripods

We like Gorilla tripods because you can attach them to anything and they are much easier for children to use than the sort with extending legs. Mini, fixed-leg tripods that you sit on a table are OK ish except children can NEVER find a table the right height and take ages dragging tables around the room (or outside) and propping the tripod on piles of books which always fall over.

Cables and leads

Buy cameras that have standard mini USB connections. Collect as many USB and mini USB leads as you can (where do they go??). It is useful to ask parents to donate any old ones they have lying around.

Microphones

Ideally you need at least one plug-in microphone. The built in mics on most computers will not pick up the reedy voices of the average eight year old. We like the 'snowball' ones because they give excellent sound quality for the money and are very tough.

THE WISH LIST

If you want to push the boat out, this would be our wish list but it really does depend on what you want to do.

More or less in priority order...

WiFi

Wi-Fi throughout the school instead of the hard wired connections primary schools are often stuck with. There are never enough sockets and they are always in the wrong place. You also need a fast upload speed if children are going to publish their work to the web. Most broadband packages are advertised to domestic users on the basis of their fast download times so that you can get your films-on-demand without waiting for hours. Fast upload speeds are not a selling point to users who want to do no more than publish the odd comment on Facebook. However, in schools, you rarely need to download big files but having 30 children all putting their work on the web can take forever if the broadband upload speed is slow.

Mobile devices: tablets and phones

- Collect iPods / mp3 players and other hardware that people are getting rid of! Even out-of-date ones that will not run the latest apps can be used for storing tracks and recordings if nothing else.

- Gather as many mobile phones as you can get your hands on. People tend to trade in smart phones but even entry-level phones often have internet access. Even better if you are lucky enough to get some unlocked or SIM free ones. However you are severely restricted in your use if your school does not have a wireless network. Even so, one for the teacher that can be connected to the smart board is good.

- If you are going to invest in tablets, despite the fact that we are Mac addicts, we would strongly advise getting android tablets, not iPads. They are cheaper to buy and, more importantly, there are far more free apps available for them.

- You also need to take into account that you will need a Wi-Fi connection first because otherwise you will not be able to download software easily or use them for the purpose they were designed – as mobile devices! This does sound as if we are stating the obvious but a school we know recently bought ten of them without considering this.

- Invest in specialist software (for iPads use Configurator) which allows you to put a standard set-up on all your iPads instead of having to set them up one at a time. It is perfect for the classroom, where devices need to be quickly refreshed and kept up to date with the correct settings, approved policies, apps and data.

- Check your insurance – if you are taking tablets or smart phones off site, the small print in your insurance policy may well say that they are not covered – we know a school who found this out the hard way as well.

- Enough iPads/tablets/iPhones for 1:2 learners in a class would be a good long-term aim. The e-learning for Maths and Science Teachers handbook deals with the idea of BYOD – Bring Your Own Devices but we decided that the hassles of having 20+ children in a primary school classroom with their own devices could send most teachers to an early grave. By the time pupils are in their teens, they can cope with devices that have different user interfaces – in a primary school they cannot.

E-readers

We have explained why we love e-readers in the lesson called 'Kindles for Kids!' The Kobo range of e-readers is also excellent and a bit cheaper. If you are buying them, there is little point in paying extra for 3G if your school has wi-fi and you do not need a huge memory – they ALL store far more books than you will need. We would also steer clear of backlit screens and stick to electronic ink. Same goes for e-Readers with lights – they will break by week two! Keep it simple. The only thing we would go for is a model with a speech synthesiser.

Test the keyboard or trackpad or whatever else they use for controls, before you buy.

Radio mics

If you have Wi-Fi in school, invest in radio mics so that you are not taping cables down and so that you have a greater range. (They come complete with a little receiver box that is wired into the computer or a mixing deck)

Simple programmable robots

Kids love all things robotic. The TTS Bee Bot is a fabulous first programmable robot. It is very simple and designed for children to improve their ICT skills. It comes in a brightly coloured Bee Like shell, and has interchangeable shells for other colours. Best of all it is cheap.

On top of the shell is the simple control system. The child can program a sequence with arrow keys, then press the "Go" button and the robot will carry out the actions. It can hold up to 40 instructions. Actions are forward, back, turn left, turn right and pause (for 1 second). There is also a clear button to start programming again.

