

Digital Learning & Technology

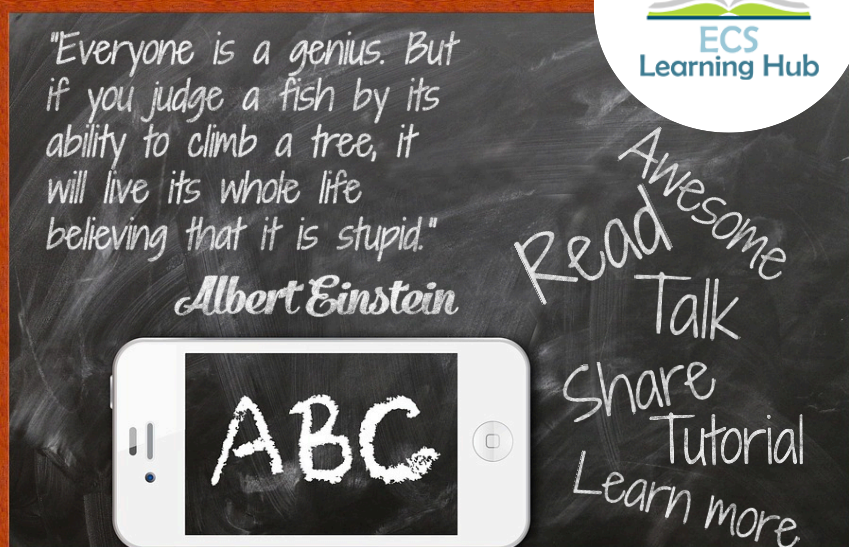
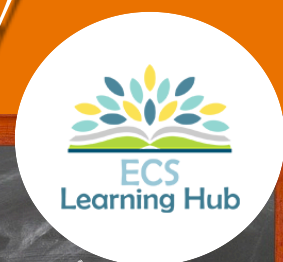
in Perth & Kinross

The nights are fair drawin' in...

...as we barrel headlong into November. Even with both Halloween and Guy Fawkes night on the go and the nights getting colder we're finding staff ever committed to professional development with great numbers of staff signed up for CPD this term for our Primary Computing Science sessions.

More staff are beginning to dip their toes into the world of GLOW and finding its tools to be exactly what they needed, even though some couldn't put their finger on what they needed until they saw what it could offer!

There'll be upcoming sessions across Perth & Kinross promoting GLOW so keep an eye out for dates and locations on the Digital Learning Hub and your email.



Mange tout, Rodney...

Having looked at HGIOS 4, HGIOELC, the Digital Learning Strategy and the GTC standards we debated in the office this question: "How is it the case that Digital Learning and Teaching isn't the fourth pillar of Curriculum for Excellence?" It sort of *feels* like that is what the documents hint at but fall short of stating outright.

Given its importance in our economic future, is it a missed opportunity not declaring that to be the case? Surely we won't be using *less* technology for learning in 2020 and beyond?

It was agreed that we have a big job to do in supporting teachers. Only by upskilling in this area would you deliver on any vision, 2020 or not.

So to Del Boy. Someone asked the questions: "Isn't any system better with four pillars? Three seems pretty weak - would you sit in a three legged chair or happily drive Del Boy's van?" The general agreement was firmly in the "four" camp but was neatly destroyed by having, of all things, a scientist on the team, who spoke about the rigidity of the triangle and something about 3 points defining a plane. Debate over.

Regardless of logic, the core discussion was still an interesting one - will CfE evolve to recognise the place of Digital Learning and Teaching in the vision we have of a truly 21st century education system? We'd be interested to hear your ideas. Join the PKC Digital Learning Yammer group and kickstart conversations that will help us shape what happens in Perth & Kinross Council around the use of digital in our classrooms.



GLOW groan?

If you're still feeling a little nauseous at the idea of engaging with GLOW after a number of years away, we'd like to encourage you with the promise that there are many reasons to go there, not least that it could have benefits for reducing your workload, which we know is a key driver for the Scottish Government and the local authority.

If you look at tools like Microsoft Forms in Office 365, you'll find the ability to set homework that is self marking with feedback built in by you. Or take a look at OneNote (see Pgs 8-9) and find out how you can keep on top of how pupils manage their evidence of learning.

Lastly, we're running dedicated CPD for school nominated GLOW advocates but also GLOW starter sessions - short twilights in your cluster through December and January.



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Wonderful Websites

Tiki-Toki

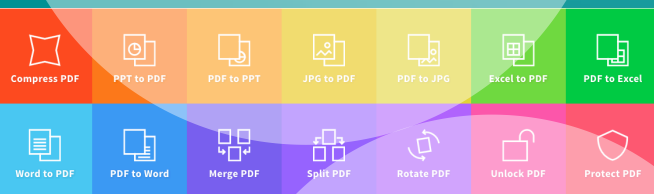
Beautiful and intuitive timelines can be produced using this website which lets you create one for free. Each pupil can add a high quality background and points on the timeline can contain video, image and sound. Fantastic class or individual use. See

<http://www.tiki-toki.com/>

Small PDF

PDF documents can be a nuisance. Sometimes you want to convert them into Word or to split up the pages because you don't want to use all of them or you want to join some PDF documents together. This website does all of this and more. Head over to

