

Primary Focus: Teaching Through Topics

Spring 2007



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Primary Focus: Teaching Through Topics

Spring 2007

Editorial

My training as a teacher began not long after the Plowden Report was published. The demise of the 11+ gave greater freedom to primary schools to develop their own curricula, unfettered by the need to achieve 'results'. Among other things Plowden applauded this freedom. Teachers could develop the curriculum to fit the needs of their own pupils, building on and reinforcing children's interest in learning through the use of, for example, the local environment, whilst assessment underpinned it all. So my early teaching methodology was firmly grounded in 'child centred education'. Successive governments have reined in teachers' freedom through the introduction of national curricula or guidelines.

In 1987 I was teaching in a middle school in the south-east of England. A team of LEA Inspectors (they insisted on that nomenclature) paid us a visit. The headteacher was brought to book for implementing a rigid timetable. The inspectors wanted to see a much more flexible approach that adopted an integrated day.

Less than a decade later I was teaching in the Midlands and the National Curriculum was fully in force in England. The head of this school felt that the children's learning experience was enhanced by embracing a topic-based approach. The school advisor (they didn't call themselves inspectors here) thought otherwise.

These two stories illustrate the extremes of the continuum that is primary education, and how quickly the pendulum can swing between the two.

There is absolutely no doubt that it is much harder (if indeed it is possible at all) to plan a curriculum that covers all requirements by teaching through topics alone. Against this it has to be said that life is not neatly divided into timetabled slots. In most real-life situations a range of skills blend seamlessly together.

Within these pages you'll find many ways in which you can deliver a rich curriculum through a range of topics. We have chosen to focus on just five. For younger children there are some exciting ways to learn about Food. Margaret Allen highlights the versatility of IWBs and Susie Arnott and Marie Hindmarch suggest ways of using stories as a starting point. Andy Pierson brings inspiration and help when teaching music in a Seaside topic. Photographs of beach huts, taken by Roger Keeling, provide a stimulus for mathematical activities.

For older children there are topics on Homes and habitats, Time and the Weather. Angella Streluk shows how control can be made meaningful by linking it with what happens at home, and the contents of a dustbin can be explored virtually in a history activity. Jonathan Wells reviews TimeMaps,

a versatile piece of software that can help to develop chronological concepts. Doug Dickinson, Andy Pierson and Alan Rodgers offer different perspectives on the weather.

In a publication of this size there is not scope to include a full range of imaginative ways to integrate ICT into topic teaching. Both the Teachers' Resource Exchange, <http://tre.ngfl.gov.uk/>, and Direct2U, <http://forum.ngfl.gov.uk:80/direct2u> feature many ideas and lesson plans that can be used or adapted to suit. A complete list of suitable Direct2U activities as well as useful websites is provided on the Naace website. The latter were all correct at the time of going to press, but teachers should check before using them with children.

Readers will have noticed that the publications are now printed in a three-column format. The Primary Working Group invites your thoughts on this layout for future Primary Focus publications. Comments may be sent to:- Rhona Dick, Editor, rhona.dick@blueyonder.co.uk

Rhona Dick, Editor

Watch your language!

Janice Staines - Primary and early Years Advisor, Becta

Modern Foreign Languages (MFL) are becoming increasingly important in the primary curriculum, so when you are drawing up your topic webs, don't miss out on the opportunity to include MFL.

The Standards Site has links to the MFL Schemes of Work for Key Stage 2 with suggestions for how these may be adapted for any MFL. http://www.standards.dfes.gov.uk/schemes/primary_mfl/?view=get

If we take three very common topics in the primary school: time; homes/habitats and weather, we can see that these fit very nicely with the MFL schemes of work... and hopefully give you some starting points for some interesting MFL activities with your class.

Time

A year 5 teacher had been revising vocabulary associated with telling the time using both analogue and digital clocks. She had also practised the timings of everyday activities with her class, showing pictures on an interactive whiteboard of, for example, getting up in the morning, having breakfast, arriving at school, having lunch, eating an evening meal and going to bed. She asked children to take turns to match the times to the pictures.



She then introduced phrases in French describing time, for example: du matin, de l'après-midi and du soir.

Using the same pictures as those previously displayed on the whiteboard, she held up flashcards in turn and said whole phrases in French. For example, showing the picture of children going home from school she said 'Il est quatre heures de l'après-midi' and encouraged the children to repeat the phrases after her.

Next she repeated the activity, turning it into a 'true or false' game by showing a picture of someone having lunch and saying, for example, 'Il est trois heures du matin'. The children responded, 'Faux!'

In subsequent lessons the teacher used the website: http://www.bbc.co.uk/schools/primaryfrench/pf2/what_time/cartoon_flash.shtml, viewing the flash animation, song and game to encourage the children to practise telling the time. She then got the children to complete some of the worksheets at: <http://www.teachingtime.co.uk/> and <http://www.teachingtime.co.uk/what/f2y1atod.html> to ensure they had learnt how to tell the time in French.

Homes/habitats – German

Unit 11 Wo ich wohne – giving directions around town

A Year 4 class had been practising in the school hall, giving and following directions in German. As a follow-up activity in the computer suite, their teacher created a map based on the town plan and displayed it on the interactive whiteboard. He marked

a number of places on the map and asked children to come out and give directions to navigate between them. They used phrases such as:

- Geh zum Zoo...
- Wo bin ich?
- Geh vorwärts...
- Geh links...
- Geh rechts...

The teacher then introduced this program as a main part of the lesson and showed them how to operate it.

<http://www.ltscotland.org.uk/5to14/c4modernlanguages/#>



He asked the children to work in pairs to navigate the town and to draw up a picture of the main roads and significant buildings, using the audio cues as required. To finish the lesson he got them to take turns testing each other's directions between different starting and finishing points.

In a subsequent lesson he encouraged them to practise turning left and right, by getting them to play the game 'Twister', revising Geh links... Geh rechts... and introducing names of colours. He divided the class into two teams and asked for two volunteers to go on the twister mat. Each team took turns to give an instruction in German until the volunteers are unable to move without falling or making an incorrect movement.

Homes/Habitats – Spanish

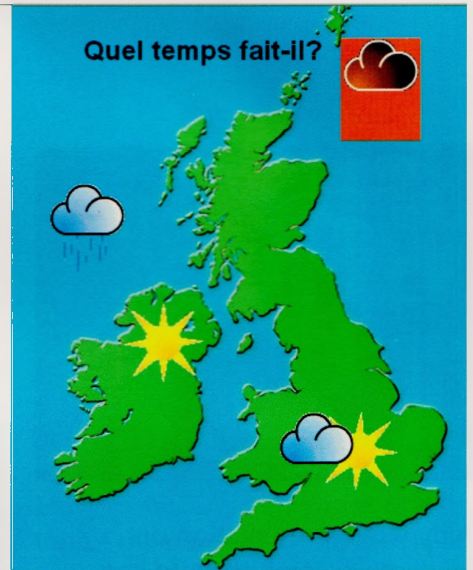
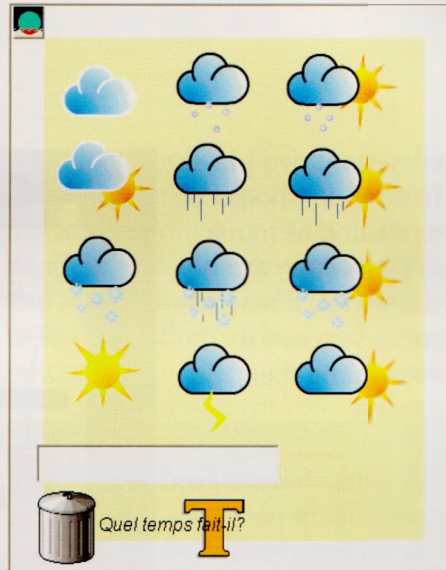
Unit 11 El lugar donde vivo – descriptions of houses and towns

A Year 6 teacher had been teaching her class some Spanish vocabulary for describing houses. She had made a collection of pictures of different styles of houses and rooms into flashcards, which she used to introduce the vocabulary. She also reminded the children of other associated vocabulary relating to place, for example, in the countryside, in town, in the mountains.

Using a data projector, she showed this program to the whole class http://www.bbc.co.uk/languages/spanish/living_the_dream/game.shtml and explained that they had to match the right description to the right building. She showed them how to focus on the keywords in the descriptions that would help them make decisions about which ones matched.

Children took turns to come out and predict which description matched which building, and then to see if they were right by dragging and dropping it into the right place.

Next, the teacher demonstrated this program about showing people around a flat <http://www.bbc.co.uk/languages/spanish/lj/home/flat/index.shtml> The children listened to the descriptions of each room and repeated it to a partner. Working in small groups, the children then either used pictures of properties they had found on the internet to write, in Spanish, a short estate-agent-style description of the property, or they acted out a role play, pretending to show someone around a flat.



Weather

Unit 2 Je me présente – weather phrases

A Year 3 teacher used this program with the whole class as part of their French lesson http://www.bbc.co.uk/schools/primaryfrench/pf2/weather/cartoon_flash.shtml They had previously learnt the days of the week and she now wanted them to describe what the weather was like on each day. As each screen appeared, the children repeated the weather phrases, first as a whole class and then to a partner.

The teacher asked questions such as:

- Quel temps fait-il?
- Il fait mauvais?
- Il y a du soleil?

She used the printable weather symbols and invited different children to place them on different areas of the map of France.

When the children were confident with the phrases, the teacher opened the Logotron weather

project. http://www.logo.com/imagine/project_gallery/weather.HTM The children took it in turns to place a weather symbol and to describe the weather in different parts of the British Isles.

Later, the children worked in groups to prepare and deliver the weather forecast, which the teacher recorded and played back to them using the school's digital video camera. They used the videos to discuss their performances – making suggestions for improvements.

If you would like to try out some more MFL activities with your class that can fit in with other teaching through topic ideas, then you can download the 'Using Web-based Resources in Primary Modern Foreign Languages' from: <http://becta.org.uk/corporate/publications/documents/web%20resources%20modern%20lang.pdf>

Food for Thought

Margaret Allen

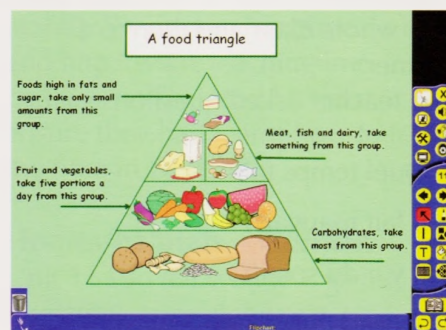


A dynamic presentation on an interactive whiteboard can raise opportunities for collective engagement, offering varied and exciting ways in which learning outcomes can be achieved. As a "hub" for effective use of multimedia including websites, video and audio, interactive software and other digital equipment including electronic microscopes, cameras, scanners and digital presenters an iwboard is perfect.

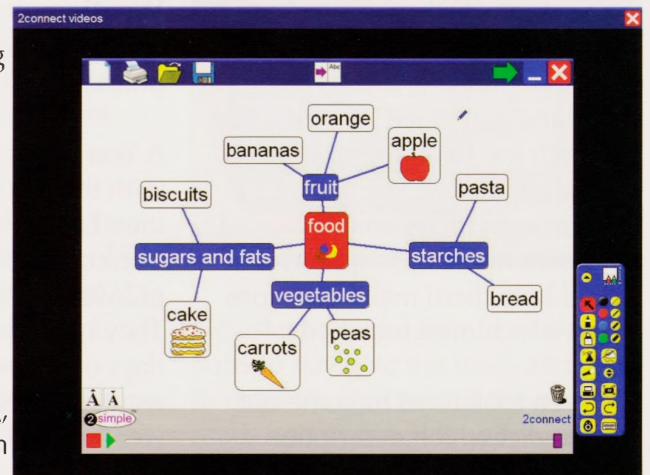
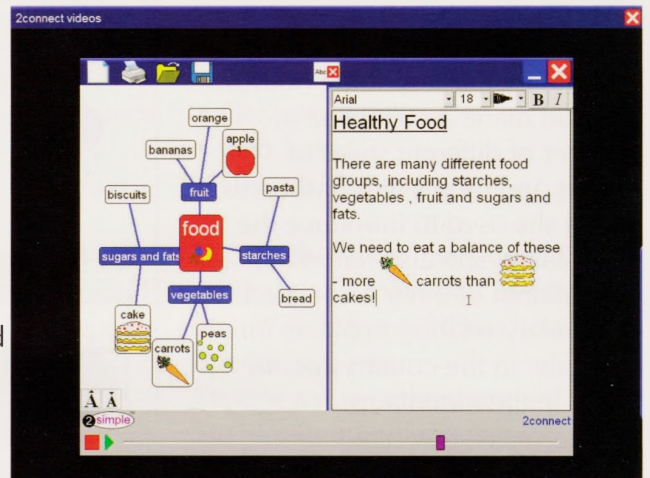
Generally, we seem to identify intelligence, much more closely with the highly articulate or those of a logical persuasion. Those children, whose abilities lie within the more creative arts and sport subjects, seem to demand a lesser value within the hierarchy of classroom ability. It is precisely these children who need to have a range of opportunities to engage their learning styles. They need the chance to engage with text and images, and a range of opportunities and software should be made available to allow for this. Children's lives are intrinsically connected with technology, their bedrooms often complete with computer, iPod, game boy, PS2,

television, dvd player. This model should be replicated as much as possible in the classroom, if teachers are to succeed in stimulating their interest.

Big books have played a significant part in allowing access to a range of literature especially when reading with a group of children. Presenting information which emulates a book but allows for a more detailed exploration is a perfect way for the iwboard to support children's reading skills. Iwboards offer an ideal catalyst for speaking and listening, being much more than just technology.