At the other end of the spectrum are the Lego kits, which are superb. However they are expensive – there are about five and they range in price from €60 to €250. They have a lot of functionality but are probably not suitable for under 10's.

A good middle ground is the OWI "Edge" Robot Arm. The Edge actually looks like a robot, has lots of functionality and costs only €50 – 60.

The other we would recommend is the Snap Circuits RC Rover – simple battery driven low power electronics and suitable from about 8 years old. Also a reasonable price at about €50.

A word of warning – many robots come as 'build-yourself' kits. Personally we would avoid these like the plague because they really are too difficult for primary age children to build without intense one-to-one supervision and you will end up getting a tech-minded parent to do it for you. Ignore the hype on the box about how children learn so much by constructing them – it may be true but preferably in someone else's classroom

A digital microscope for science investigations.

A personal favourite based on years as a science teacher – children never fail to be fascinated by looking at their own hair or skin or the things they eat or mini beasts in pond water or a host of other things in the natural world. There are basically two types of digital microscope – those that plug straight into a T.V or your data projector and ones that plug into your computer through a USB. Go for the latter – they are more expensive but if you want the whole class to see it, then you connect the microscope to the computer and then the computer to the projector. Connecting to a computer means you can do far more in terms of manipulating images, (try some extreme colour schemes!), recording the images as still photographs or time-lapse video and so on.

Rather than recommend one, we suggest you look at The Teacher's SMART Guide to Choosing and Using Digital Microscopes (www.bugsandbiology.org/uploads/7/5/2/5/7525114/digital_scope_ebook.pdf)

Laptops

As old desk top computers die, change them for laptops. You know it makes sense! We are also quite excited about Chromebooks – they are a good compromise between computers and tablet and fairly cheap. Basically they are lightweight computers that do not run an operating system but have to be connected to the internet to work because all the applications and all your files are stored on a 'cloud' The more expensive ones can take a 3G sim card i.e. you can connect to the web using the same technology as a smart phone. Cloud computing is the way forward and the end of the IT department server. Yay!

Smart boards

We are assuming that most of you will probably be able to use an interactive whiteboard and over a period of time will discover more and more of its capabilities. However, the majority of teachers we work with still tend to see their board as just a computer screen that is usefully large enough for everyone to see. We are interested in how you can really exploit its potential so that it becomes something learners can interact with. Try this link for some awesome ideas to make your smart board sing!

<http://tackle2.eu/interesting-things-to-do-with/interesting-things-to-do-with-an-interactive-whiteboard>

X boxes, Nintendo Wii etc.

A lot of teachers look aghast when we take 'gaming machines' into a school. (One of which, incidentally, we acquired for nothing from someone's teenage son because it was an old model and the other was an e-bay bargain). Not only are they fun to use and can be used as a treat or an incentive but there's loads of potential learning opportunities. Wii skittles is wonderful for 5 year olds adding and subtracting up to ten ("How many did you hit down and how many left to hit?"), Wii golf is a joy for those a bit older learning subtraction ("How far is the hole and how far is your next shot? So what was your first shot?"). Super Paper Mario illustrates the correlation between 2D and 3D by letting you switch rapidly between the two, Mario Kart is good for shouting out directions in another language.



CONCLUSION

USING E-LEARNING IN THE CLASSROOM

A recent survey by the British Educational Suppliers Association (BESA) revealed that teachers regarded the keys to successful use of ICT in the classroom as: access to the facilities, technical support in school, good staff training and a personal computer. Above all, teachers felt that having lesson plans would encourage them to make more use of ICT in their work. This handbook tries to respond to two of those needs!

Together with the Taccle2 website and the Taccle2 training, it is intended as a practical resource for teachers in primary schools. It has been constructed around a series of graded lesson plans that you can dip into to find something that suits both the subject you are teaching and your level of confidence with the technology. It provides 'instant' ideas and, we hope, also provides a stimulus for you to develop your own.

It was never intended to be a theoretical handbook about the pedagogy of e-learning nor an academic framework or a curriculum model. There are many excellent books that cover these issues. Two we particularly like are Gary Beauchamp's 'ICT in the Primary School'¹ and Megan Poore's 'Using Social Media in the Classroom'². These are personal preferences but both are very readable and provide a good follow-on for any of you who want to take the next step.

