iPad Lesson Ideas

Language

“Michael Morpurgo is a well respected and popular author with young people and his work is studied in Key Stage 2 and 3. (ages 8-13). As an English teacher I would like to capitalise on the news attention surrounding his novel “War Horse” to engage young people in literature.”

Workflow:

On the iPad go to the iTunes U App and search for “Michael Morpurgo”. There are resources provided by the National Theatre. Click on the War Horse - for iPad/Mac/PC link. These resources include a Scheme of Work for Key Stage 3 teachers to hlep them with planning activities.

Here you will be able to download some wonderful resources related to the Novel and the stage play by the National Theatre.

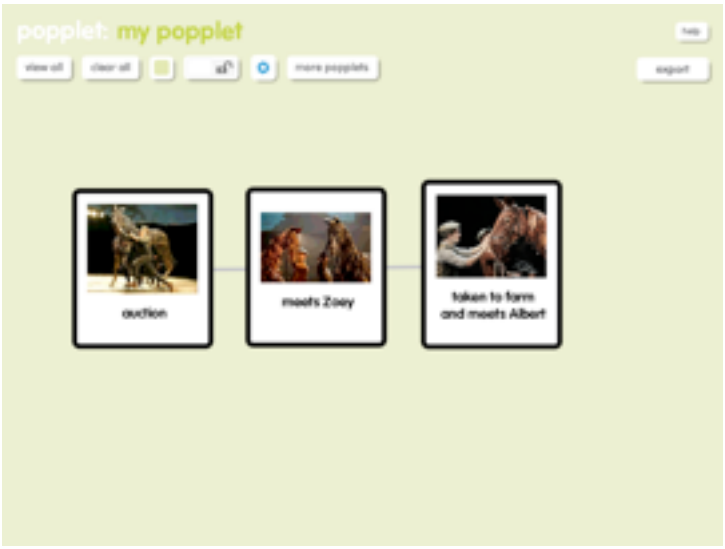
Download the first chapter of the book as an audio file, the short video documentary about War Horse and the War Horse pamphlet.

The pamphlet gives a synopsis of the story so that students can get an understanding of the books context.

If you download the iBook Sample from the iBook store you get the text of the Author’s note and the first chapter of the book

Ask students to study the first chapter and identify the different scenes that occur in the first chapter. Note how the story is told in the first person from the perspective of the horse.

Using a mind mapping tool such as Popplet (Lite) or iThoughts HD get the students to set these scenes out in sequence. These scenes can be illustrated by images form the play or the students could be asked to draw their own illustrations. For each scene ask the students to write a sentence of narrative in the third person of what is happening.



Using iMovie ask the students to create a sequence of narrated images based on what the have prepared in the mind map. If they wish they could add suitable music to fit the mood of the piece and titles.

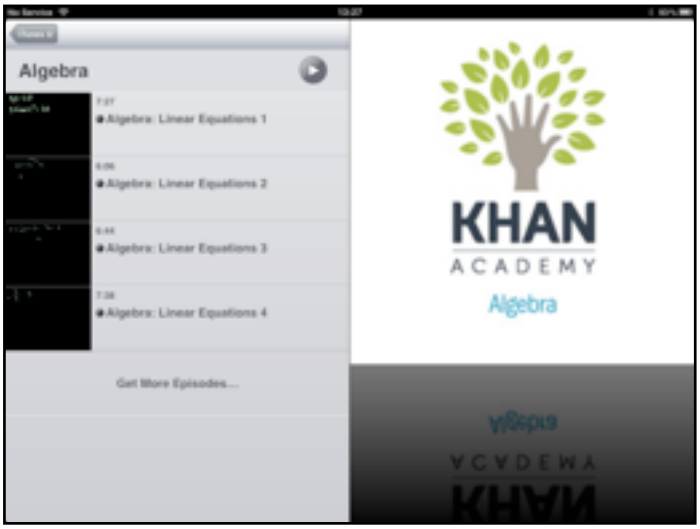
Share the end product using Apple TV.

Mathematics

“Algebra is one the things that is hard to get across to young people and as a secondary school teacher of maths it is necessary to find different ways of helping young people learn the basics of algebra.”

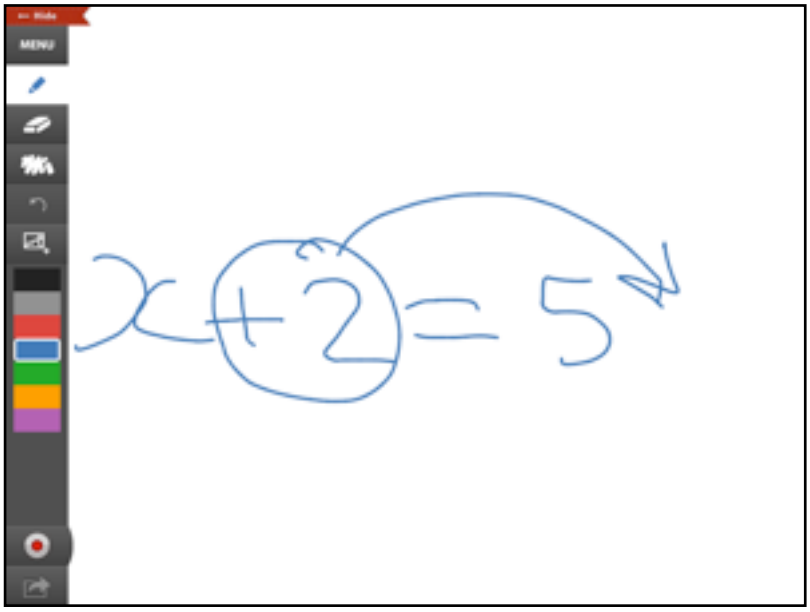
Workflow:

In Tunes U search for algebra and some good options pop up. From the Khan academy there are some useful videos to help your understanding of algebra. For younger learners is best if they go to Pre-algebra. The first video of the algebra series gets you started in the right place if working with older students starting algebra. The other useful resource for more advanced students is the Intermediate Algebra course from Harrisburg Area Community College.