Software is available in abundance and in a variety of versions and subject areas. The prime reason behind educational software is to engage and motivate learning, but hopefully will also allow for



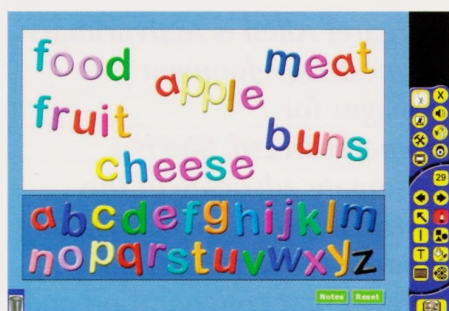
children's understanding to be enhanced.

2Simple's 2Connect is a wonderful example of how, together with an iwboard, concept mapping of ideas can be built up. The software offers a range of levels whereby ideas are developed, and can then be shared by presenting the thoughts that have been put together. Opportunities for expanding on the detail are also available using the keywords to support writing.

Another way in which writing could be added would be to utilise an Alphasmart.

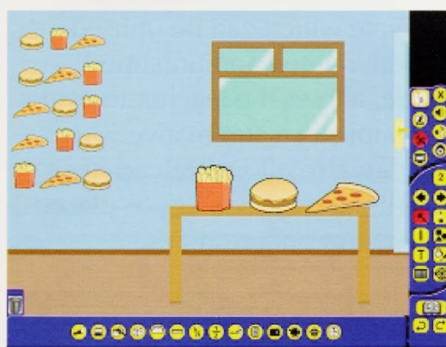
An Alphasmart allows you to enter and edit text and then “send it” to any computer, for formatting or directly to a printer. Its real strength is that this very portable and robust piece of equipment can be used anywhere e.g. on the school playing field or on a trip somewhere. This versatile piece of equipment has all the bonuses of a laptop for word processing, with none of the obvious drawbacks that allowing children to use expensive equipment raises.

The iwbc is effectively an expansion of the teacher’s desk. Tools which would normally be in drawers and cupboards or even in different rooms within the school building, are readily to hand. An interactive environment has the potential to engage users at a number of levels. As a speaking and listening vehicle iwbs have tremendous potential and if children need to be encouraged to communicate why not offer them the tools with which they are both most comfortable and excited by? In this example a page template has been used to encourage children to explore spellings with the equivalent of fridge magnets!



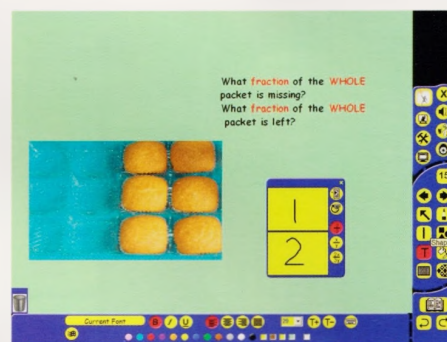
Modelling difficult concepts on the board for children allows them to see how they might approach

a problem, or how they may record their findings. Children’s misconceptions or mistakes can be identified and explored readily and easily, as well as being able to share children’s ideas and outcomes.

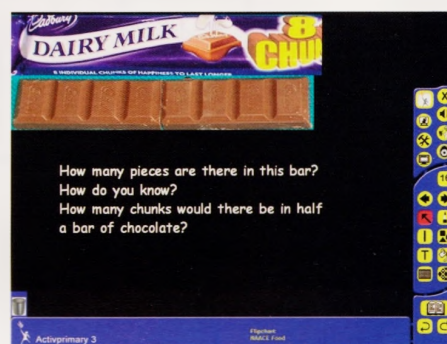


It is vitally important that children’s learning is supported by first hand experience and so an activity such as food on the table and recording the different arrays using the camera tool is a perfect way of teaching about the systematic approach that helps children best discover how many ways you can rearrange three items of food. Children can then use this model in a practical activity to develop their understanding.

I always considered fractions as one of the most difficult topics within Maths to teach. Using the digital camera and real life objects to explore this further is a lovely example of the iwbc at its best!



Having two digital pictures one on top of the other as in this example of a chocolate bar, allows for the top layer to be lifted off revealing the contents underneath.



The transformation of images becoming dynamic as opposed to static “pictures” engages attention and increases pace to a lesson allowing for a range of different learning styles to be accommodated.

Assessment

Formative assessment and opinion gathering should be built in as part of the technological experience.

Food Topic

Food for Thought



Ideas that need to be negotiated, explored and adapted are the fundamental skills that are required when reaching a decision with others in a group.

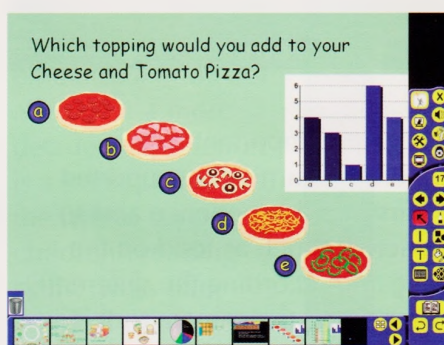


Teachers constantly need to examine the nature of the use of technology in their classroom and using software which is integrated with the hardware is a sensible step towards fully embracing multimedia in their teaching.

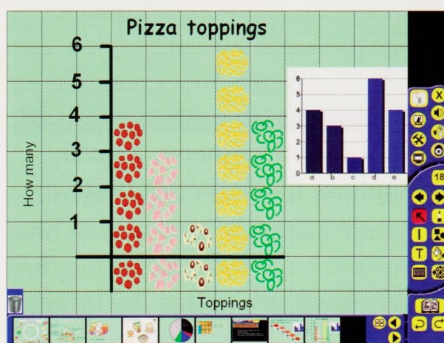
Asking children to make choices based upon opinion as in this example, requires children to make a decision. If everybody is committed to answering the question by the pressing of

a button there is a degree of ownership in the results. Anything which encourages whole group/class participation is more likely to have an impact, as everybody has contributed.

Using voting devices such as Activote which can be utilised in both named and unnamed mode, allows the teacher to assess the pupils in a summative way, but can also allow both ad-hoc questioning as well as pre-planned discussion opportunities.



This raw data could be transferred onto a graph, by dragging from one page of the Flipchart to another and thereby the teaching of collecting/representing/interpreting data could be explored more fully.



Modelling for children how data is now presented in graph format, either by way of a pictogram as in this example, or with the use of blocks/rectangular shapes for older children.

Technology in all its guises has had a revolutionary effect on learning. The ability to surf the net, save and edit work, share material across the world, let alone across a network in a primary school has meant that everyone has had to rethink the way in which they operate. It is bound to have had an impact on pedagogy, but we must also recognise that the creative role of a Primary school teacher is one which is based upon traditional methods. Hands on experience, opportunities for discussion and debate, allowing children's views to be heard and considered, these and many more are the foundations of good teaching and learning. Provided that technology continues to underpin good practice then tomorrow's adults will manage to reach their best possible academic potential in order to increase their opportunities and choices for the future.

Margaret Allen is Activprimary Business Development Manager for Promethean Ltd. She is a passionate advocate of the central importance of engaging children in learning and firmly believes that collaboration and physical engagement are core to children's experience in the classroom.

Food Topic

Using stories as a stimulus for cross-curricular teaching and learning

Susie Arnott & Marie Hindmarch

The Lighthouse Keeper's Lunch

Authors: Ronda and David Armitage
 Publisher: Hippo

Literacy - Retelling the Story

Retelling the story using supporting word grids. This also covers ICT QCA Unit 1B Using a Word Bank. There are two pages of story recall followed by writing grids for each character.

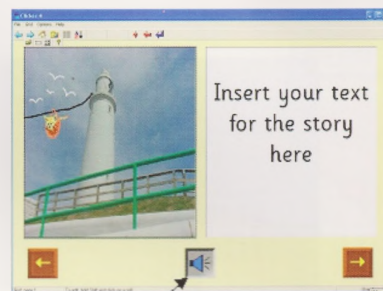
Software: Clicker 4 by Cricksoft

Literacy Adjectives – Seagull Sandwiches

A worksheet on which the children circle the, "tell me more" words and then create and write down four more sandwiches of their own. This is great fun as the sandwiches have to be as disgusting as possible. Children are very amused when told that their work isn't nasty enough.

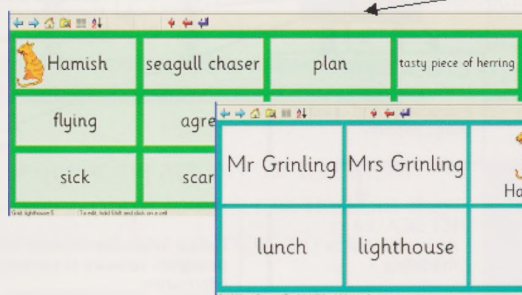
Design Technology – Making Sea Biscuits

Use sequence picture cards to order the process of making the biscuits. Under supervision of a Teacher or Classroom Assistant the children can cook the biscuits. This activity also covers ICT QCA



Grid is voiced by teacher or automatic function of software

Hamish's grid



Character pick grid

Unit 1F Understanding Instructions and Making Things Happen.

Design Technology – Paper Weaving

Use paper strips for simple weaving that can be stuck together to create baskets to carry Mr. Grinling's lunch. The Teacher can construct a simple double line pulley across the classroom for the children to transport their baskets from the cottage to the lighthouse.

This Activity also helps to cover ICT QCA Unit 1A Introduction to Modelling as the line in the classroom is modelling a pulley line often used in real life situations. Some children may have seen clothes lines between buildings.

Art and Design – Painting a picture

Make simple line drawings of lighthouses. Save the files and let the children use the flood fill tools in painting programs to colour their pictures.



More able children could add other elements such as the sun or beams from the lighthouse lamp. As an extension the files could be saved as gifs and children could use these in 2Animate to make a flashing lighthouse.

Name

Seagull Sandwiches

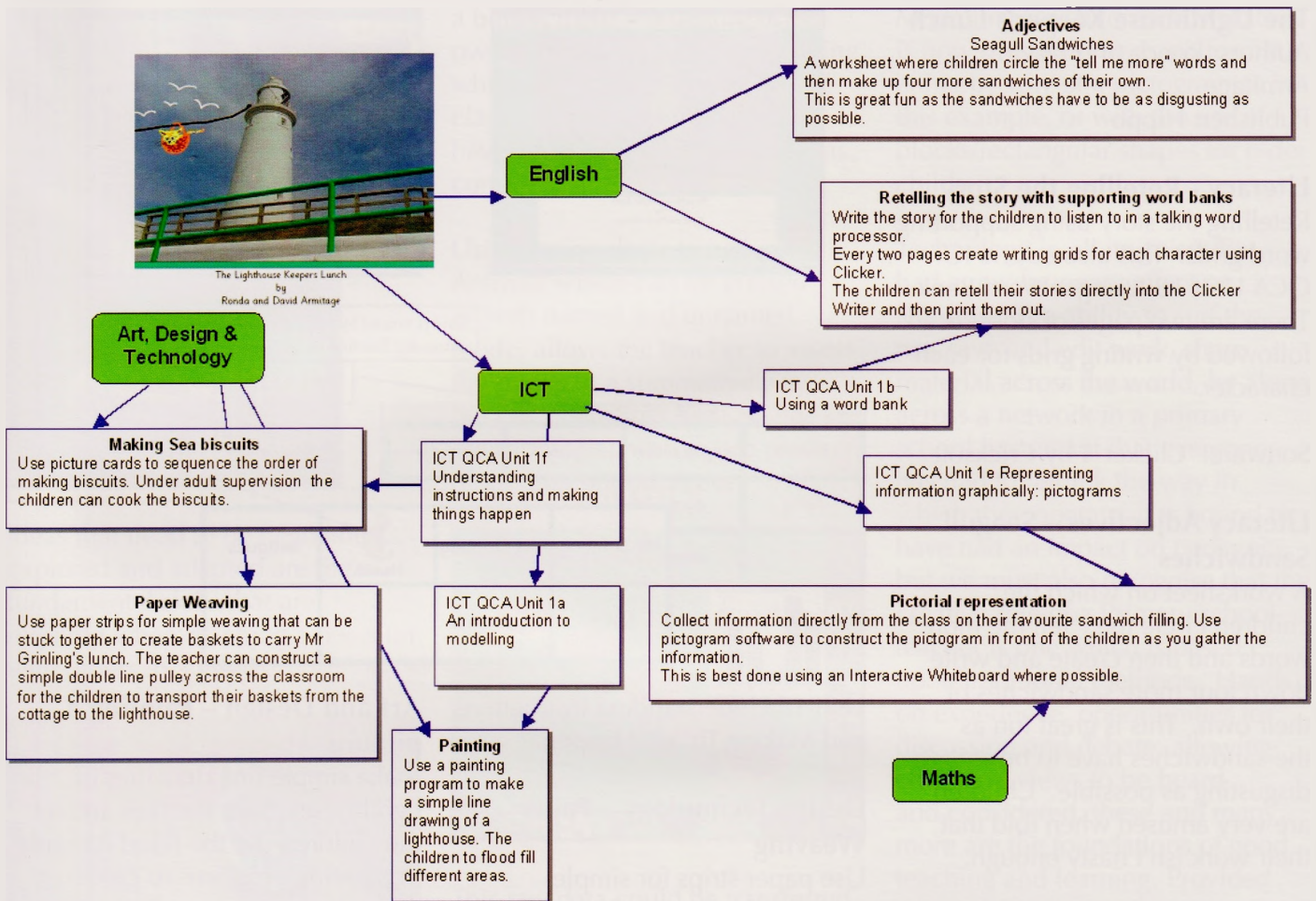
Put a circle around the **tell me more** words

1. Old bacon and soft crisp sandwich.
2. Smelly egg and rotten tomato sandwich.
3. Green ham and black cucumber sandwich.
4. Ten day old chicken and mouldy lettuce roll.