However, by way of rounding off this handbook (for those of you who have got to the end!) we thought it might be useful to pull together some recurring ideas that are threaded throughout the activities that illustrate how e-learning changes practice, if not pedagogical theory.

WHAT MAKES E-LEARNING DIFFERENT?

We really don't believe that using e-learning in the classroom needs a special 'theory' of its own. There are theories about learning and teaching and they seem perfectly adequate. Nevertheless, we should recognise that ICT does offer opportunities that are not possible using traditional tools.

Many writers have tried to identify and classify these as 'properties' or 'characteristics' of ICT, which, as an academic exercise, may be useful. We are more concerned with how this research can help you function more effectively in the classroom. In particular, we like Gary Beauchamp's list of 'unique features', because although it is essentially a descriptive classification, we find it a really useful model for helping teachers make decisions around whether to use e-learning tools in a particular context and which ones might be useful. This is a brief summary of his model mixed with our own ideas.

SPEED

The use of ICT allows you and your pupils to make things happen more quickly. You can move rapidly through a set of slides on a PowerPoint presentation, you can flick between images, audio, text and video at will and you can call up information from the web very quickly if you want to illustrate a point or respond to a question.

Multi media lessons have been possible for a very long time – the change is how fast you can move.

AUTOMATION

ICT can take the grind out of lesson preparation. You can create templates for worksheets and core activities that can be used time and time again by cutting and pasting a few bits of text and they are easily customised for different learners. New presentations can be created by re-mixing existing slides. Text and images can be generated with a few keystrokes instead of having to produce them in 'real time' on a blackboard.

CAPACITY

Large amounts of data can be stored and retrieved easily and the devices used to store the data are getting smaller and cheaper. For example, the average primary school equipped with a digital camera in each class, can easily generate 20,000 pictures each year all of which can be stored, filed and retrieved using something the size of a paperback book. There is no reason why each learner cannot have a digital copy of every single piece of work they do.

Increasingly, data is not stored in local devices at all but on remote servers. The Taccle2 website post on cloud computing (<http://taccle2.eu/news/cloud-computing-in-plain-english>) explains how this works.

RANGE

The same information can be presented in a range of formats. For example, a learner can read a story on an e-book reader (such as a Kindle) and then switch to speech and listen to it. Learners and teachers can create 'active text' containing hyperlinks to images, sounds and video. Learners can capture experiences on a field trip or record an experiment as a podcast as well as in electronic or hand written text.

Information can also be gathered from a greater variety of sources – both primary data (e.g. recording an interview) and secondary data from web sites. The sheer number of data sources is generating a need for additional skills in searching and curating.

PROVISIONALITY

Data can be easily transformed, analysed, manipulated and returned to its original state and all the changes can be tracked. This makes modeling easy and the chance to explore the outcomes of "what if..." questions without the laborious slog of hand calculations.

INTERACTIVITY

'Interactivity' has been a buzzword in primary classrooms for as long as most of us remember. The use of technology in the classroom redefines what we mean by this. The use of social software creates opportunities for pupils to interact not just with each other but through publishing their work on the web,

¹ Gary Beauchamp 2012 Pearson, England

² Megan Poore 2012 Sage, England

enables them to interact with people all over the world. The 'school in the community' takes on a whole new dimension when that community need not be geographically based.

Interaction can also be considered in terms of the child's interaction with the technology – whether this is as a passive consumer or active creator of content.

Thirdly, we can also think of the interaction between technologies that children need to explore as a foundation for understanding their changing world. For example, understanding that data can be inputted as a spread sheet, visualized as a graph, added to a PowerPoint, uploaded to Slide Share, embedded in a blog, linked to a QR code, read with a Smartphone.

MOBILITY

Mobile devices such as smartphones and tablets – and also mp3 players, small camcorders and digital cameras are all bringing additional opportunities. Most equipment is now portable enough that a small child can carry it and almost all of them love carrying them around. As Gary Beauchamp noted "Such is the speed of change that by the time they leave primary school, pupils may be able to do more things with a phone than they can with a computer".

COLLABORATION

'Collaborative working' is another bedrock of current educational thinking – at least in academic research. We are bombarded with the idea of teaching children to work collaboratively and the potential of technology to help us do this. At the same time we are told that Lifelong Learning depends on people being able to work independently, make their own choices about what and how they learn and become fully-fledged, autonomous learners. We have yet to see an academic paper that manages to reconcile the two, still less offer ideas for doing so.