When students have looked at a video it would be a great idea to get them to practice with Algebra Touch. Making sure they are practicing the right section of the course covered in the video. For example if you are starting at video 1 of the Khan Academy you would want your students to be working the isolate section of the App.

Next get you students to create their own ShowMe or Explain Everything video covering the section they have just learnt. With show me they can record their voice and actions explaining the algebra process. This end product can be saved as a video and will be posted to the ShowMe web site.

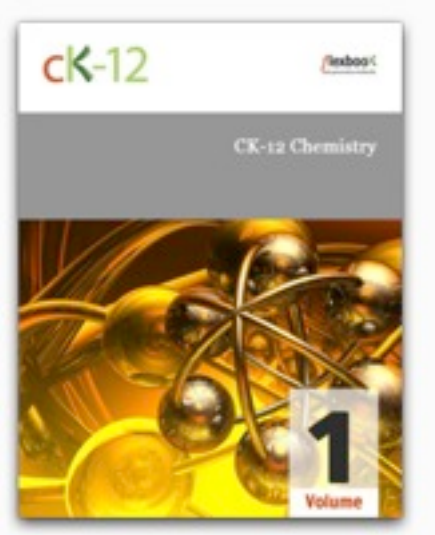


Chemistry

“As a secondary Chemistry teacher one of the problems young people have is visualizing things that happen at an atomic level. This is important when we look at things like bonding where students need to understand that an electron could move from one atom to another to form a compound.”

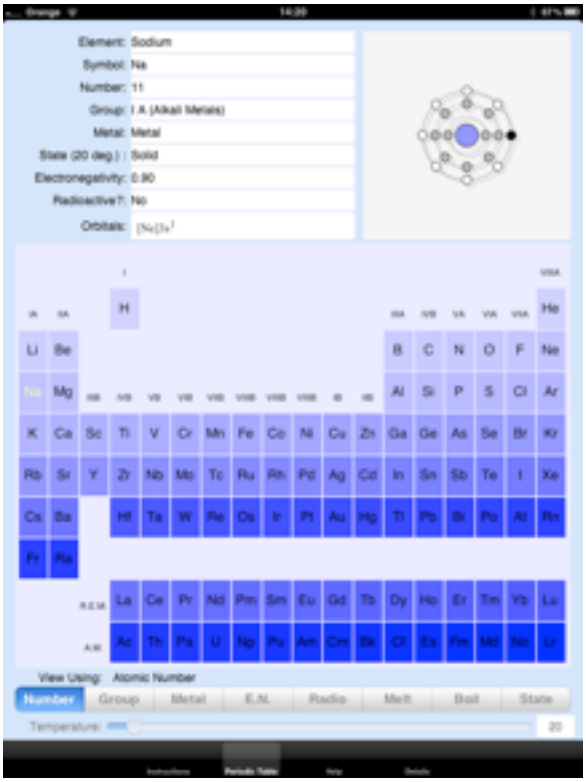
Workflow

To support learners they could download the free CK-12 Chemistry, Volume 1 ePub book from the iBook store. This book has some good illustrations to help with this visualisation.

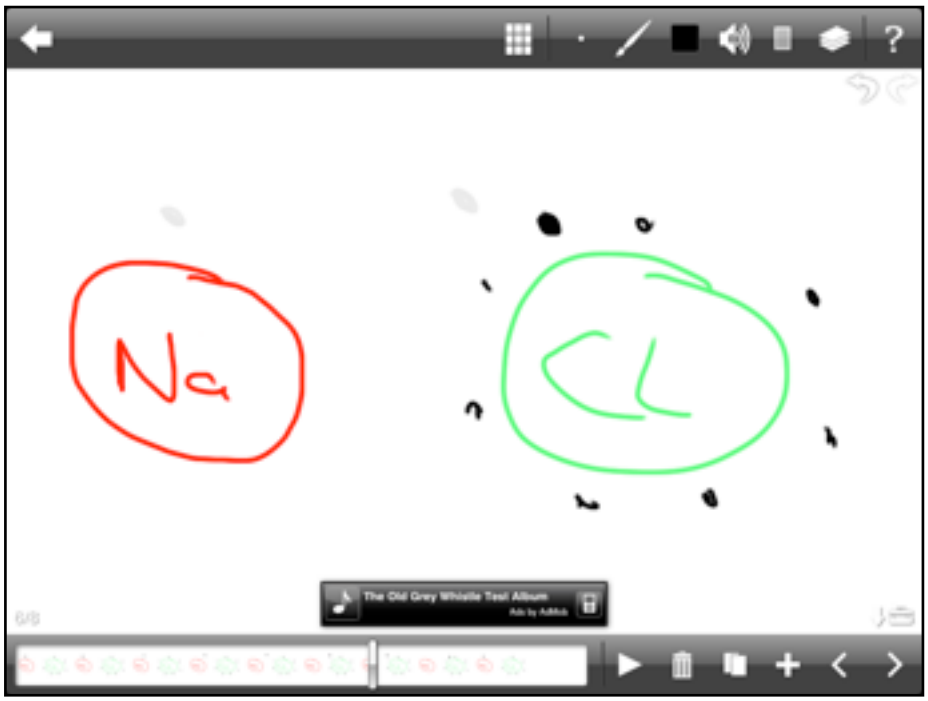


If students want to revise what they have done in class the Khan Academy Chemistry collection has a good set of videos explaining bonding. There is also a good course from ECIS called Chemistry and Physics 9 that covers this subject. If students are working at a higher level Duke University has a course on Core Concepts in Chemistry.