Now write 4 sandwiches of your own in your book

Food Topic

Using stories as a stimulus for cross-curricular teaching and learning



ICT - Sandwich Filling Survey

ICT QCA Unit 1F Representing Information Graphically: Pictograms

Collect information directly from class on favourite sandwich filling. Use pictogram software to construct the pictogram in front of the children as you gather the information. This is best done using an interactive whiteboard.



Software 2Count from 2Simple

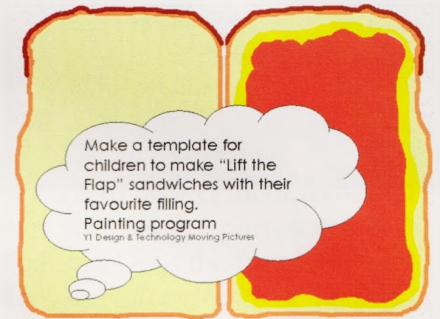
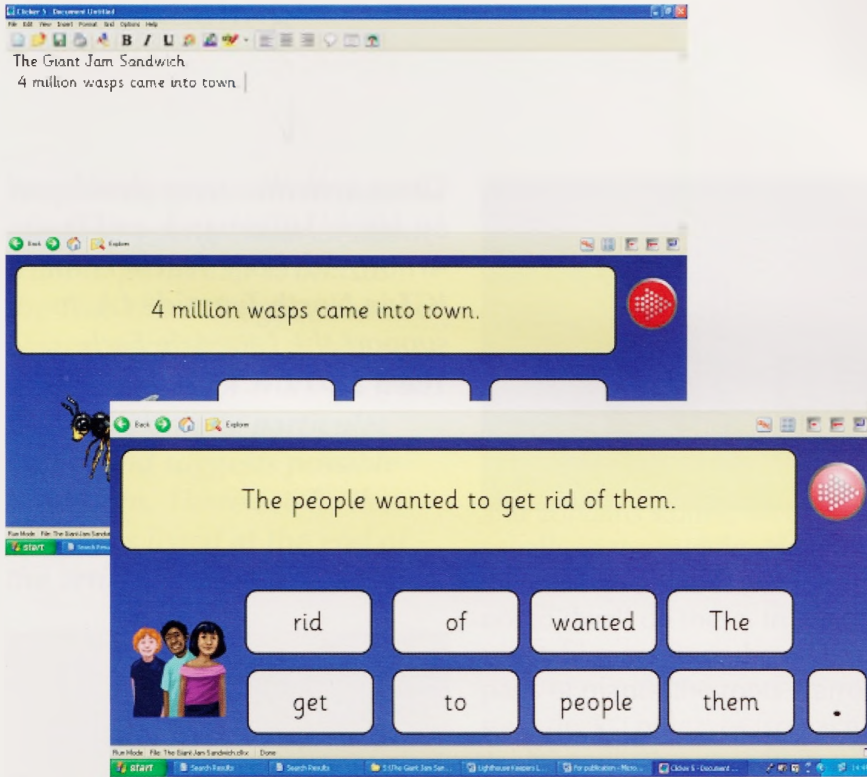
Using 'The Giant Jam Sandwich' in the Year 1 Curriculum

Author: John Vernon Lord
Publisher: Piper Picture Books

Here is another delightful picture storybook which can be used as part of a topic on Food. These activities are intended for children in Year 1.

Literacy

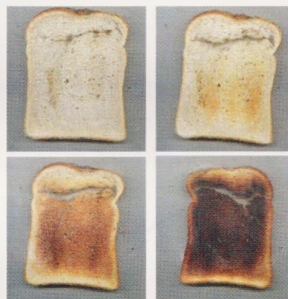
Retell the story, using Clicker 5 as a supportive writing frame. We created a set of six grids to write a title, four sentences and a selection of pictures.



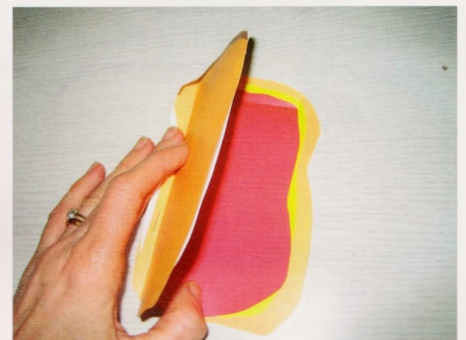
We created sandwich shaped books, drawing the pictures in 2Paint, and making internal flaps to reveal wasps under the jam:

Another option is to make a talking book; this can be done using Clicker or PowerPoint. Children can make simple sound recordings to accompany the text. We like to add background music from Audio Networks, which is provided through our RBC, Northern Grid. This is a superb resource of music files which have been copyright cleared for non-commercial school use.

sequencing activity, or use them as a prompt in order to recount the details of the changes observed.



Scan toast every 30 seconds to record how it changes.



Science

We used the scanner to record the changes in slices of bread as they toasted: This really got everybody observing carefully and thinking! You could make the photos into a

Maths

Create your own pictures for a favourite sandwich pictogram using 2Count from 2Simple: this means that the choices really represent children's favourites. This work relates to Handling Data and Measures.

Design & Technology

Unit 1A Moving Pictures
This unit explores the use of moving parts in cards and story books.

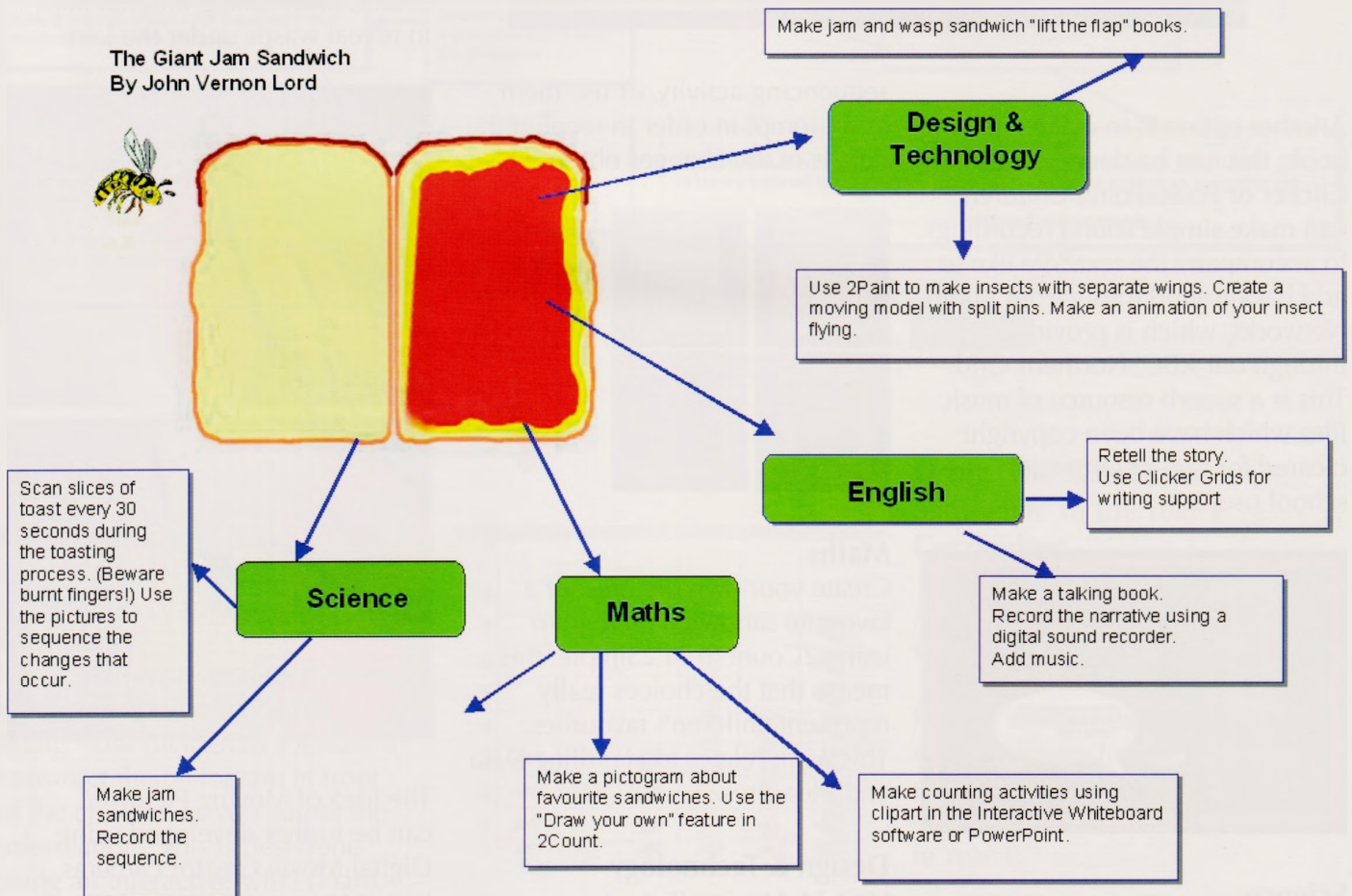
The idea of Moving Pictures can be further developed using Digital Movie Creator cameras to create an animation of wasps (or other insects) flying around a background. The insects are articulated with split pins to allow the wings to move, and animated sequences developed.

Food Topic

Using stories as a stimulus for cross-curricular teaching and learning



These activities were developed by Marie Hindmarch and Susie Arnott, Advisory Teachers for ICT in North Tyneside LA, to support the Langdale Early Years SCITT ICT Course



Food Topic

Half time at the fruit bowl

Roger Keeling

This article gives some ideas for teaching young children about fruit. In particular it utilises the Find the Pairs game on the Naace website. This is not a whole scheme of work on fruit. It focuses on one particular aspect and suggests possible extensions. There are further resources listed at the end of the article.



Fruit or vegetable?

The difference between a fruit and a vegetable is not cut and dried. In fact the former is a botanic term, whilst the latter is a greengrocer's term. For young children it is sufficient to point out that the fruit has developed from the flower; it is generally soft, juicy and edible and contains stones, seeds or pips usually in the middle. Naturally there are exceptions but it is best not to dwell on these. In general vegetables are from the other parts of plants, the roots (carrot), stem (leeks) or leaves (spinach). Additionally there are fruits that are wrongly classified as vegetables (eg. tomato, pumpkin) and vegetables that are wrongly classified as fruit (e.g. rhubarb).

This lesson focuses on 12 fruits: Plum, Kiwi, Pear, Lime, Apple, Orange, Strawberry, Lemon, Tomato, Peach, Melon and Pineapple.

These fruits can easily be acquired most of the year round – an interesting teaching point is how can we buy most fruits in the middle of winter when they all need a warm climate to grow?

Discussion point: Where do we get these fruits from?

Introductory activities may centre around sorting the fruits according to colour, feel (hard/soft), size (large/small) or texture (rough/smooth). How do children determine what is, for example, a hard or soft fruit. Some fruits are quite hard and become softer as they ripen.

Discussion point: How many ways can we divide these fruits into two (or more) sets

This lesson will be greatly enhanced if the teacher has bought a set of fruits, allowing the children to have a chance to handle them. Then the next thing to do is to dissect them. What do they see? Stones, pips, seeds or nothing? Does the fruit look juicy; does the juice drip over the table top?

Discussion point: Describe what the middle of the fruit looks like?

Once the children have examined the fruits they can then move on to play the Find the Pairs game. This can be accessed from the Naace web site or directly at:

<http://www.mape.org.uk/activities/index.htm>

It is a pelmanism game and requires children to develop memory and matching skills. The Fruit file will be found in the Examples section on the website. The activity can be carried out by pairs of children if enough PCs are available or alternatively it is a very effective whole class activity given one PC and an interactive whiteboard. Each time the game is played the cards remain the same, but the position of them changes. Children can either work as a team against the computer or they can play against each other taking alternate moves. There is a scoring system included, so the target is a) to see who can complete the game in the minimum number of moves or b) who (in the two person game) finds the most matches.

Food Topic

Half time at the fruit bowl

Hints and tips

When two cards are revealed, pay particular attention to the first card before revealing the second. Once the second card is revealed the two cards are quickly turned over again (ie. there is little time to assimilate the information on the second card in a pair, so concentrate on the first card) Although this task could be completed without the use of ICT (by using pictures on laminated cards) it would be easy to 'cheat'. In this game the children are playing the computer, there is no chance of cheating and there is a greater tendency to think and concentrate. Motivation is also increased and feedback is provided in the form of the number of moves taken.

Two follow up activities (of many)

By this stage in the lesson, the teacher may have 12 dissected fruits in the classroom. Assuming that these have not been handled by children with grubby hands, one follow up activity is to show the children how to make a smoothie (take one blender, add the fruit, a couple of spoonfuls of yoghurt, a spoonful of honey, a little fruit juice and switch on). Children who are reluctant to eat raw fruit may find this a pleasant alternative and it is still very healthy.

Discussion point: How does it taste? How do you describe the consistency? What colour is it – which fruit gives it this colour? Another follow up to this lesson is to try and germinate the stones, pips or seeds. If the children can succeed and then care for their plant, how big will their plant be

by the time they leave the school some 5 or 6 years later? Can they nurture it over that period of time? In order to get the seeds to sow, leave a couple of fruits to over ripen on the plant (or just leave some shop bought fruit until it has just gone off). Then mash up the fruit and extract as many seeds or pips as possible and soak them in water for 48 hours. Any that float to the top are too dry or infertile and can be discarded. Dry off the rest on tissue paper, place them in a plastic bag half filled with moist compost and tie up the top. Put the bag in a warm place until the seeds have sprouted their third leaf and then transfer each to a small pot to grow on. This will work well with a tomato or grape seed. It will work with citrus fruits, remembering that these young plants will need keeping indoors or in a greenhouse as they are not hardy enough to survive our winters without help. Fruits that contain stones can be treated in the same way, but cracking the stone with a hammer first will help the stone to sprout.