However, the average primary school teacher has been doing this for years – group work, collaborative projects and team activities have been part of the every day life in a primary classroom for about two generations of teachers. At the same time, all primary teachers know that helping children work independently is equally important – and often a lot harder to achieve.

Assuming there is some sort of continuum between collaboration and autonomy, what technology can do is help us to target more precisely the point on the scale we are aiming. For example, pupils can use Google docs to work simultaneously in real time on the same report, wikis to work collaboratively but asynchronously, multi-user class blogs where they have their own space but contribute to a collective whole or they can work independently on a computer based mathematics programme.

Technology also raises questions about how we define collaboration. Consider the example of a pupil sitting alone in their own bedroom researching a particular topic for homework who finds an on-line community of people interested in the same thing (say on Pinterest) and adds content or joins in a discussion thread. Is this autonomous learning or collaborative learning – and does it really matter anyway?

GLOBALISATION

As Beauchamp says "*The global reach facilitated by ICT allows pupils, individual classes and schools to have a global presence ... the process for a school or nursery to make itself known around the world is now very straight forward*"

This has enormous implications for teachers. One of the positive

sides is that it enables teachers to engage with communities of practice from which they would otherwise be excluded or that would not even exist. The obvious example is the community of practice being built up around teachers interested in e-learning (or 'Forest Schools' or 'Foundation Phase' or 'Phonics for Early Primary Dyslexic Pupils' or...). This simply could not have happened ten years ago. It raises questions about the local organization of schools into 'clusters' or 'districts', it challenges our existing models of both initial teacher training and continuing professional development and changes the way teachers network.

It also means that schools need to consider issues such as how they present and market themselves and their institutional 'digital footprint'.

A FINAL LIST OF DO'S AND DON'TS!

(Otherwise known as Mistakes We Have Made)

DO...

- Use a scheme of work as the basis for planning your lessons rather than basing your lessons around the technology.
- If children are using e-learning tools they should, on most occasions, be an integral part of the classwork. However, it may sometimes be necessary to spend a lesson learning to use a particular resource before it can be utilized to achieve a particular teaching and learning aim.
- Use technology in a meaningful way to enhance the subject and not distract from it.
- Devise activities that require pupils to share a computer, because computers are excellent for encouraging collaborative learning and also for higher order skills, such as modeling.
- Develop your own – and your pupils' skills in using software that can be applied to a variety of learning situations e.g. recording and editing video and audio
- Plan your lessons so that the computer-based work and the non-computer-based work complement each other.
- Adopt the model, with younger pupils, of showing the pupils as a class how to do something on the computer and then getting them to practise it in that lesson and to repeat that practice in subsequent lessons. With older children, find out how far you can let them learn from each other or video tutorials or just letting them discover by trial and error.
- Reinforce your teaching through wall displays of digital work, terminology, etc.
- Try and persuade your school that rows of computers in a special 'computer room' with pupils facing the wall is NOT the way to embed technology in classroom practice.
- Encourage your pupils to be active creators of digital content, to publish and share that content and to see themselves as owning the web not being owned by it!

DON'T...

- Start a lesson based on e-learning tools without ensuring that you are familiar with the equipment and, crucially, that it works at that moment.
- Start the lesson at all without ensuring that you have some non-computer work handy in case something goes wrong with the computers or power or software or – anything!
- Underestimate what your learners are capable of doing and understanding on a computer.
- Forget that a learner's ability and confidence on a computer is likely to be based more on previous exposure rather than academic ability
- Forget the division between the 'haves' and 'have-nots' and that the learners who do NOT have a computer at home may be more embarrassed about it and try to cover it up than, say, not having books in the house
- Confine your approach to closed, low-level questions. The provisionality of ICT lends itself well to exploratory open questions,

what-if investigations and scenario setting.

- Focus on dealing with the software at the expense of the real learning task.
- Leave it to the last minute to begin the 'end' of the lesson, especially if the learners have to save their work, file it, store it, print it or publish it. The 'housekeeping' of using technology takes longer than you think
- Allow learners to sit facing the computer screen when you want them to listen to your instructions.
- Give out homework that can be done only on a computer.

AND FINALLY...

GO FOR IT!