Students can then use the the Periodic Table App to see how the electron orbits of different atoms make them more likely to create an ionic bond.



The next stage of this activity would be to ask the students to create a presentation showing how to elements would bond. They could choose a number of tools to do this with: Keynote, iMovie, ShowMe or Animation Creator HD. Using Animation Creator students can make a 2D cell animation that can show the process of the electron moving from Sodium to Chlorine as an example.



Physics

“Teaching something like Bernoulli’s Principle can be hard in a secondary school because it is usually explained by diagrams. Sometimes it is a good idea to find some video to show the the principle in practice. How can the iPad make this learning process more complete?”

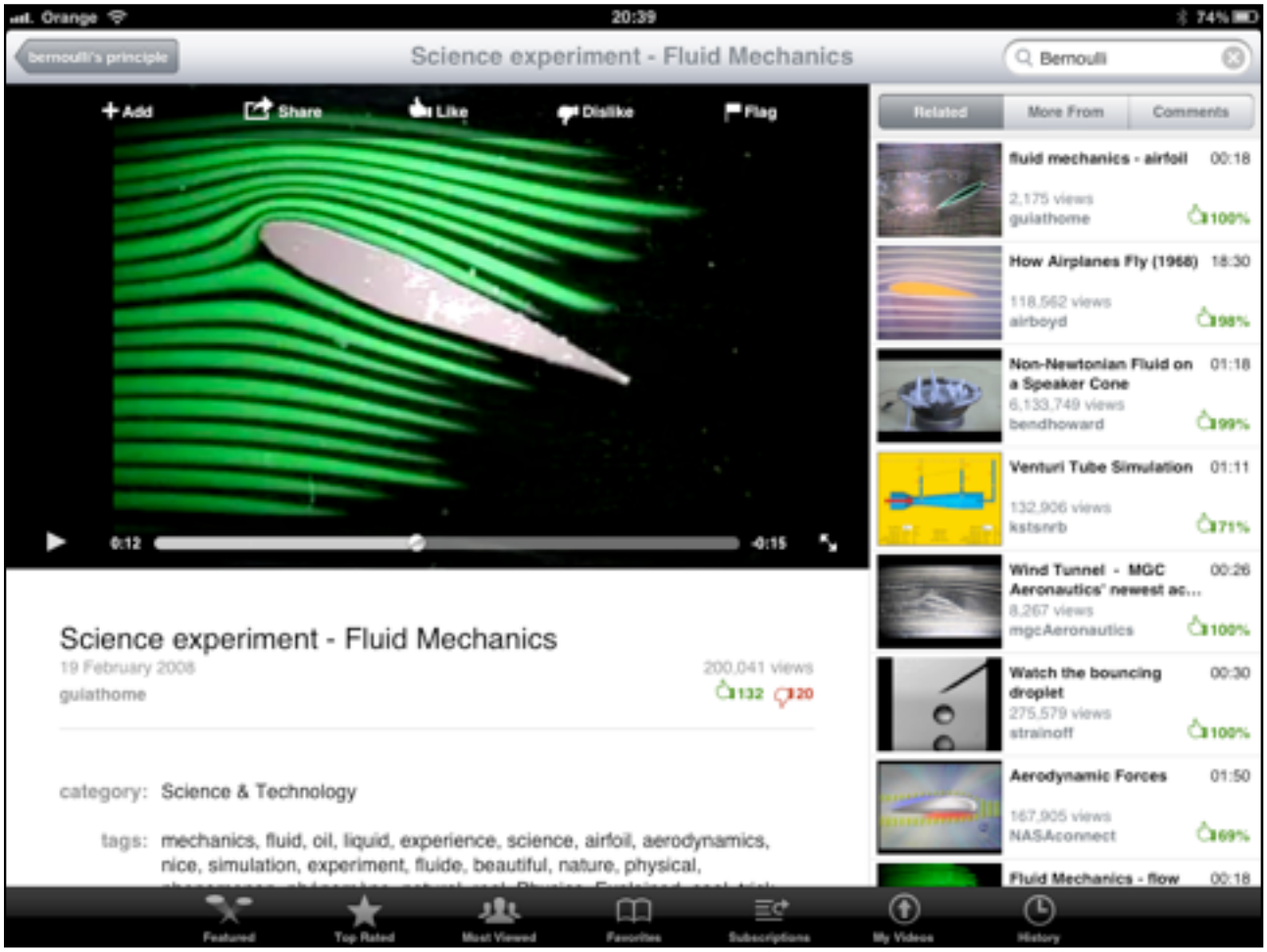
Workflow

Go to the YouTube App and look for videos that explain the Bernoulli Principle. We want to explore the effect the principle has on an airfoil such as a wing.