If the children are successful in promoting growth, then it will be interesting to use a digital camera to photograph the plant at weekly intervals in order to monitor rate of growth (and even produce simple time lapse photography). An alternative is to photograph fruit at regular intervals when it is left out in the classroom. How does this compare with similar fruits that are photographed at the same intervals but which, in between times, have been kept in a fridge. Does one set of fruits last longer than the other?

Conclusion

These are just a few ideas that children might like to engage with when exploring 'fruit' as a topic. There are many other possibilities and some are listed below. And then there is the whole world of vegetables!!

Other resources

Stories:

Oliver's Fruit Salad by Vivien French and Alison Bartlett
The Very Hungry Caterpillar by Eric Carle
Fruit (Threads) by Miriam Moss and R.Pickett

Poems

Oranges and lemons
I had a little cherrystone

Fruit on the Internet

<http://www.thesnackpack.net/downloads.html> (a whole resource pack of ideas for teaching about fruit and vegetables)

http://www.sycd.co.uk/primary/pdf/managing-science/2.4_ks1.pdf (a pdf document with lesson plans for teaching about fruit and vegetables)

<http://www.zephyrus.co.uk/seeddispersal1.html> (all about seed dispersal)

<http://www.captcook-ne.co.uk/sid/sid31.swf> (miscellaneous activities)

Roger Keeling is a member of the Naace Board of Management

Music to support the curriculum

Andy Pierson, ESP

One of the things I get really excited about is way in which music can add a totally new dimension to almost any subject. Within the structure of music itself there are many ways in which, for example, mathematics links with musical rhythms and literacy links with the sequencing of musical notes and phrases.

So much existing music has been written to conjure up a mood or describe an event. The way in which the music unfolds, the choice of instruments, the use of loud and quiet sounds and the clever interplay of musical structures all help to create a musical picture.

Then there is music that is written with words to turn it into a song. This extra dimension provides the composer with an opportunity to convey other meanings and ideas. All of this vast array of existing music can be used as a catalyst to stimulate ideas that help when exploring a particular topic.

Then there is making your own music. We have known for a long time that music making can have a direct benefit on the learning process. The discipline of music making is beneficial in all sorts of different ways. For example, a creative music making session can provide:

a focus for discussion. In trying to express the concept in abstract musical terms the group involved have to be clear about what is being discussed and why. There can be an added motivation to the discussion when it is about the musical outcome.

- a focus for research – researching a subject is sometimes be dry and

unstimulating. A musical outcome can give a clear reason for finding out what we need to know

- a medium to express abstract and descriptive information. Describing the factual matter in an abstract, musical form can help to provide new ways of describing the information.
- a way of making links between concepts and subject. Often different subjects can find a common link when expressed musically.
- a stimulating and exciting way of recording, categorizing and presenting information. Some information is basically important but really quite dull. We often liven it up with images and video, we can do the same with music.
- a useful way of improving memory. The process of writing a musical composition and particularly a song, is a great way of embedding and remembering a subject.
- new dimensions. The ideas that spin off from musical creativity are often very different for different people. A subject matter can find variety and surprises when explored musically.
- team work. Teacher and pupils all need to work together closely, especially when performing a musical piece. This is great team building.

Whereas most teachers will have a go at graphical arts, creating writing and even drama, many shy away from music. Much of this is because of a basic nervousness of singing or playing an instrument in front of the class. Many of us just don't feel qualified to do this.

One of the ways in which ICT can help to overcome this is for the computer to be the performer. All computers can produce at least reasonable sounds and some very high quality sounds and music. There is software available that does not require you to understand musical notation or to have any instrumental skills. There are all sorts of technological equipment away from the computer that can be used effectively to add a musical dimension to any classroom. That's not to say that the activities undertaken when using these technologies is a poor relation to using traditional instruments. It can be quite the opposite. The listening skills and decision making required can be at a very sophisticated level with musical outcomes that are very pleasing. As an added bonus, the musical confidence gained by using technology can often lead to a willingness to use traditional instruments or even to sing!

Examples of equipment that can be used include:

- A computer with musical composition software
- Musical keyboards
- Playback equipment – cd player, mp3 player...
- Recording equipment
- Playback control – whiteboard, MIDI, concept keyboard, ultra sonic devices...
- Associated creative support – text, graphics, video

All of this requires mostly a familiarity with ICT. The music just comes naturally!

“Oh, I do like to be beside the seaside...”

Andy Pierson, ESP

The thought of summer holidays spent on the beach almost make you want to sing! The seaside is a topic that is rich in creativity in almost every area of the arts but sound and music can offer additional dimensions to the way in which the elements of this topic are taught. These three activities use ICT to create stimulating presentations of the information from both the geographical and the historical point of view.



A sound story

Lets start with the physical elements. What do you find at the seaside? Look at these pictures: What do you think about when you look at these pictures? Write down the sounds you think about next to each picture. Let's turn these sound and pictures into a sound story. To do this you will need something to make the sounds with. Have you got some ideas? If you have a musical keyboard then you might be able to find sound effects on the keyboard that sound OK. Some words can help you create a sound story because the words sound like the word. Splash and Crash actually sound like waves. Are there other words like this?

Every computer has a sound recorder built in to it. You will need a microphone to use it, although some laptops have these built in. Try recording your own voice making some of the sounds that you imagine the sea making.

Now we need to turn this into a sound story by writing a simple story and playing the sound effects at the right points in the story. The story could be about the waves or a stormy night or the tide coming in over the sand.

*I walk along the sand, the beach is huge
There's a shell on my beach, I pick it up and listen to the sea
I put it down and go on walking
As I go up the steps to the shops I look back
The sea has covered my shell, now it sounds like its on the bottom of the sea
The deeper it gets, the lower it sounds.
Perhaps something is living in my shell*

For this story we need:

- The crunching of sand on the beach,
- the sound of the sea in a shell
- climbing up some steps
- and lower, gurgling sounds as the sea covers the shell.

Sounds become music when they have a creative purpose. Sometimes music is made up of sounds that are in a particular order for a particular purpose. Sometimes they are played with a particular rhythm in order to give the impression of things happening quickly or slowly. Sometimes the pitch of a note (whether it is high or low) can make it more or less suitable for a particular purpose. Most effective and important, particularly for the type of story telling we are doing here, are the use of different volume levels and also the use of silence.

A seaside song

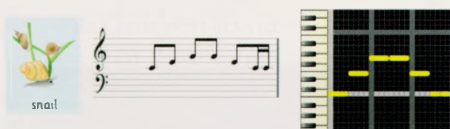
There are so many good things about song writing. It combines literacy with music in an abstract and descriptive way and allows us to express factual information in a creative way. Here are some song ideas that each provides an opportunity to compose a piece about the seaside:

- Playing a game of cricket on the beach
- Throwing a ball for the dog
- Building the biggest sandcastle
- Where to go for a seaside holiday
- The names of different holiday resorts
- What grandma likes to do at the seaside
- Ice creams

If we use the computer software “Compose World Create” we can easily get some musical ideas from the program and use these to help construct our song. All you have to do is listen to the phrases and put them in an order that works well for the song that you want to write. Some people like to write the words first and then find the music to suit. Others like to write the music first and then find words to fit. Compose World works best with the music first. Here we have a composition made using the “Compose5, Folk” tune file:

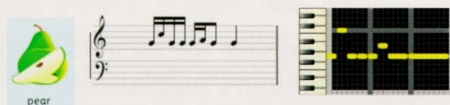


In Compose World each picture represents a phrase of music and by putting these into a track we can make a musical composition. For example, the snail phrase in the file shown above looks like this:



You can see the shape of the music on the grid display or read the musical notation if you are familiar with this. By listening to it on the computer you can count the number of notes and hear the shape of the music. This phrase has 7 notes and goes up and then down in musical pitch.

The pear picture looks like this:



It has 8 notes 6 of which are on

the same pitch with the other two being higher.

By listening to the phrases together in a track you can decide whether you like them in a particular order or not and by doing this you can create a longer tune.

When you have enough phrases in the track for your tune you can begin to write the words to go with it. We have chosen six phrases in a track to provide the basis for a six line song. The tempo (speed) has been slowed down to 57 to make it easy to sing along to. Also a suitable instrument has been chosen from one of the sound effects to help make the tune sound like something outside and on the beach.

Our song is about a sandcastle competition:

*We are building sandcastles
Anyone can come and join in
Biggest ones will always win a prize.
If you can find enough sand
Will the tide wash them away?
Here at the seaside*

Some songs lend themselves well to adding other instruments like percussion instruments to add effects and emphasis to different parts of the song. You can even make your own instruments from objects in the classroom. For example, to make the sound of the sea on the seashore you can take some sand or rice and put on a tray. Move the tray gently from side to side to make it sound like the sea. Cymbals and tambourines can be used to make a crashing sound when the sea gets rougher.

With some songs you find yourself moving to the words or music. One extension of this activity is to make a dance or drama to fit with the song. How are you

going to act out the building of the sandcastles. Perhaps you could use a silk cloth to make the shape of the waves.

Finale

There are many opportunities to extend this activity with other songs and using other sounds. The computer software acts as a really useful catalyst and can help enormously with the musical performance. However, as the children work on their own ideas and become more familiar with their composition the computer may have ceased to be useful. Sometimes we feel obliged to use the technology all through an activity to justify its place in the classroom. More important may be to be aware of when it is a good time to move away from the technology and develop traditional musical skills with the confidence that the technology has nurtured in us.

We have focused here on the geographical elements of the topic of the seaside. There is no reason why we cannot extend this into historical elements but looking at songs about the way the seaside has changed both physically and socially. It is also good to encourage the children to find their own pictures of the seaside which may include some pictures from the family archives. These activities work well in small groups as well as a whole class. If different groups have developed their ideas in different musical ways then it is important to share these together and reflect on the way in which we all see and hear different things when music is composed and performed.

Holiday snaps

Rhona Dick and Roger Keeling

When most people take their cameras on holiday it is to capture memories of somewhere picturesque or a place that holds special memories. For many teachers a picturesque or quaint location can hold a different meaning and we come home armed with pictorial resources to support our teaching in the coming year. At one time or another I have amassed a collection of photos depicting structures, geological formations, evidence of how people used to live, neat D&T solutions...

These latest holiday snaps demonstrate an eye for the mathematical main chance in the form of a row of colourful beach huts. These pictures will be made available on the Naace website under the primary curriculum resources.



These simple structures offer rich and varied mathematical (and ICT) experiences for younger children, which can be greatly enhanced if you have access to an interactive whiteboard.

Mathematics

Estimating, counting and calculating

Save the pictures to your whiteboard.

Hide the screen.

Reveal each picture in turn before quickly hiding again.

Ask the children to estimate how many huts there were.



Check by counting.

Children can be encouraged to count by tagging each hut.

How many blue huts?

How many pink huts?

How many green huts.

How many yellow huts?

How many huts altogether?

Does a part hut count?

Record the sums using numerals and symbols.

This helps to develop the idea that more than two numbers can be added together.

If you are using an interactive whiteboard you could copy the huts individually and let the children move them around the screen, lining them up by colour. This can help with concepts such as 'more than' and 'less than' where a direct visual comparison can be made.

Shape



This picture shows the huts in greater detail. Ask the children to identify similarities and differences in the huts.

Annotate and save the pictures with the children's suggestions.

Similarities

- They are identical in shape and size
- Their doors are all hinged at the same side
- They all have padlocks
- They all have the same chevron pattern of boards above the door
- They all have a finial on the roof
- The doors are made of vertical planking
- Their numbers are all in the same position

Differences

- They are painted in different colours
- The number on each is different
- Each hut has different coloured neighbours

Ask the children to name the shapes that they would use to draw a simple version of the blue hut, which appears to be two-dimensional. Now look at the green hut; it is obviously three-dimensional. What shapes would the children use to build a model of this hut?

Pattern

Still using the picture of three huts can the children predict whether or not there is a pattern to the use of colour?

Ask them to suggest how the pattern could continue. Using individual huts on an IWB, children could decide upon a rule for a repeating pattern and make

a row of huts before challenging friends to continue the pattern. Display one of the other pictures that negates the possibility of a simple repeating pattern and ask the children to comment. More able children might suggest that there could still be a repeating pattern if there were enough huts!

Symmetry

The huts are not symmetrical, but children could be asked to identify what makes them asymmetrical – bolts, padlocks and numbers. Teachers could then use a graphics program to ‘paint’ over these features and discuss symmetry again.

ICT

Following on from the work on shape you could provide children with a basic outline shape of a beach hut which they could flood fill. (Y1/P2)

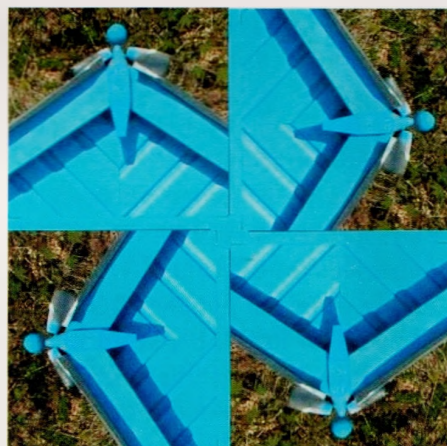
Older children could be asked to use the geometric shapes in a simple paint program to create a beach hut. (Y2/P3) With help they could copy and paste these onto a uncomplicated background. Ask the children to begin a devise a simple repeating pattern for painting their beach huts. Project these onto an IWB and challenge other children to continue the pattern.

In Year 4 (P5) children could be asked to create a row of beach huts that demonstrates perspective.



Extension Activity

Using a paint or photographic program, crop a small, rectangular section of one of the photographs and create a tiling pattern across the screen display. How many different effects can be created? Here is one example



A beginner's guide to 'real' control work

Angella Streluk

- Have you always wanted to be able to use the children's models in control work and to link it to your current topics?
- Do you want more than simulations and ready-made models?
- Do you want to plug the gap in your school's ICT curriculum?