Remind yourself that your main goal, as ever, is to ensure the children in your class have the best education possible and although the goal posts continue to shift, you, as a professional, are equally adaptable! Sure, it would be nice if things didn't have to change for a while and that for once teachers could be left alone to 'get on with it' without interference but the world is moving at an exponential rate and you have a central role to play in preparing future generations to meet new challenges and unprecedented changes.

As The Red Queen said to Alice *"It takes all the running you can do, to keep in the same place. If you want to get somewhere else, you must run at least twice as fast as that!"*¹ This is the best advice we can give. If you don't get to grips with e-learning now, it will overtake you and you will need to run twice as fast.

In the meantime, if things do go wrong (and they will!) just stop, laugh (if you are in the classroom) or swear (if you are not), switch the infernal computer off or try pressing control/alt/delete. Again.

THE AUTHORS

Fernando Albuquerque Costa is assistant professor in Educational Technology at the Institute of Education of the University of Lisbon. He has coordinated two national studies for the Portuguese Ministry of Education into Teachers Competencies in ICT and ICT Learning Outcomes.

Jan Bierweiler is a teacher for English and history at the Gymnasium Münchberg, a German grammar school. He has been involved in e-learning since his time at university and is especially interested in the combination of traditional and computer-assisted teaching and learning.

Linda Castañeda Quintero is Senior Lecturer in Educational Technology at The Faculty of Education of The University of Murcia (Spain). She is also member of The Educational Technology Research Group (GITE). She has a PhD in Educational Technology and has participated on several research projects on technology enhanced learning.

Mattia Crivellini holds a degree in Informatics from the University of Bologna with a dissertation about AI (Artificial Intelligence). As a result of his passions, science and entertainment for children, he established Fosforo: a festival of science. The event aims to increase learner engagement in science.

Nicholas Daniels has been a primary School teacher for 15 years and was a deputy head teacher for 5 years. He currently works as a senior researcher and teacher trainer for Pontydysgu. He is a writer of children's fiction in the Welsh language and in 2008 won the Tir na n-Og prize for book of the year

Kylene De Angelis is an expert in vocational education and training (VET) and a partner of Training 2000, a VET organization in Italy. She cooperates in European research and development projects on new training methodologies and on-line didactics, innovative technology for training and the integration of youngsters and adults in learning processes.

Koen DePryck Prof. Dr. Koen DePryck teaches in the field of innovation in education at the University of Brussels and at ADEK University of Suriname. He is chairman of the consortium of Adult Education Providers in Antwerp where he is a centre director. He advises on education for the Organization of American States and publishes and lectures extensively on a broad range of educational topics.

Bruna Durazzi has a degree in Economics and a specialisation in maths and statistics. She has been a teacher of mathematics since 1983 to pupils aged 14-19. Currently she is applying ICT tools in class to improve her teaching methodologies with excellent results, especially referring to students with additional educational needs.

Giulio Gabbianelli has a degree in Communication Sciences and a specialisation in New Media and Society. He worked as junior researcher at the LaRiCA (research laboratory on Advanced Communication) at the Faculty of Sociology of the University of Urbino (Italy). Since 2009 he has worked for Training 2000 as a media expert and researcher.

Gabriela Grosseck is Associate Professor in the Department of Psychology at the West University of Timisoara, Romania. For almost a decade she was the editor-in-chief of the Romanian Journal of Social Informatics. She is the author of many articles in the field of e-learning, a speaker at international events, workshop organiser and member of several editorial committees.

Isabel Gutiérrez Porlán is Senior Lecturer in Educational Technology at The Faculty of Education of The University of Murcia (Spain). She is also member of The Educational Technology Research Group (GITE) at the same university. She has a PhD in Educational Technology.

Jenny Hughes has been a maths teacher and teacher trainer for longer than she's prepared to admit. She is also an educational researcher at Pontydysgu, an Educational Research and software Development Company based in Wales. Her interests include evaluation theory and practice and e-learning.

Cidália Marques is a school coordinator at Centro Escolar Poeta Ruy Belo, Rio Maior, in Portugal. She's an innovative primary school teacher, ICT teacher trainer and ICT coordinator. She also teaches at ESETN in a Special Needs Postgraduate course and she's working on her PhD at University of Lisbon.

M^a Paz Prendes Espinosa is Lecturer in Educational Technology at The Faculty of Education of The University of Murcia (Spain). She is a head of the Educational Technology Research Group (GITE) at the same university. She is also Coordinator of Virtual Teaching (Vice-chancellor of Studies). She is a coordinator of several research projects.