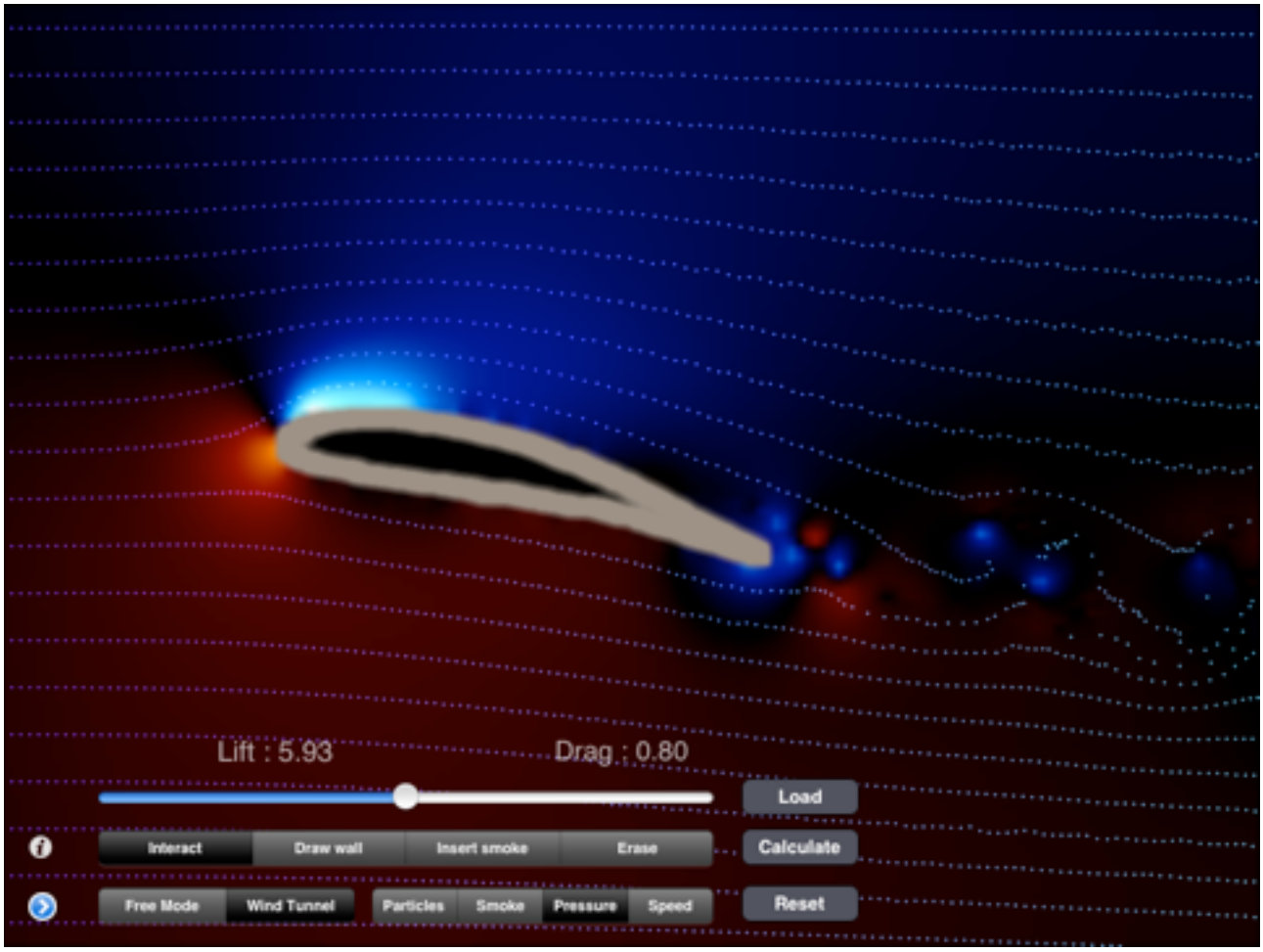
Here are two that do this well.

http://www.youtube.com/watch?v=MVKARF4Bg7Q

http://www.youtube.com/watch?v=xW63SZ1LAqo&feature=related



Now go to the Wind Tunnel App and try this out with a simulation. Exploring how wind speed effects lift and drag as well as changing the shape of the foil.



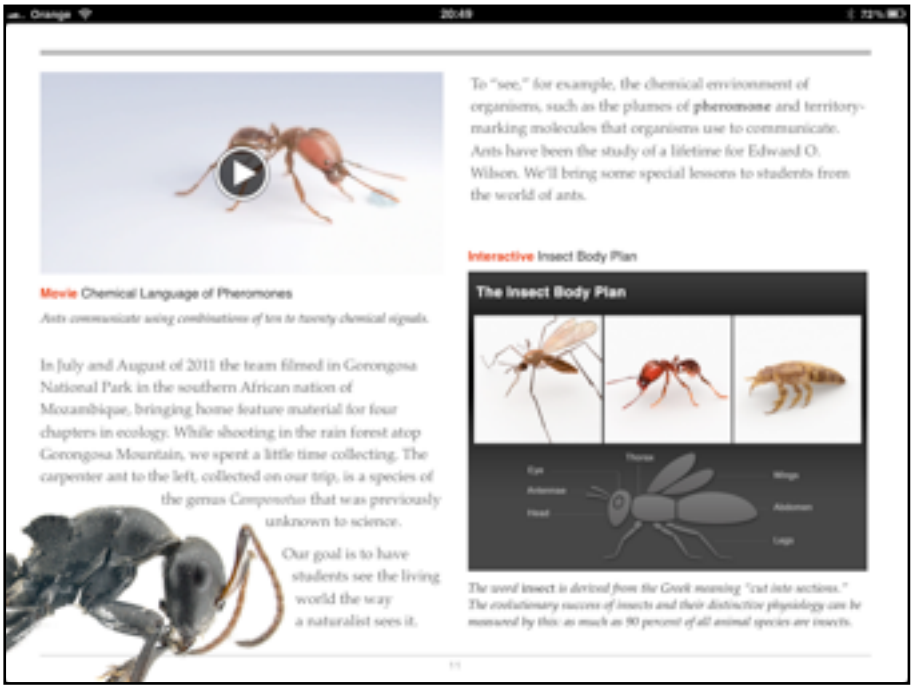
By taking screen grabs by pressing the Home and Sleep/Wake buttons simultaneously as the variable are changed the simulation will be recorded and can then be documented in a number of ways. Ask students to choose their preferred medium for documenting the process such as Pages, Keynote or Explain Everything.

Biology

“As a primary school teacher I need to explore the world of insects with my students using iPad. We want to make the world of insects come to life and then encourage our students to carry out some project based work to explore what they have learnt.”