The real fun in control comes when the children have produced models, or maybe just one class model and they get to plug them into the control box and write procedures to work them. Hopefully this will give inspiration and guidance to make this dream a practical reality. It is aimed at those who are new to this area of ICT and would appreciate having the basics explained and any crucial hints passed on. It has been linked to the topic of homes, but it can easily be adapted to fit in with many themes.

The inspiration for this work comes from a certain home I know. In this house the curtains open and shut on a mixture of timers and light sensors. The light in the garage comes on when anybody enters it. Several appliances turn themselves on overnight. The heating does not get switched on, but cares for itself all year round, taking into account the external temperature when deciding when to turn the heating on to reach the desired temperature at the set time. Even the cat flap is controlled by a magnet sensor so that only cats with a key can enter.

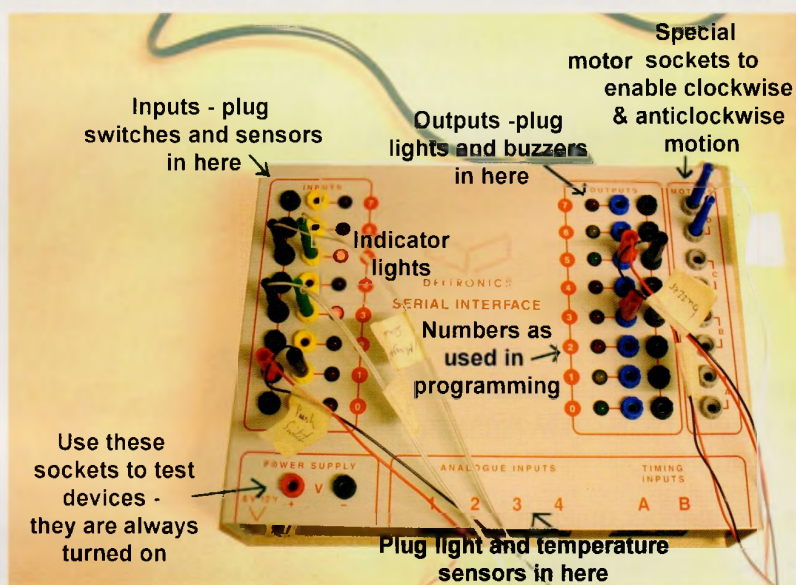
So the topic of homes provides many opportunities for model making to link to control work. There are a multitude of devices to work, and inputs to set them going.

Key elements in ICT control work

Control Box: So that the computer can both turn devices on and off and receive messages from switches and sensors it will need a special interface control box. This plugs into the computer and has two sets of sockets. One set is for the outputs, as listed below. The other is for the inputs. Each input and output has a positive

to use in control work. They can also be purchased as part of the apparatus supplied with control hardware and software.

Inputs: these send messages in to the computer and can be used to tell them when to do things. Using these is much harder, but opens up many more possibilities for fun. They are often switches and sensors. Many basic switches



and negative socket for the two wires from or to the devices. The outputs and inputs are all numbered, and these numbers are used in the programming. Many also have a light next to each to show when it is turned on. Some have the facility to plug in a device and have it permanently on so that a device can be tested without running the software. This can be very useful for fault finding.

Outputs: these are the devices that are going to be controlled. They are called outputs because the control software sends a message to the control box to send the power out to turn devices on (or off). The usual ones found in school are bulbs, buzzers and motors. These can often be purchased cheaply and wired up

which are used in electricity work can be used. The more unusual switches are tilt switches (non-mercury) which detect movement, and pressure pads, which work when pressure is applied to complete a circuit. The main sensors are light sensors, sound sensors, magnetic sensors and temperature sensors.

Software: Each make of control box comes with its own software. This is often challenging, but the rewards are considerable. Be prepared to spend some time trying out the software, making notes about what works. Save and print procedures for future reference. If possible share ideas with others and work together. Above all, persist. The computer

will expect particular commands in a certain order, and will not work if the slightest thing is not as it should be.

All of these warnings aside, the software does try to offer advice as to what needs modifying. Some software builds procedures in a flow chart setting, so that the logical sequence of events is clear. The commands are often listed, and can be clicked on, avoiding typing errors. This is certainly a case of reading the manual and working through the tutorials. Each set of commands can be saved and is called a procedure. An example of a procedure might be to instruct the control box to turn on a light for five seconds then turn it off.

Simulations: These computer based experiences give a chance to practice writing procedures without the complication of a control box or model. Many of these are imaginative and they have the benefit of being able to be used by whole classes in computer suites. Used as a preparation for the control work with actual models they are very useful.

Breadth of study

Control work is an ideal opportunity for discussion about the application of ICT in the home, school and elsewhere. It also helps to introduce the idea of inputs and outputs.

- What inputs does the central heating system have? Remember it checks the temperature of the hot water as well.
- How do the security lights know not to come on in the daytime?
- What types of sensors do burglar alarms have?
- Why does the kettle switch itself off when the water boils?

Planning

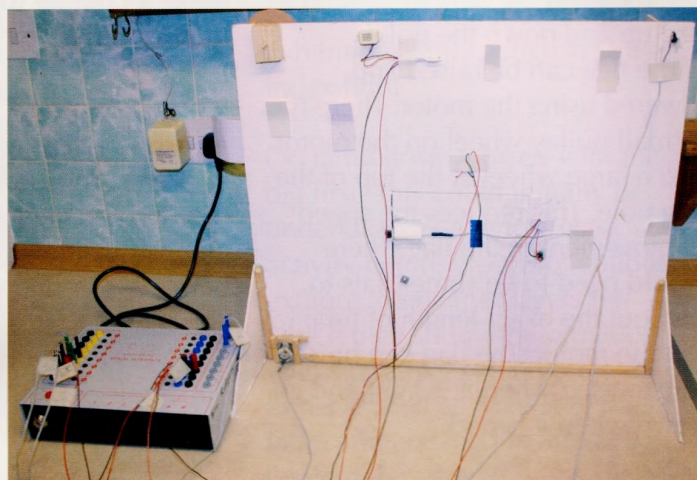
When using control technology it is important to spend time leading up to the actual use of the control box. Work on commands

and sequencing of commands for ordinary activities will encourage accuracy. Writing the instructions for making sandwiches (or something linked to the current topic), reading them out and getting a partner to mime them will lay the foundations for this work.

After seeing what the commands are and how they are used in the software the children can work out their procedures on paper. This may help with practical issues if resources are limited, as they often are. The children may be able to type up their procedure ready to run using the control box and model when it is their turn. The nature of the task means that working collaboratively in pairs is probably desirable. They can then share ideas and error check more easily.

in variables with inputs. One example could be turning on a light when it gets dark. More ideas for homes and habitats are listed below.

This model was not constructed by the children, but elements of it easily could have been. When work is linked to technology or other topics time can be spent designing and making the models. Skills of measuring, sawing and drilling can all be used. The use of appropriate linkages and materials can form part of the objectives for the activity. Evaluations of the finished product as regards suitability and care of finish will all help children achieve technology objectives. Above all the children will have the satisfaction of seeing their own work being used. One fun model my class made was an



The door model

This model has been constructed tongue in cheek to show as many outputs and inputs as possible. Depending on the ability of the children and the time available the model may be more complex, but the devices may be much more limited. Year 4 or 5, (Primary 5 or 6) children might construct models which have programmable outputs, but no inputs. In QCA Design and Technology unit 4E Lighting it up they are asked to use the control box to turn lights on and off. Year 6 (Primary 7) children could revise outputs and then learn how to build

aeroplane with flashing lights, an alarm, and a propeller that went round. It fitted in with our topic and the children took turns to work in pairs at programming their own 'flight' procedure.

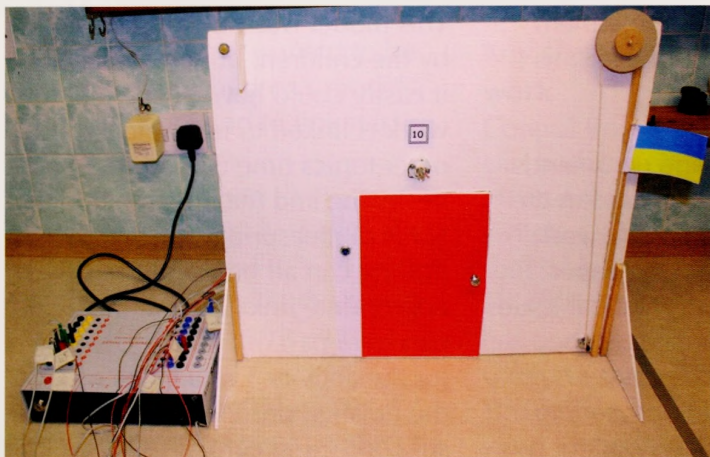
Control elements of the door model are;

- Push switch to work a buzzer (door bell). These are not directly linked; the control box will sense when the switch is pushed and activate the buzzer.
- External light activated by a light sensor.

The sensor is shielded from the light, so that when it is daylight the light will be turned off. This will

Homes and Habitats Topic

A beginner's guide to 'real' Control work



make a good discussion point for the children.

- When the door is opened a magnetic sensor is activated. This could be programmed to set off the buzzer, flash the light or to send a flag up and down the pole!

- The flag can be raised and lowered using the motor. There is a small pulley wheel on the motor and a large wheel at the top of the flag pole. This reduces the speed of movement of the flag. There would need to be some trials to find out the exact length of time to run the motor. The flag can be set to be raised when it is light and go down when it is dark.

Other model ideas

The children are bound to come up with more unusual ones, but here are a few possible ideas linked to various topics.

Homes and habitats

(output only) Turn on a variety of lights in a doll's house to make it look as though somebody is home
Illuminate the nature reserve for bat watchers

Make a flag go up a flag pole
Turn on a fan to dry the washing

Work a lift

Work indicator lights (come in, go away)

Homes and habitats

(Output and input) Make a light flash in the nature reserve hide

when badgers enter the viewing area

Lights coming on when it is dark
Curtain opening on a light sensor

Fan coming on when it is hot

Make a counter to record how many times a 'fox' crosses a path

Helpful hints

- Some devices (especially buzzers) only work when the positive and negative wires are plugged in correctly. Try them both ways to find which way is correct.

- Motors turn in different directions depending on how they are plugged in. Some Control boxes have a special output which means that they can be made to go in either direction by using a different command.

- Geared motors make using a motor much more practical. Without these the speed of turn can make the whole idea impractical. Alternatively use a small pulley wheel on the motor and a large one at the other end of the loop.

- Allow plenty of cable; this may stop problems when using the model.

- Many interface boxes are switchable between 12 and 6 volts. To avoid damage to bulbs set this to 6 volts and choose bulbs which match this voltage.

- If things are going wrong

and your model is about to be wrecked, hit the panic button or switch off the power to the interface box!

Useful URLs

Becta advice on using control technology

<http://foi.becta.org.uk/display.cfm?cfid=87305&cftoken=aa1a180f133f04-98BBB0F6-CE49-5D96-D63B898B00CD8A9C&resID=15841> (or search for Becta control technology on Google!)

Naace review of Economatics

Control station pack

<http://www.mape.org.uk/curriculum/reviewhardware/review3.htm>

Examples of Control Boxes

These are just a few examples of what is available. Many control boxes appear on more than one site. Check for site licences for software, accessories included etc. If possible visit other schools and go on INSET to find which most meets your school's needs.

Commotion

<http://www.commotiongroup.co.uk/catalogues.htm>

Dataharvest

<http://www.data-harvest.co.uk/index.html>

Deltronics

<http://www.deltronics.co.uk/index.asp>

Economatics

<http://www.economatics-education.co.uk/>

Flowol

<http://www.flowol.com/>

Angella Streluk is a member of the Naace Primary Working Group and is ICT coordinator at Amington Heath Community School.

Homes and Habitats Topic

What's in your bin?

Rhona Dick

What's in your bin...

...and what can we learn about society from what is thrown away? The proof of the existence of landfill sites assails our eyes and nostrils on a regular basis, and we are concerned about the quantity of detritus produced, but if it weren't for the historical equivalents our knowledge might be seriously limited. Much of what we know of some societies, for example the Indus Valley Civilisation, comes almost exclusively as a result of archaeology. Domestic debris provides information about the nature of society as well as a timeline of its development. We encourage children to handle and examine ordinary domestic artefacts and to make historical judgements based upon their observations, but do they always understand the underlying chronology?

Because it is only emptied weekly a dustbin is chronological evidence of modern living, but would you want anyone to rummage through your dustbin even if health and safety regulations permitted it? Classroom waste paper baskets don't offer the same opportunities although they can be used as sources of evidence. "What has Mrs Jones' class been doing today?" However interactive whiteboards are ideally equipped to simulate the situation. You could begin by photographing (or scanning images of) the sorts of things found in a dustbin, empty pizza boxes, potato peelings, cat food tins, tea bags etc. Each item tells you something about the owner of the bin.

Next create a cut-away picture of a bin, and insert your 'rubbish'. Save the file. Explain to the children

that they are going to look at a bin that was filled between e.g. Monday last week and Monday this week, thereby establishing a finite timeline. Gradually reveal the contents of the bin and identify the different items. Ask the children to work in pairs and jot down what they can surmise about the household. For example a chicken carcass could suggest that probably more than one person was a meat eater. As a class write a profile of the household, identifying what is fact and what is opinion and justifying these. Now we come to the chronology.

Ask questions such as

- "What was put in the bin first/ last? How do we know?"
- "What was thrown away before/ after the pizza box?"
- "What do you think the family ate on Tuesday?"

Annotate the picture with the children's ideas. Gradually you will build up a vertical timeline.

What do we do next?

Children could be asked to keep a simple diary of some of the things that are thrown in their bin each week. They could create their own bins by sticking pictures cut from magazines or clip art into a bin shape. Analysis of the contents by the rest of the class will reinforce the idea that the oldest debris is found at the bottom of the bin. This sort of activity can be repeated with pictures of historical artefacts placed in chronological order until the children have fully grasped the link between chronology and archaeology.