Pedro Reis works as associate professor, researcher and sub-director at the IE-UL, where he coordinates the PhD Programme on Science Education. He is specifically interested in ICT integration in science and environmental education.

Carla Rodriguez holds a PhD degree in Visual Arts at UNICAMP (Brazil). She has experience in applied technology with emphasis on the use of Information and Communication Technologies in learning, teacher education and e-learning. She has worked in primary and secondary schools and polytechnic institutes as teacher and coordinator of ICT.

M. del Mar Sánchez Vera is Senior Lecturer in Educational Technology at The Faculty of Education of The University of Murcia (Spain). She has a PhD in Pedagogy and works at the Research Group of Educational Technology (GITE). She has participated in several research projects about PLE, Web 2.0 and ICT in the classroom.

Carine Schepers Carine Schepers is a pedagogical advisor for GO! Primary Education and also participates in projects aimed at stimulating the integrated implementation of ICT in Flemish primary education.

Katleen Vanden Driessche teaches maths at CVO Antwerpen (second chance education) and works as a SEN teacher in a private practice. She has a special interest in the use of e-learning to support students with AEN in numeracy, mathematics and science.

Jens Vermeersch has an MA in history and an MA in communication sciences. He is an experienced manager of European projects in charge of the internationalisation department of GO!, the official education of the Flemish Government in the Dutch speaking part of Belgium.

PICTURE ATTRIBUTION

We would like to record our thanks to all those who provided the pictures in this book. Some were taken specifically to illustrate the book, others were downloaded from the Creative Commons website and we are particularly grateful to those people who have generously made their photographs available as open content for others to use and share. Finally, we want to thank the software creators who have allowed us to use their logos to illustrate some of the activities.

Cover:	Bart Vliegen
Introduction:	Editors
Classroom Activities:	Ysgol Gynradd Gymraeg Evan James, Pontypridd
Getting Jiggy:	Ysgol Gynradd Gymraeg Evan James, Pontypridd
Images by Instruction:	Ysgol Gynradd Gymraeg Evan James, Pontypridd
Wordle Warm-Up:	Meinir Morris, Ysgol Gynradd Gymraeg Evan James, Pontypridd
Light, Shadows and Me:	BBC schools science clips Museums and Archive Licence
Reading Recitals:	Ysgol Gynradd Gymraeg Evan James, Pontypridd
Savvy Searching:	Wolfram Alpha
Mini Musicians:	Robbie Sanchez under Creative Commons
Happy Homework:	Editors
Fuzzy Feelings:	Ysgol Gynradd Gymraeg Evan James, Pontypridd
Round Robin writings:	Editors
Fraction Families:	Ysgol Gynradd Gymraeg Evan James, Pontypridd, Michael McDaid
Kindles in the Classroom:	Ysgol Gynradd Gymraeg Evan James, Pontypridd
The Skype's the Limit:	Skype under Creative Commons
Toontastic:	Ysgol Gynradd Gymraeg Evan James, Pontypridd
Virtual Library:	Editors
3D Classroom:	Jonatan Svensson Glad under Creative Commons
Today's Reporter:	Ysgol Gynradd Gymraeg Evan James, Pontypridd
Science Sketches:	Editors
Mini Beasts:	Ysgol Gynradd Gymraeg Evan James, Pontypridd
Ready, Steady, Cook!	Salomé Recio, http://etapainfantil.blogspot.co.uk/
Line and Path Maths	Editors on Google Earth
Let's e-mote:	Mindaugas Danys under creative Commons
Glog It!:	Ysgol Gynradd Gymraeg Evan James, Pontypridd
Tall Tales:	Maxim Saltanov under Creative Commons
Facing Page:	Ysgol Gynradd Gymraeg Evan James, Pontypridd
Twitter Role-play:	Ysgol Gynradd Gymraeg Evan James, Pontypridd,
Publish Me:	Suki the Dachshund, Editors
Children of One World:	Ysgol Gynradd Gymraeg Evan James, Pontypridd
e-Encyclpaedia:	Wikimedia Foundation, Ysgol Gynradd Gymraeg Evan James, Pontypridd
QR Book Quest:	Ysgol Gynradd Gymraeg Evan James, Pontypridd
Music Maker:	Editors
Time is an Illusion:	Kulmalukko in Wikimedia Commons
Awesome Advert:	Ysgol Gynradd Gymraeg Evan James, Pontypridd
My First Movie:	Editors
Voyage to the Past:	Ysgol Gynradd Gymraeg Evan James, Pontypridd
Podcast to Parents:	Ysgol Gynradd Gymraeg Evan James, Pontypridd
You've Been Framed:	Editors, Ysgol Gynradd Gymraeg Evan James, Pontypridd
Internet Safety:	Ysgol Gynradd Gymraeg Evan James, Pontypridd
Virtually Invisible:	Ysgol Gynradd Gymraeg Evan James, Pontypridd
Hardware	Editors, Ysgol Gynradd Gymraeg Evan James, Pontypridd