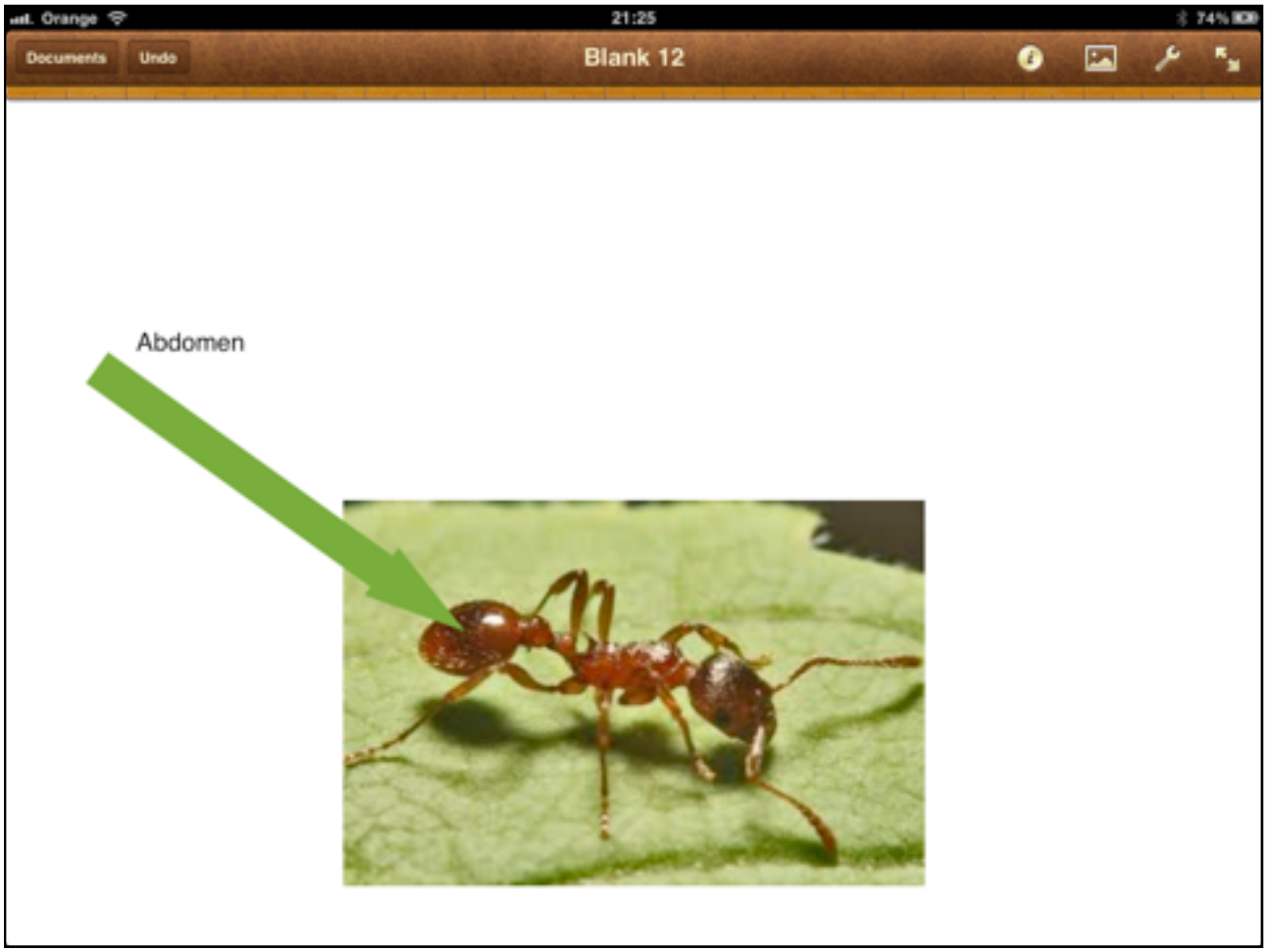
Workflow

We will first find out about insects from EO Wilson’s Life on Earth which is available on the iBook store. There is a great interactive section on insects which contains video and interactive images. We are especially interested in the bodies of insects and will explore this in detail.



If we want more information about insects we can download the Insects HD App what has some high resolution images of insects.

The next stage is to go on an insect hunt to capture images of insects with the iPad cameras. Initially these images can be shared using Airplay on Apple TV. Later these images can be imported and annotated by the students using a tool like Pages.

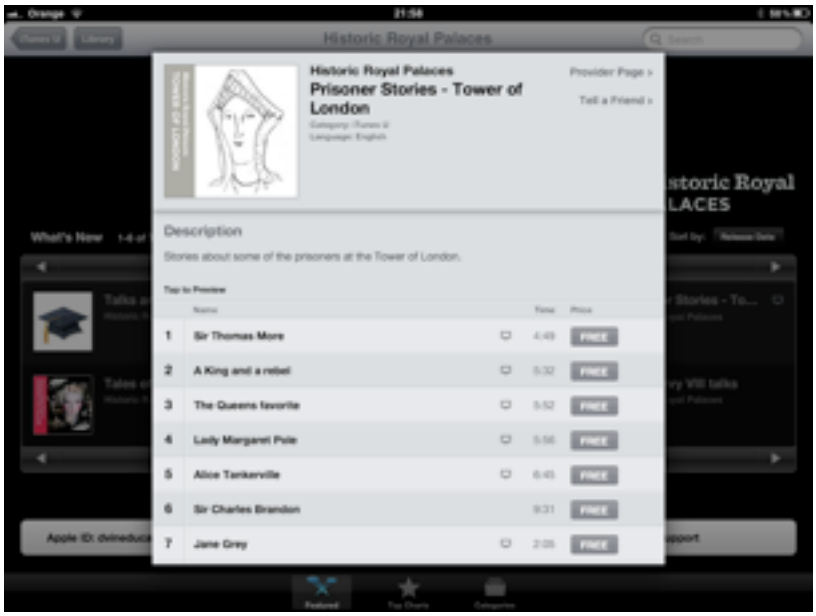


History

“I want to bring history to life with the iPad and make sure my students get involved in the curriculum. We are studying the Tudors this term and want to make the most of our iPads.”