Virtual archaeology in the classroom

Now transfer this chronological learning to real archaeology. Classroom archaeology provides

children with a hands-on experience, but can be time consuming to create. Despite the obvious opportunities afforded by ICT there seem to be very few online interactive digs.

7-9 year olds can do a simple excavation of a Roman villa at <http://www.scholastic.co.uk/magazines/je-virtualdig.htm> where they excavate different levels to unearth artefacts from the villa. Supporting files are provided click on the link to February 2006.

The Virtual Museum of Canada provides one for older children at <http://www.virtualmuseum.ca/Exhibitions/Spirits/English/Dig/index.html>

Do familiarise yourself with the dig first. This could initially be undertaken as a whole class activity before groups of children explore the deeper layers for which they should be provided with simple logs to record their finds, as well as a sheet of paper to label and classify the artefacts. Explain the context of the dig to set it into a chronological and geographical framework. Talk about the whole site before beginning the excavations. Look at the different depths of the layers. What other artefacts might have been found on the site? Which of these artefacts could not have been left by the first settlers? Children could then use ICT to create their own interactive dig.

Rhona Dick is a member of the Primary Working Group

Time Maps: Putting History into context

Jonathan Wells

There's the old question that's often asked by primary pupils of why lions and tigers never fight in the wild – and it's quite easy to show to pupils that Asia and Africa are separated by a lot of distance. But what about the Vikings and the Romans – why didn't they fight each other? And here's a tough one for every teacher – How long is 800 years and what does it mean to a typical 8 year old?

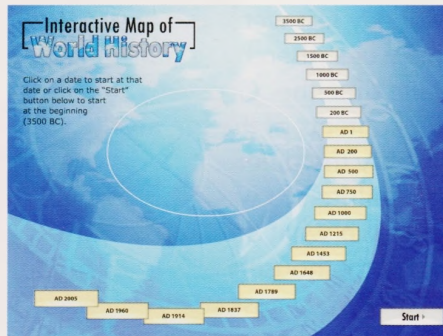
History can be fun. We all tell great stories based on historical fact but I think we'd all agree that some aspects of History are really tough for the pupils to grasp.

Chronology is one of these - a very hard concept for pupils to put into context.

Chronology requires higher order thinking skills and not all pupils at KS2 "get it". Nevertheless, QCA and Ofsted regard chronology as important but in a recent report the QCA noted

"Pupils' knowledge and understanding of the past by the end of key stage 2 is too often fragmentary and they are unable to make the links and see connections within a broad chronological framework."

But putting this into context, we're asking a lot of our teachers to help pupils grasp a very difficult subject. Can ICT come to the rescue, even in this non-traditional area of ICT resource?



Peter Britton, who has been involved in developing History software since 1988, and is the man behind TimeMaps, thinks so. Peter explains his rationale:

"History matters, and within History, chronology is a key part of understanding. It's a basic question of historical literacy. If you don't have a framework for the past, then much else doesn't make sense."

A chronological awareness allows the mind to impose some kind of order on the past, and therefore gives a framework on which all sorts of other information – about art, literature, citizenship and so on – can be hung."

Peter goes on:

"Without this framework, the past becomes a jumble of unrelated - and therefore almost meaningless – bits of information, which can never function as a firm foundation on which to build any other kind of knowledge."

The latest piece of software from TimeMaps is the Interactive Map of World History. It's been designed as a teacher's tool, especially great for whiteboards to help teachers communicate the concept of chronology.

The Interactive Map of World

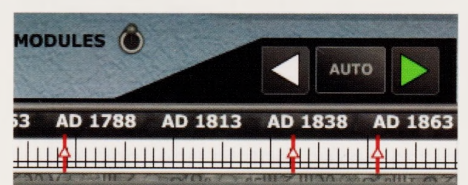
History is a program which helps chronological understanding by placing a series of historical maps on an interactive timeline.

The animated maps, using information "hotspots" placed over different regions, introduce the whole sweep of human history from 3500BC to the present day, enabling children to see where in the world events and civilisations took place, and when they happened – all within a broad chronological framework.

Using the rise and fall of the British Empire as an example, let's start at AD1763. At that date, Britain ruled North America, some colonies in India and parts of the Caribbean.



Now for the clever bit – at the bottom of the screen there is a lovely little tool that allows the teacher to slide the "world" forward and as you do so the map changes.



Moving the slider forward from 1763 to 1901 shows the on-screen the map change from "slightly pink" to "quite bright pink", at the

same time prominent info hotspot buttons give some details for each new region, a great tool for teachers and especially effective on a whiteboard.

The Expansion of the British Empire



So TimeMaps is a simple concept, but very effective.

In recent years there has been a move away from the “dates and battles” approach to history. In primary schools, most History time is spent looking at everyday life at particular periods, or perhaps singling out one historical episode for a closer look - most famously, Henry VIII and his six wives. So how is it best to use a resource like TimeMaps with your pupils in a classroom?

TEEM evaluators thought that it was well suited for use by the teacher to lead a lesson, and was ideal for whiteboard use. It did not enter into detailed information and explanation on all topics but was very useful for giving an overview.

Peter Britton agrees:

“For best use of the Interactive Map, it should be used with every history topic at KS2. This will mean that pupils are increasingly exposed to the chronological framework, and that, at the start and end of each topic, they can place it in an overall chronological and geographical context.”

The links between periods and civilizations will then become much clearer.

For younger age groups, this will probably be as a teacher-led, whole class presentation, using a whiteboard (the brightly coloured maps are designed with this mode very much in mind); but later, children can be given the opportunity to conduct their own investigations, and even to create their own presentations, using the software and associated resources.

Links to other parts of the curriculum are important too and it’s easy to see why both TEEM and Peter agree that the software can be very useful in other parts of the curriculum such as Geography and RE.

History can be linked to Geography using maps, and modules such as the Rise of Islam and the British Empire are especially helpful in this regard. In total there are 27 modules, each focussed on a different subject area and each with its own timeline development. The purpose of these modules is to give clear “clues” as to the main events concerning a particular topic. So, for example, the topic on the Roman Britain shows the conquest unfolding step by step, without going into a great deal of detail, and the module on the Anglo-Saxon settlement shows where the invaders came from and where they settled.



The Exploration Module

The exploration module even uses

the world map to track where the early explorers went.

At the end of the day though, Learning Outcomes remain a tangible measure. Going back to the TEEM evaluation of the Interactive Map of World History from TimeMaps. “From talking to the pupils, I was able to see that they had developed a firm understanding of what came before and after the Victorians. The pupils were surprised and interested to see how things had changed during the Victorian era, especially how Africa was divided up... The short extracts of information from the info hotspots added interest for all pupils.”

So all in all, it looks like a win/win/win. A win for good use of ICT, a win for teachers in the classroom and a win for pupils in building their understanding of History.

TimeMaps: Interactive Map of World History is published by Appian Software Ltd, a curriculum on line registered supplier. £249.50 for a site licence. www.timemaps.com Tel 01332 781106

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Based in North East England, he works mainly for companies who supply services to the UK Education Sector and is a keen promoter of the principle “getting software used”. He can be contacted by email jonathan@educationmarketbridge.co.uk or by phone 07753 822393

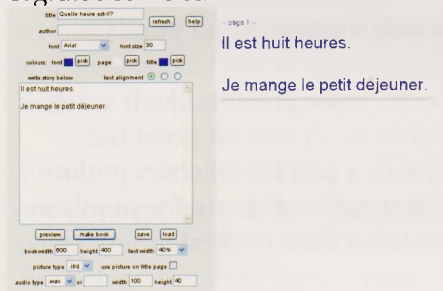
Quelle heure est-il?

Rhona Dick

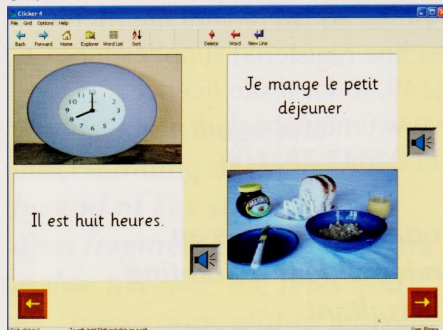
There are several ways that you can use ICT to support the teaching and learning of foreign languages, many of which have been alluded to in Janice Staines' article Watch your language.

Have you thought about asking children to write their own big books with audio content? There are several ways that this can be done for example:-

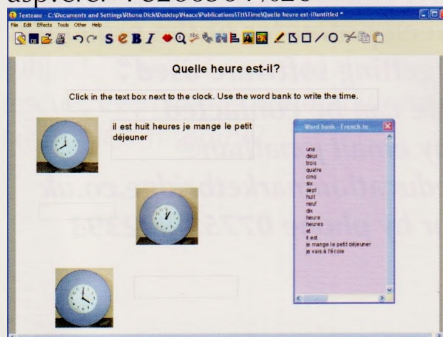
Big Book Maker <http://www.mape.org.uk/activities/index.htm>



Clicker <http://www.cricksoft.com/uk/>



Textease <http://www.rm.com/Primary/Products/story.asp?cref=PS286564%20>



By using any of these resources children will be applying their skills, knowledge and understanding within another context, and to a purpose. Each of these applications provides clear help in using text, images and audio files and they can be used in a number of ways to provide support or extension tasks for children of differing levels of confidence.

Adding text and illustrations Children could copy and paste text for their books. Afterwards they colour their own illustrations before scanning and saving these or inserting clip art appropriately. If you are using pictures from the Internet do make sure the source is safe and be aware of any copyright issues. It may be helpful for you to enter the text on each page for younger, or less confident children.

Adding audio files

Children could then go on to record and add their own audio files giving additional practice at speaking or listening if you provided the spoken word.

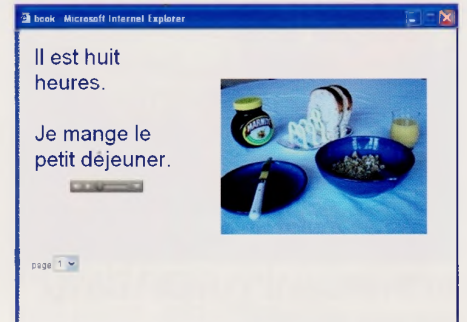
Some timely ideas

Here are some ideas for using ICT to make your own Big Books all of these link to QCA Unit 8 for Key Stage 2 MFL:

Daily events

There are several books for younger children that might provide a stimulus for creative or amusing books, for example "What's the time Mr Wolf?" By Colin Hawkins, and children could be encouraged to think up imaginative titles. Children could

copy or paste some text to make the book by themselves.



When I was one

Children could use photographs of themselves at different ages and add a simple sentence stating their age.

My birthday

Children could include simple phrases about the date of their birthday, how old they are, who came to their party, what they had for tea...

The seasons/months of the year

Children could add the names of the months, festivals, or seasons to pictures and arrange them chronologically.

Weather Topic

What about the weather?

Doug Dickinson Independent ICT Consultant

Sunshine is delicious, rain is refreshing, wind braces us up, snow is exhilarating; there is really no such thing as bad weather, only different kinds of good weather.

John Ruskin

It is the day-to-dayness of weather that makes it such a good topic for study from weather lore sayings to weather recording and graphical representation. This article moves away from those things to harness just how good we are at describing our weather and commenting on the effect that it has on us.

In 1977 Michael Joseph Ltd published a book 'The Country Diary of an Edwardian Lady'. This beautiful book is a facsimile reproduction of a naturalist's diary for the year 1906 in which Edith Holden records aspects of the changing seasons of the year. It is a wonderful book with which to engage children about the cycles of the weather and to encourage them to make diaries of their own to follow the way through a period of time.

Teaching in the 80s allowed access to the 'My World' software. This software package had a 'screen' in it where children could make their own weather maps and save and print them. Many teachers would organise their school's weather records by allocating a specific month to each class. During that month it was the class responsibility to use the software to record the weather, at various depths depending on the age of the children, and print the data collected. In a systematic way teachers would get children

to collect the day's weather data at 11.00 each day and when printed out the record was placed in a plastic envelope inside a ring plan binder which sat in the school's entrance. Over the years some schools amassed weather data for comparison. This was real data collected in real time by children and the ownership of it was with them. A proper data handling project.

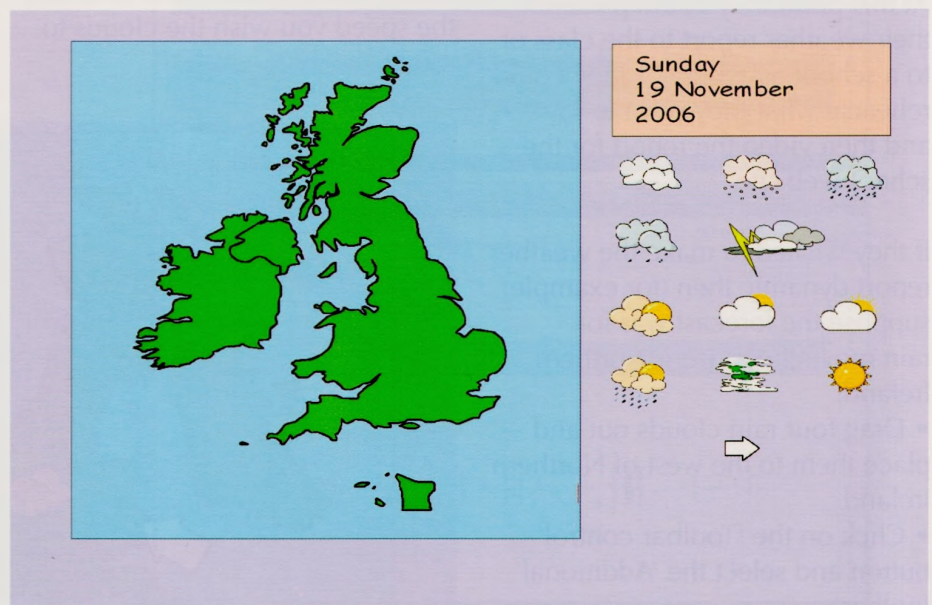
Today we can move on from this and children can still collect the weather data but can make it dynamic and multi-modal while using it for speaking and listening ideas.