THE PARTNERSHIP

• THE COORDINATOR

GO! onderwijs van de Vlaamse Gemeenschap

Jens Vermeersch / Internationalisation
Anne-Marie Tytgat / Pedagogische Begeleidingsdienst
Willebroekkaai 36 • 1000 Brussels • Belgium
Tel +32 2 7909598 • Fax +32 2 7909797
jens.vermeersch@g-o.be • anne-marie.tytgat@g-o.be
www.g-o.be/europa

• THE PARTNERS

Pontydysgu

Jenny Hughes • Nicholas Daniels
5, Courthouse Street • CF37 1JW Pontypridd
Wales • United Kingdom
Tel.: +44 1443 400304 • Fax: +44 1443 409975
jenhughes@mac.com •
www.pontydysgu.org

CVO Antwerpen

Koen DePryck
Distelvinklaan 22 • 2660 Hoboken • Belgium
Tel.: +32 3 8304105
koen.depryck@cvoantwerpen.be
www.cvoantwerpen.be

TRAINING 2000

Elmo De Angelis • Kylene De Angelis
Via Piano San Michele 47 • 61040 Mondavio (PU) • Italy
Tel./Fax: +390 721 979988
training2000@training2000.it
www.training2000.it

Lisbon University

Instituto de Educação
Fernando Albuquerque Costa
Alameda da Universidade
1649-013 Lisboa • Portugal
fc@ie.ul.pt
www.ie.ul.pt

Gymnasium Münchberg

Jan Bierweiler
Hofer Straße 41 • 95213 Münchberg • Germany
jan.bierweiler@gmail.com
www.gymnasium-muenchberg.de

University of Murcia

Paz Prendes
Facultad de Educación • Campus de Espinardo
30100 • Universidad de Murcia • Spain
pazprend@um.es
www.um.es

West University of Timisoara

Department of Psychology
Gabriela Grosseck
4 bd Vasile Parvan, office 029
Timisoara 300223 • Romania
ggrosseck@socio.uvt.ro
www.uvt.ro

TACCLE2 - E-LEARNING FOR PRIMARY TEACHERS

A step-by-step guide to improving teaching and learning in your classroom

Teachers are under increasing pressure to use Information and Communication Technologies to improve teaching and learning. But the gap between many teachers' appetite, competence and skills and the ever-increasing advances in technologies is becoming almost too wide to bridge.

TACCLE2 e-learning for primary teachers - A step-by-step guide to improving teaching and learning in your classroom is a project funded by the EU under its Lifelong Learning Programme. We, the authors, are real teachers just like you and we've got the battle-scars to prove it! Our aim is to help other teachers enhance their current practice by providing support and guidance as they begin bridging the gaps that have, until now, prevented them from taking advantage of the educational opportunities that information and communication technologies have to offer.

This handbook contains 38 step-by-step comprehensive lessons, graded according to difficulty and organized according to age group and subject. As well as detailed lesson instructions you will also find handy hints and tips to help you avoid any potential pitfalls, safety notes so that you can be as confident as possible that learners will use the internet safely and responsibly, and a list of loads more ways you can use an applications once you've mastered it. We're such nice people we've also included links to examples that we've use, links to online tutorials and helpful websites!

There's no pressure, no hard-sell and certainly no lecturing. From the beginning we've been determined to create a resource for teachers by teachers, the result of which is in your hands right now. We've even gone to great lengths to make it as pretty as possible. So give it a go when no-one's watching... you know you want to!

WWW.TACCLE2.EU

Go! onderwijs
van de Vlaamse
Gemeenschap



Lifelong
Learning
Programme