Workflow

A great place to start is iTunes U App and in the Beyond Campus section there is a wonderful resource created by the Historic Royal Palaces. Their set of stories on the prisoners of the Tower of London are especially engaging.



Some of the videos were created by schools using 2D animation and it would be great to create similar stories based on the period using the same technique on the iPad.

Students will first need to plan their story and to do this they can use Popplet with images of their intended characters and the setting.

To create the animation we are going to used Puppet Pals HD.

First the students will need to create their character. They can do this from images found on the Internet or even draw them. These images need to be saved to the iPad camera roll and then imported into Puppet Pals where they can be cut out. These characters can be set on a suitable background and the story acted out. Puppet Pals records your actions and voice to create a video that can be shared with others in the class and beyond.

Geography

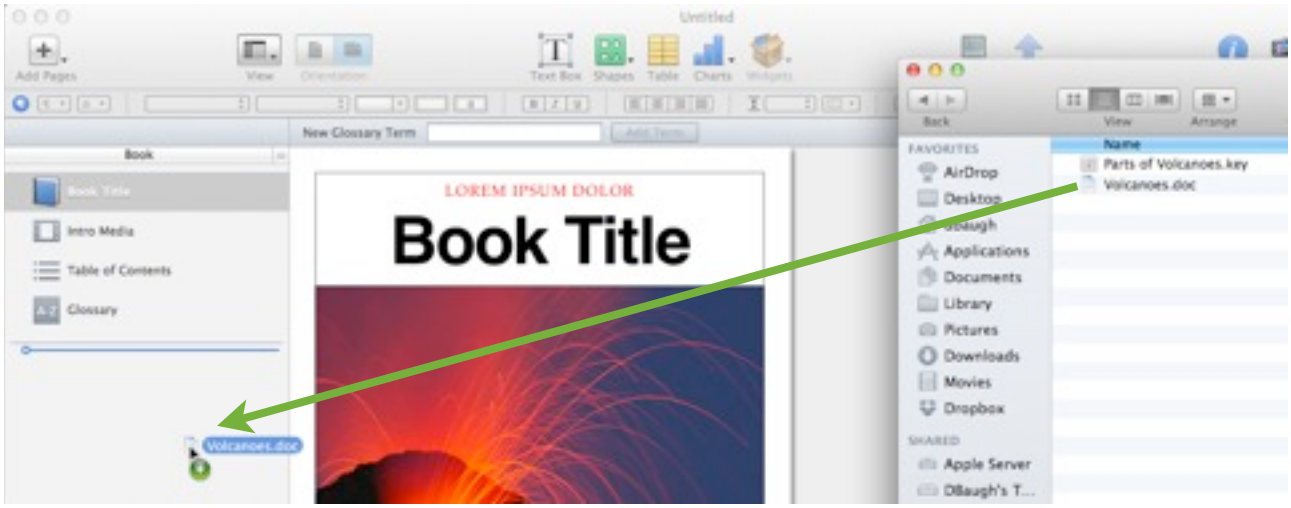
“As a secondary Geography teacher I am interested in authoring some content that my students can use on their iPads for my next topic which is Volcanoes.”

Workflow

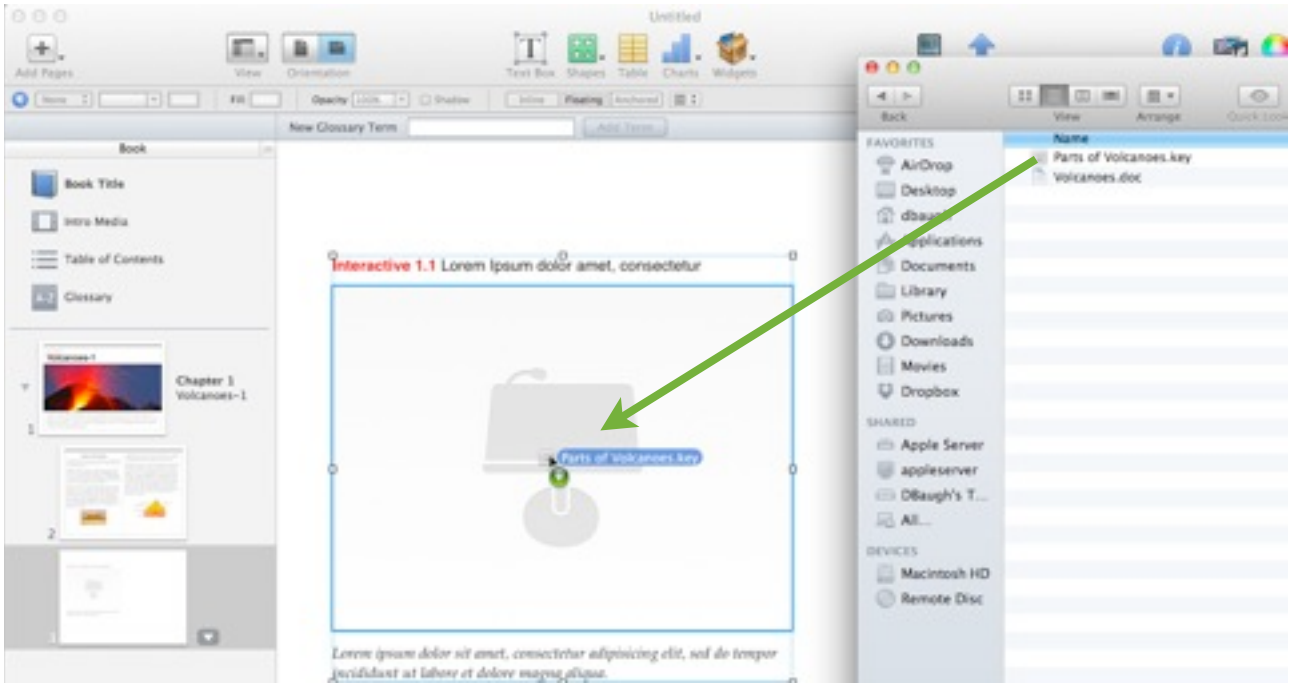
The first place to look is using the iTunes U App and searching for Volcanoes. One of the best resources is provided in course form by the Open University. These resources can be used selectively by the teacher to deliver materials in class or by students on their own iPads.