The principle is the same as before in terms of regularly observing the weather but here, instead of just recording it the children are encouraged to report on it in a number of ways.

Firstly, using Textease, the children build their weather map as a template. This could be so that they can report on the local

weather or on the weather in other parts of the world. Follow the step-by-step instructions below:

- From the maps section in the Resource Bank they select an appropriate map and drag it onto the page and size to fit.
- Add the 'graphics' toolbar to the window and with the rectangular tool drag out a border around the map.
- Select the border, click on the 'Effects' button and fill in the background with an appropriate colour.
- Drag out a rectangle for the date heading and repeat with the cosmetics of the box.
- Click on the word 'Tools', select 'Looks' and then 'Background' and colour the whole page.
- Drag select the boxes and the map.
- Click on 'Tools' and 'lock' these images to the page.
- Click on the 'Resource Bank' button and on the search line type in 'weather'.
- Select the weather folder and then the images to represent the



Weather Topic

What about the weather?

weather can be dragged onto the page to make a weather key.

- Drag select all of the weather images and click on the word 'Other'.
- Select 'Object' and place a tick in the 'Copies' box (weather images are now automatically copied when they are dragged off)
- The weather template is now complete and should be saved and backed-up for future use.

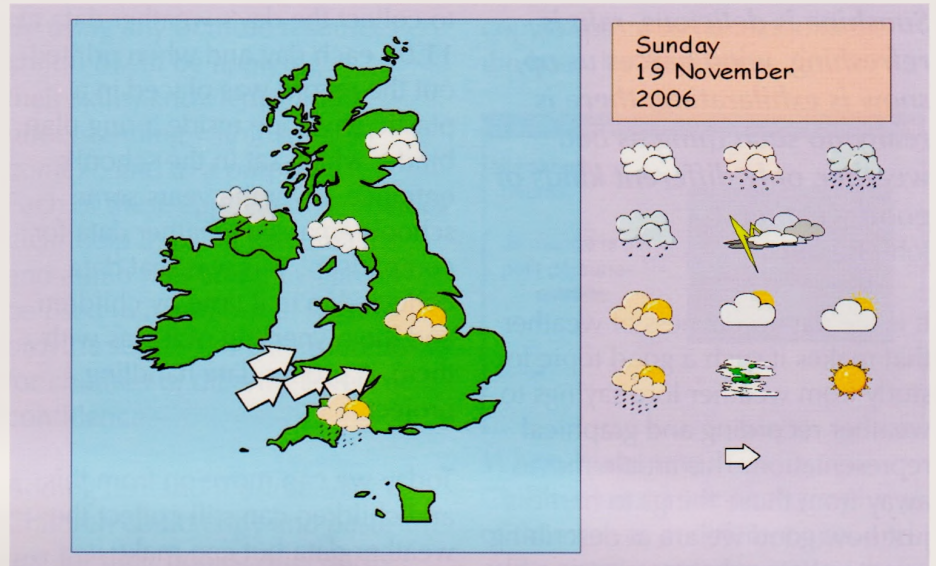
Today's Weather

Firstly the children have to investigate the day's weather by using direct observation, Ceefax or the Internet. Then from the data they build their map.

- Open the Textease 'Weather Map' file you have created.
 - Type into the date heading box the day, date and year.
 - If the map is to be static select the weather of the day and place it on the map.
 - Use the arrow to indicate wind direction and strength – it can be resized, copied (select and hold down the 'Ctrl' key and drag off) and turned as appropriate.
- At this point they could present their weather report to the class or to a school assembly or they could rehearse what they want to say and then video the report for the school web site.

If they wished to make the weather report dynamic then (for example) suppose the forecast was for rain moving east from Northern Ireland.

- Drag four rain clouds out and place them to the west of Northern Ireland
- Click on the 'Toolbar control' button and select the 'Additional' toolbar

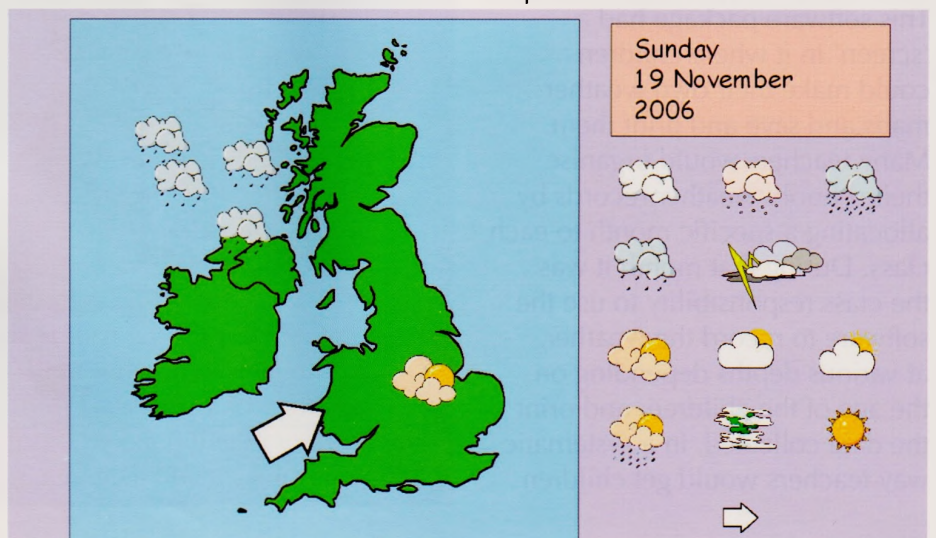


- Drag select the four clouds
- On the 'Additional' toolbar select the 'Group selection' tool and click on it - the four clouds will now move as one.
- From the 'Graphic' toolbar, select the pencil and draw the line for the clouds to move west to east.
- Replace the pencil.
- Select the clouds and then right click on the line.
- Click on the 'Link' button and select the 'Animate' tab.
- Put a tick in the 'Follow over' box and change the time to reflect the speed you wish the clouds to move.

- Close the 'Links' window
- To remove the line – select it, click on the 'Effects' button, choose 'Line colour' and 'None'
- Now when you click on the clouds they will move across the page.
- To return them to their starting point, right click on them and drag them to their start position.
- This can now be repeated for wind and other weather movements.

To make the weather map even more dynamic 'a hide and reveal' function can be brought into play.

- Lift a weather symbol onto the map.



- Place it over the position of the school.
- Select it.
- Click on the 'Links' button.
- Select the 'Hide/Show' tab.
- Select 'Show when over'.
- Close the 'Links' window.
- Now, when you 'mouse over' the school's location the weather symbol will appear.

Adding Sound

In Textease it is possible to add sound to any object on the page so that if the text of the day and date were to be selected (the handles would be 'up') a weather forecast could be recorded onto those words.

- Select the text (or any object on the page).
- Click on 'Tools' and select 'Record a sound'.
- Click on the red button to begin recording and on the green one to stop recording.
- Close the 'Sound' window.
- Now, when you 'mouse over' the text you will see that the cursor has changed to a 'sound' icon.
- Click to play

Making a weather diary

Instead of just doing this in an isolated way on a single basis it is possible in Textease Presenter to produce an ongoing multi-media weather record as each page in Presenter acts as a single Textease page.

It is, of course, exciting to add extra sounds to the weather symbols that are used.

To do this:

- Select the weather symbol and drag it onto the map (in this case the wind symbol).
- Select the 'Resource Bank'.
- Type 'wav' into the search box and search for the sound files.
- Scroll down until you find the sound you want and then drag it

onto the map (wind).

- Select the wind symbol.
- Right hand click on the sound.
- On the 'Additional' toolbar select the 'Link' button.
- Put a tick in the sound box.
- Close the 'Link' window.
- Deselect the wind image.
- When you click on the image now it will play the wind sound.
- Clicking again will stop it.

Making a weather podcast

To make weather forecasting (or reporting) really pertinent to the children it is a brilliant idea to get them to do a regular weather podcast. This cements the 'serialisation' necessary for true podcasts and makes it different from just recording one off audio files. It is also about giving a sense of audience for their work. They are going to publish it into a real world setting and so quality, fluency and accuracy are key words in the production.

There are five key phases in creating a podcast: **preparing, performing, producing, publishing and promoting.**

Phase 1

Prepare the materials; make them 'snazzy' so that people will want to listen.

Phase 2

Get all of the extra sounds together - you might want to rehearse the podcast.

Phase 3

Produce the podcast with an appropriate piece of software.

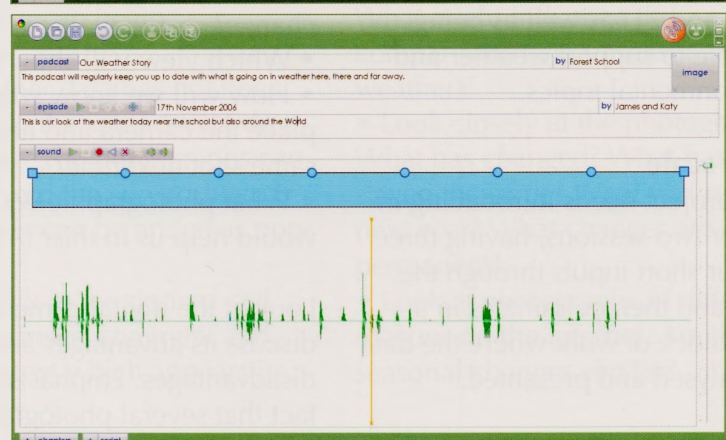
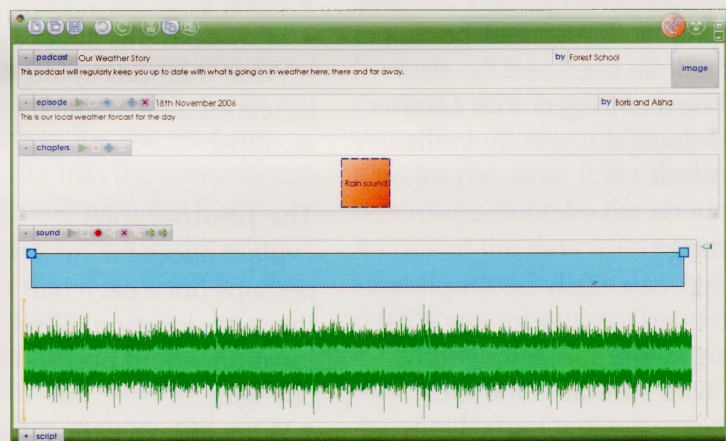
Phase 4

Upload the podcast to a place where people can listen to it.

Phase 5

Tell people it is there so that they can subscribe to your daily weather bulletin.

Details of Textease and the podcasting application 'Podium' can be found at www.softease.com



Seasonal weather

Alan Rodgers

As a starting point for all aspects of the curriculum the local environment is crucial. This project takes advantage of the school environment to develop geography, science, ICT and maths skills. It also provides a linking thread through the terms culminating in a super final presentation and display.

Weblinks are provided to supply support and examples of related tasks. A spreadsheet file for recording data has also been constructed and uploaded to the Teacher Resource Exchange.

The activity could equally well be used for five days of consecutive weather observations and photographs. The spreadsheet could still be used and the data could be exchanged with another school doing the activity in the same week.

Age range

The tasks can easily be simplified or extended to cater for any KS2 age range. The subject matter fits in with several of the QCA schemes (e.g. Geography Units 7, 18 and 21) as well as being suitable to support weather and environmental topics.

Time scale

This project needs introducing in one or two sessions, having three or four short inputs through the year, and then culminates in a final block of work where the data is analysed and presented.

Key ICT skills developed include:

- Using a digital camera and storing pictures
- Using ICT to take measurements
- Using ICT to present data

Introduction

This will vary according to the specific topic being covered. If your initial work involved collecting pictures you will be adding in the idea of matching weather data. If, instead, your topic related to weather data collection you will need to introduce the idea of taking photographs as well.

Introduce the idea of a place changing over the seasons.

- What changes?
- What stays the same?
- How does this affect us?
- What methods could we use to record the changing of the seasons?

The photographs

Explain about taking a picture, perhaps once each half term, from the same location. Discuss which location would best show any changes.

- What are we expecting to change?
- Which view will show this best?
- How will we know where to place the camera and line up the same shot next time?
- What photographic equipment would help us in this? (A tripod)

Look at the digital camera and discuss its advantages and disadvantages. Emphasise the fact that several photographs can

be taken at no extra expense. Demonstrate how we can view the pictures very soon after taking them.

- How can we share these pictures?
- What needs to be done to the pictures before sending them as email attachments?
- How are they saved?
- What file names will help us with our work?

Look at a calendar and a list of term times. Work out suitable dates to repeat the process. Mark them on the classroom calendar (or make a special MS Publisher calendar especially for this purpose).

The weather data

Spend some time discussing the weather at the time of this work. Does everybody agree on the descriptions? If not how can we make weather observations which everybody can agree on?

Look at traditional weather instruments; a rain gauge, a thermometer, an anemometer, a weather vane and a barometer. What sort of measurements do they give us? How accurate are they? What rules are involved in using them? If these are the only instruments available, use them for the readings. You may want to bring in more ICT by entering the data into a spreadsheet. Cloud cover may also be an interesting fact to record. Limit the number of readings to suit the topic, the time and the ability of the children. If possible show the children

how ICT can be used to take weather readings. Equipment may only be available for temperature readings. See examples of different apparatus below. However readings can be taken for temperature, wind speed and humidity using more sophisticated apparatus. Some data can be downloaded directly to a PC, others will need to be written down and entered into a spreadsheet.