The next stage is for the teacher to download iBooks Author onto her/his Mac where the Earth Science template is a great place to start.

If the teacher has any worksheets as Word documents these can be easily imported into the book by drag and drop.



The same can be said for presentations saved as Keynote presentations. Existing PowerPoint presentations can be opened and saved as Keynote presentations.



The finished iBook can be exported and distributed to students by a number of different ways:

- Emailing the book to students
- Posting the book on a web site
- Putting the file on a WebDAV Server
- Using DropBox

Once the students have been given the materials it would be a good exercise for them to start adding to the iBook by creating their own presentations in Keynote on the iPad looking at specific related topics so that these can also be sent to the teacher and imported into iBooks Author.

If a teacher wants to extend the potential of the iBook they can have assessment and revision cards added to them.

Art

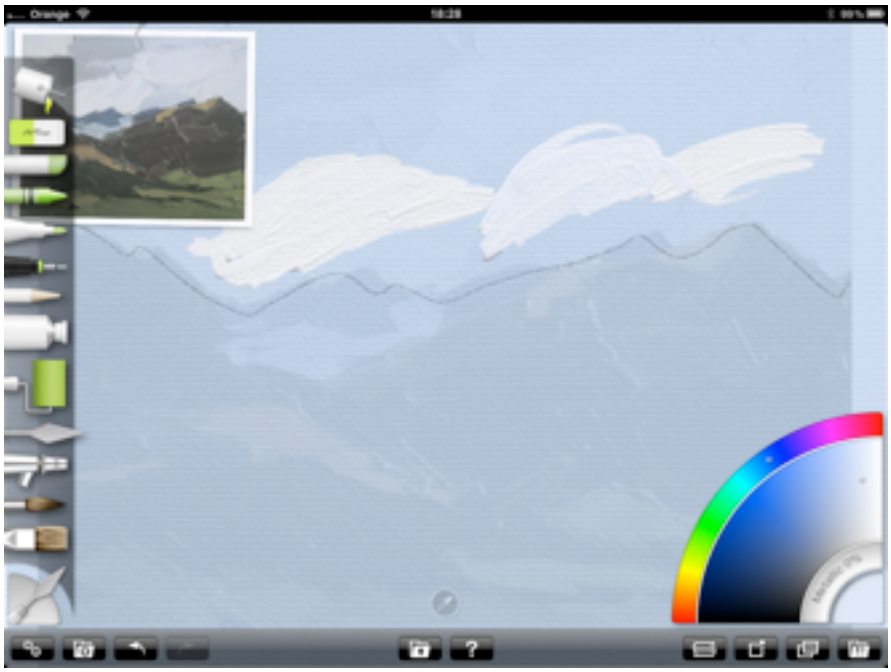
"As an Art teacher I want to give my students the experience of working with different media and especially letting students use the same media that well known artist use. We are studying the art if the famous Welsh artist Kyffin Williams who uses acrylic paint and a palette knife to paint."

Workflow

We will start at looking at the work of Kyffin Williams Williams from sources on the Internet and then finding an image we would like to imitate. We will download the image we want to work with.

We can go online to YouTube and search for Kyffin Williams and see clips of the artist working with his favorite media. There is a particularly good clip called Kyffin Williams - Framing Wales: Art in the 20th Century Episode 3 on YouTube originally produced by the BBC

The next step is to use the App called ArtRage for iPad and to start a new project using a fine mesh canvas similar to those used by Kyffin Williams. We can import the image we have onto our canvas as reference. We can and even use this image as a tracing image in a layer vivible through any additional layers of paint added. The App will let us use tubes of paint and a palette knife to use the same style as Kyffin Williams to build up the image..



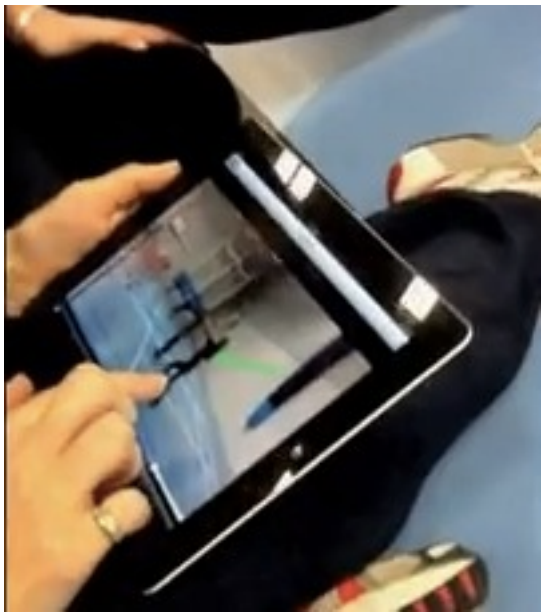
Physical Education

“Video has a powerful use in Physical Education lessons to review and evaluate work but as a PE teacher I have been frustrated by using a video camera and editing software to do this. How can iPad help me with my lessons?”

Workflow

Many PE teachers love iPad 2 because the video capture and editing is so simple and fast that it enables students to capture, review and evaluate work really easily and quickly.

There are many examples of this on the Internet – go to Longfield Academy’s video at 3.02 minutes to see one example of this.



Here the iPad camera is used by students to film each other doing gymnastics and dance and then this is jointly evaluated by a teacher and a student. The activity works best when studetns are asked to concentrate on one specific aspect of their work such as movement or pose. This can be taken a step further by editing the video in iMovie with a student doing a voiceover to evaluate the end result.

PE teachers can also look using this technique to enhance the analysis of ball games and field athletics such as:

- A bowlers action
- A tennis serve
- Batting performance
- High jump
- Shot putt
- Discus throw
- Javelin throw

Once the video is complete this can be exported and posted to YouTube of Vimeo for others to see. Examples of this type of activity are already available on YouTube:

http://www.youtube.com/watch?v=YqQzW2dFI9s&feature=endscreen

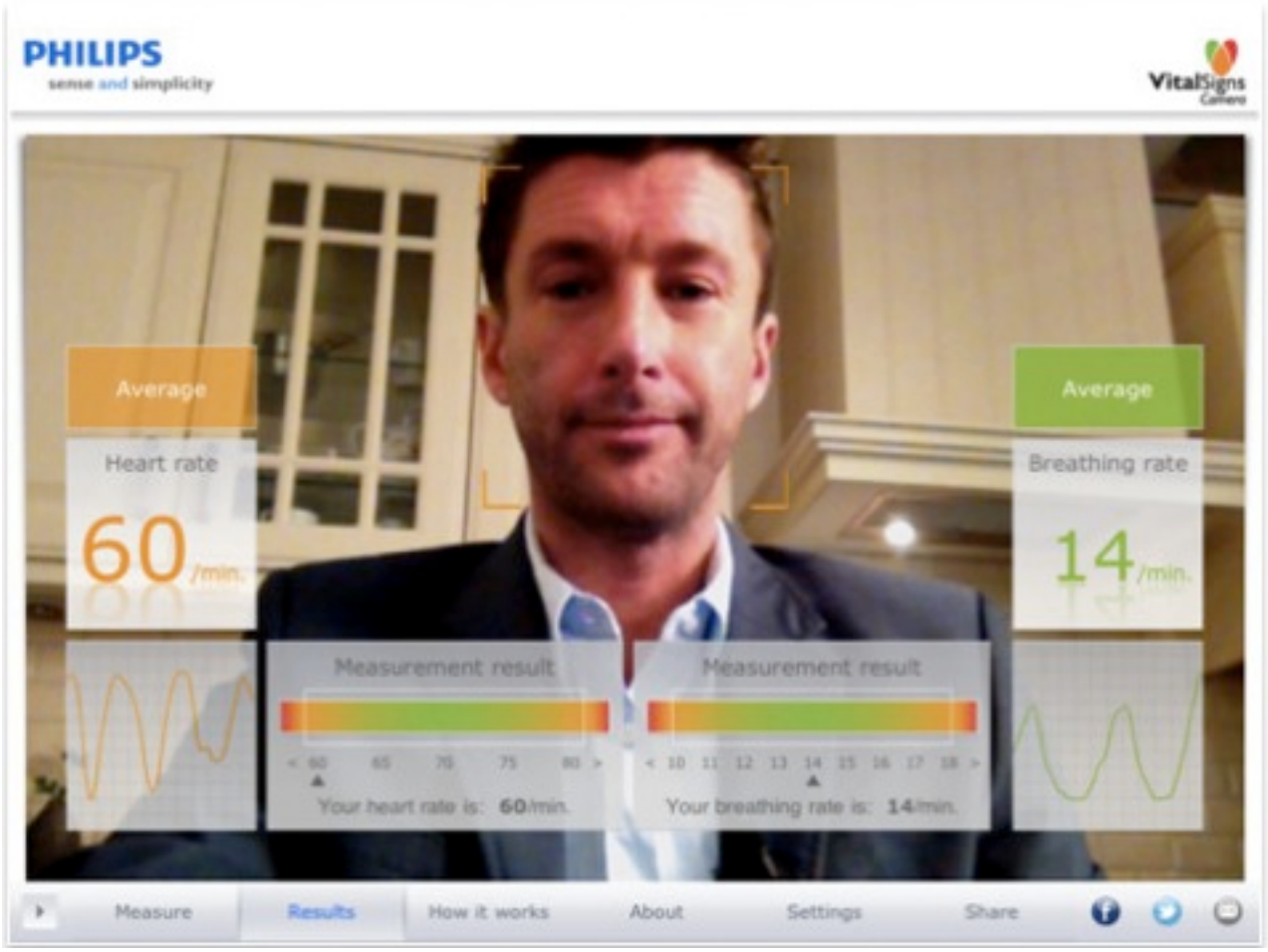
Physical Education and Biology

“In both Biology and Physical Education teachers need to investigate the way the heart reacts to exercise. Normally this would be done with students trying to take a pulse manually or using some sort of pulse meter. We have found that previous methods have been unreliable and we are interested in finding out how the iPad can do this.”

Worlflow

The Vital Signs App from Phillips uses the front facing camera on iPad 2 to measure your heart rate and breathing rate so that students can easily see the effect of exercise has on their bodies.

The students are asked to take their resting heart rate with Vital Signs. Best results are had with the iPad still on a table and the students sat down.



The results are then be sent by email or Twitter as a record.

The next step is to get the students to do some concentrated exercise such as using a step test or bench test for 5 to 10 minutes.Then get the students to do the Vital Signs measurement again.

The measurements can then be done after this at 2 minute intervals to measure recovery.

The final results can be recorded into a spreadsheet using Numbers. If the results are charted this can then be compared with other students and added to a portfolio of work. The captured results can also be atted to the spreadsheet if required.