On the day take the first photographs from the chosen location. Make notes to help repeat the process exactly next time. Save the photographs.

It may be interesting to look each time at all of the photographs as a slideshow and use speaking and listening skills to discuss the observations so far.

Now take the relevant weather readings. You could print out the blank spreadsheet to use as a record sheet to log the readings. Enter the data into the spreadsheet and save it renaming the file to match the date. Repeat the entire process on the other chosen dates.

The conclusion

After the day of the final photography and weather data collection the analysis and presentation can begin.

If the weather data has not been entered into the spreadsheet do it at this stage. The photographs can be added into the spreadsheet. If desired they can be added as pop-ups.

- Right click in the desired cell.
- Click on insert comment and delete the text which appears in the box.

- Right click on the edge of the comment box and select format comment.
- On the colour and lines tab select fill effect in the colour option.
- Select the picture tab and find the desired picture.
- Click OK several times.
- You may wish to adjust the size of the picture by using the size tab in the format box. When you point to the cell the picture will appear.

Now that the data has been collected you may wish to compare it to other data for example:

- Look at historical data on Weather Underground to find matching data for the same dates from round the world. Select the desired location and then use Weather and Almanac to see the data for the same dates as the recordings done by the children.
- Look at the data from other schools. Identify similarities and differences.
- Compare the data from the different dates. Are they what was expected? Are there any surprises? What might influence the comparisons (e.g. unseasonable weather)?
- Look closely at the photographs. What has changed? What has stayed the same? What will recur next year? What changes are permanent?
- Look at photographs of different seasons on the Internet. Are the seasonal changes similar?

Weather Topic

Seasonal weather

Alan Rodgers

Make a display of the data and photographs. Work with the children to write reports on what they have discovered. If possible use ICT to present these and include them on the display. Ask the children to write instructions for taking the various weather readings and put them with the instruments on the display.

Supporting weblinks

Weather Underground
<http://www.wunderground.com/>

See the four seasons in Zug in Switzerland
<http://www.picture-newsletter.com/seasons/index.htm>

Find out about collecting weather data
<http://www.amingtonheath.staffs.sch.uk/hints.htm>

Compare weather data with another school by looking at the data on the Naace Weather Project. Contact the author if you wish to have a login and password and enter data. (Naace members only)
<http://mikematson.co.uk/weather/>

The varying types of equipment for taking weather readings (also available from many other locations)
http://www.pat-training.co.uk/environmental_meter.htm
<http://www.taglearning.com/browse/product.php?pid=24>
<http://www.nkhome.com/ww/wwindex.html>

http://www.sciencescope.co.uk/logbook_primary.htm
http://www.sciencescope.co.uk/logbook_ml_primary.htm
<http://www.tts-group.co.uk/Product.aspx?cid=7&rid=60&cref=TTSPR595088>
http://www.advisory-unit.org.uk/w_report.html

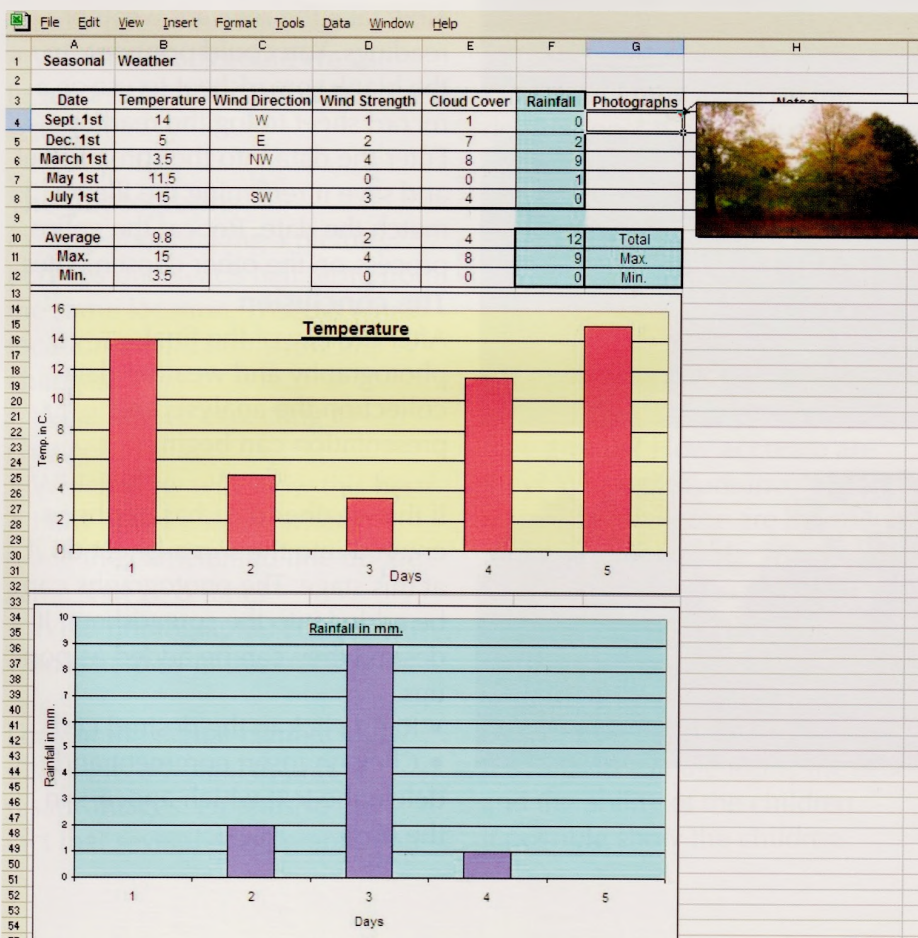
There are some relevant resources on the Teacher Resource Exchange.

<http://www.tre.ngfl.gov.uk/server.php>

To get to the resources below, click on random resource then replace the number at the end of the URL with the number of the resource required.

Excel spreadsheet and Excel spreadsheet with example data - 13460
 Accurate Weather data collection - 2176
 A very hot day in Tamworth - 13261
 The garden in winter - 12743
 Seasons in the garden - 12261

Alan Rodgers represents the Primary Community on the Naace Executive Committee. With Angella Streluk he is the author of several books about weather.



Weather Topic

Musical weather

Andy Pierson, ESP

The KS2 weather topic provides many opportunities for using descriptive language to explain different weather features.

In this activity we will create an imaginary weather diary using weather symbols each of which has some music to go with it. We could choose to do this activity with sound effects to illustrate the weather features. This would involve finding recordings of sounds like the dripping of water on a roof. We could use ICT effectively to record and playback the sounds. The availability of easy to use recording devices and digital players can make this sort of activity relatively easy to set up and operate.

However, the intention of this particular activity is to use musical methods to accompany our weather features. This is not just because I believe that music is really important and I want to prove that it can be used to support any subject. It is actually because composing and performing music can add a number of important dimensions to a topic activity like the weather. In describing things through an abstract musical medium you have to think in a very analytical way and understand clearly what it is you are trying to describe.

Rhythms and the weather

We are going to focus on the use of percussion sounds and rhythms to make our weather map.

Firstly, we need to decide which weather features we are going to use. Then we need to find pictures to go with the features.

There are lots of different ways of using pictures to describe the weather. Try looking at different weather forecasters on the Internet to see what different symbols they use. The BBC weather station has a key that explains the symbols used.

What different symbols can you design?

Here is a list of some of the weather features you might choose and some graphical images that go with them. If you look at just the images can you guess what weather feature they are illustrating?

Using Rhythm Maker

For this activity we are going to use percussion sounds in the Rhythm Maker computer program. Rhythm Maker is a percussion program where you can create different rhythm patterns and sequence them into a track. In the program we have a simple grid which shows time from left to right and a list of different instrument sounds from the top to bottom. Let's start our rhythm task by concentrating on the first two rain symbols of "Drizzle" and "Rain". How do you think we can use rhythms to describe the sounds of drizzle and heavy rain? What are the differences between these two weather features?

Drizzle



Rain



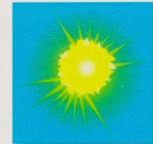
Thunder Storm



Snow



Sunshine



Clouds

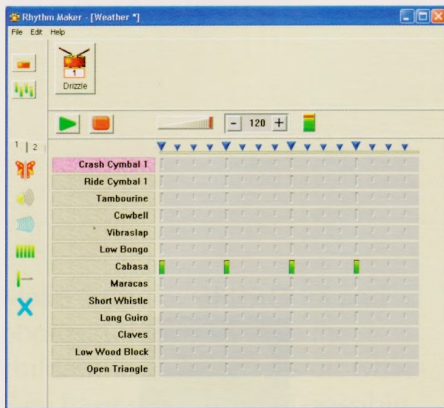


Breeze



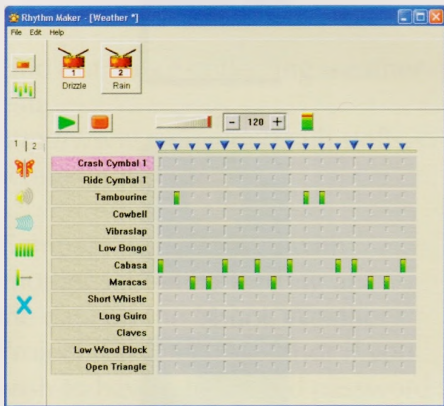
Wind





This pattern uses the Cabasa sound as a good representation of rain drops and uses a steady, evenly spaced beat to suggest slow rain or drizzle.

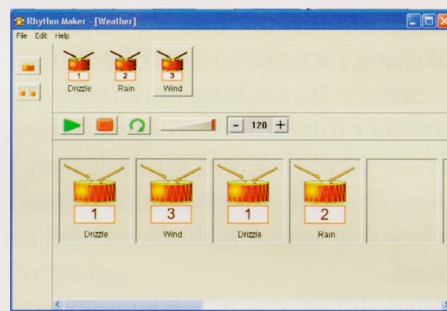
Now we need a contrasting rhythm to show heavy rain. In the program you first need to choose to make a new phrase from the Edit menu. Now put in the new notes. Use some of the other instruments to give added contrast.



Some of the weather sounds are easier than others because they already make some sounds. The thunder and lightning is easy because there are lots of bangs and crashes. Others are difficult because they are silent. For example, snow doesn't make a sound. How can you choose a percussion sound that makes you feel cold or icy? Perhaps the triangle sound might help. Sunshine is also silent but you will

want to find sounds that are warm and rhythms that feel lazy and slow. The fun part of this is using your imagination to try and create musical motifs for the weather features.

When you have made rhythm patterns for each weather feature you can put them into a story line to make a 'weather map' to describe the weather for the day.



On this day, it started with some drizzle and then the wind blew, then the drizzle came back and finally the rain came along.

Try playing your weather rhythms to other groups, can you work out what weather features each other's rhythms describe?

Making a Multimedia weather map

If you save your weather music as a MIDI file then you can put it into a multimedia program and combine it with your weather pictures and words to provide a multimedia presentation of the weather. We have linked the MIDI file music to the speaker image beside each weather feature. Clicking on the speaker plays the rhythm pattern that is associated with that feature.



Alternatively, you might want to create the weather sounds with some live instruments. To do this you could print out a weather map and use it to conduct the weather!

Extensions

There are plenty of ways in which we could extend this activity. First of all we could choose other weather features, for example:

- Hurricane
- Tornado
- Storms
- Heat wave

Also, from the musical point of view we could try using melodic or tuned sounds to add a new dimension to the percussion sounds.

Adding words can also help to describe music. This might be in the form of words that describe the music as much as they describe the weather feature. For example, the drizzle pattern could have someone speaking words like 'slow', 'drip', 'damp' etc. whilst the rhythm is playing.

CPD Event: Naace Primary Conference

Primary Snapshots – An ExcITing Future

Date: 30th March 2007 – 1st April 2007

Venue: Swansea, Wales (Swansea University and Grange Primary School)

The event is open to members and sponsoring partners. Non members may join the conference at a surcharge of 20%. Teachers who work for Swansea LA should contact the Naace office directly regarding favourable rates.

Delegate Options and Fees (please see programme for details of sessions)

Option	Option Title	Cost	Please Tick
Option 1 includes:		Full Board	£160+VAT
a) Friday, Saturday and Sunday delegate fee			<input type="checkbox"/>
b) Friday/Saturday night Dinner Bed & Breakfast			<input type="checkbox"/>
Option 2 includes:		Friday, Saturday & Sunday	£95+VAT
a) Friday, Saturday and Sunday delegate fee only			<input type="checkbox"/>
b) Friday/Saturday night dinner (No accommodation)			<input type="checkbox"/>

Please complete one application for each individual booking.

Places are limited so early booking is recommended. As numbers are limited, delegates wishing to attend certain workshops will have to pre-book their places.

Name and Organisation (this is how it will appear in the delegate list)	Cost
	Sub-total
	VAT 17.5%
	Total

Payment and Confirmation Details

Confirmation Address		Invoice Address	
Phone		Phone	
Email		Email	

Do you have any special need of which Naace should be aware? If so please give details:

.....

.....

Payment Details

Cheque with order, payable to "Naace (Trading) Ltd"	<input type="checkbox"/>	VAT receipt required	<input type="checkbox"/>
Purchase order enclosed, invoice requested	<input type="checkbox"/>	Send attendance certificate	<input type="checkbox"/>
Accept this booking form in lieu of an order (please sign)	<input type="checkbox"/>		

Naace Membership: Please send me details of Naace and how to join (£40 - £80)

Please post this form to:

Melanie Bowler

Naace, Nottingham Trent University, J Block, Clifton Campus, Clifton, Nottingham, NG11 8NS

Or fax to: 0870 241 4115 Or E-mail to: Melanie.bowler@naace.org

Cancellations within 15 working days of the conference will incur the full cost of conference.
Cancellations before 1st February will incur 50% of the full cost of conference.

This form may be photocopied as necessary.



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