<https://smallpdf.com/>



Pixlr

Easy digital image editing is absolutely free at Pixlr.com. Use either the Express or Editor editions to edit and add special effects to your images. No need for Photoshop here, Pixlr does amazing things, and for free. For more go to

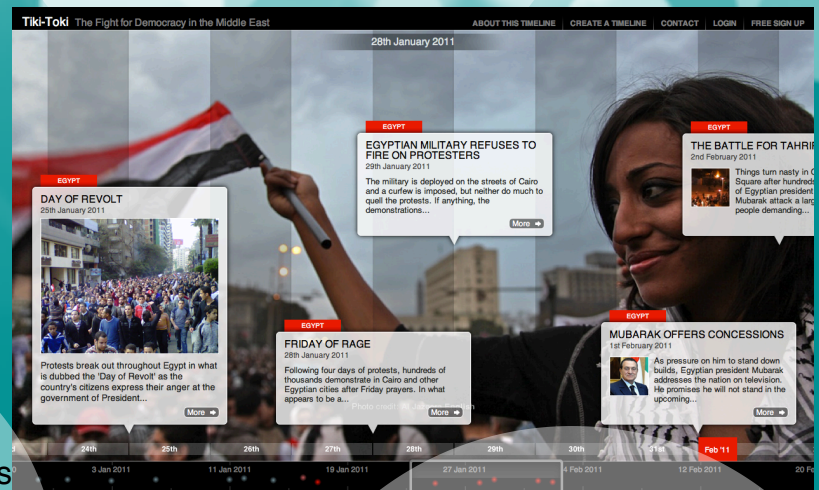
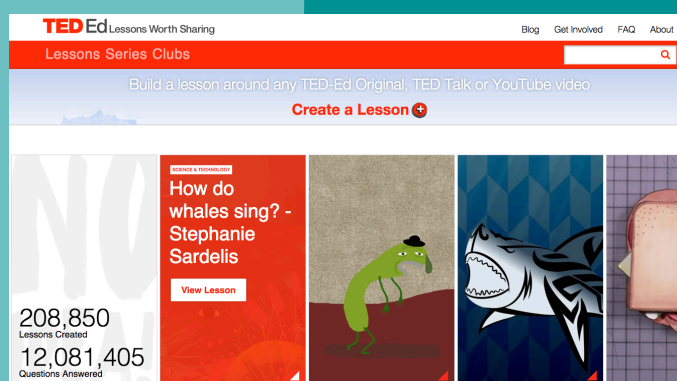
<https://pixlr.com/>



Ted-Ed

TED-Ed is TED's youth and education initiative. TED-Ed's mission is to spark and celebrate the ideas of teachers and students around the world. Everything they do supports learning — from producing a growing library of original animated videos, to providing a platform for teachers to create their own interactive lessons, to helping curious students around the globe bring TED to their schools and gain presentation literacy skills, to celebrating innovative leadership within TED-Ed's global network of over 250,000 teachers. Learn more at

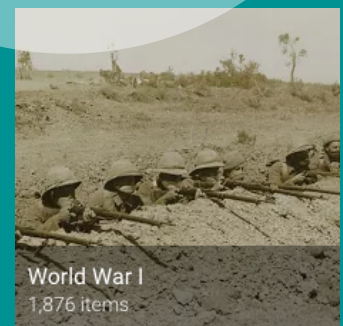
<http://ed.ted.com/>



Google Cultural Institute

Discover History, Art, cultural collections and stories from all around the world like never before. This new site lets you explore these treasures in amazing detail. Artists and Historical events are supported by a rich range of sources. I urge you to go to

<http://bit.ly/1faqXGi>



THE HOUR OF CODE IS COMING!

Dec 5th - Dec 11th 2016



An hour of code.
A lifetime of change.

After a phenomenal event last year where tens of millions of students in over 180 countries participated in the largest ever coding event, it's time for us to really go for it here in Perth & Kinross. We really would like to urge each and every teacher to go to one of the hour of code resources and just give it a go, just to see how easy it is to program. All you need is a browser on any device. Learning to program is being identified as a key future skill and the earlier students are engaged with it the better. It really couldn't be easier now with a wealth of great tutorials and hour long sessions that take pupils and staff through some key concepts in computing and computational thinking.

It's dead easy to get set up, just go to

<https://uk.code.org/learn>

and try out one of the dozens of tutorials there - everything from Minecraft to Flappy Bird.

Every pupil that completes the hour of code can get a certificate they can save and print off.

There are lots of extension materials there for the quick learners and indeed there are 20hr courses that you can run as a club or just to keep the enthusiasm going out of school.

Teachers who set up their classes can track how each pupil is performing and how efficient their coding was, giving them feedback on their approaches to problem solving.

Learning to code these days is about putting together simple blocks of instructions to complete a more complex solution to a problem. Without a formal programming language to have to learn, students and staff are finding they are focussing on the problem solving skills that programming is really about and less concerned about syntax and semantics which, although important later on in coding, needs to get out of the way as you are beginning to learn.



4

EXPEDITIONS Bring Expeditions to your school or become a partner.

Virtual Reality

Where your classroom can be another world entirely

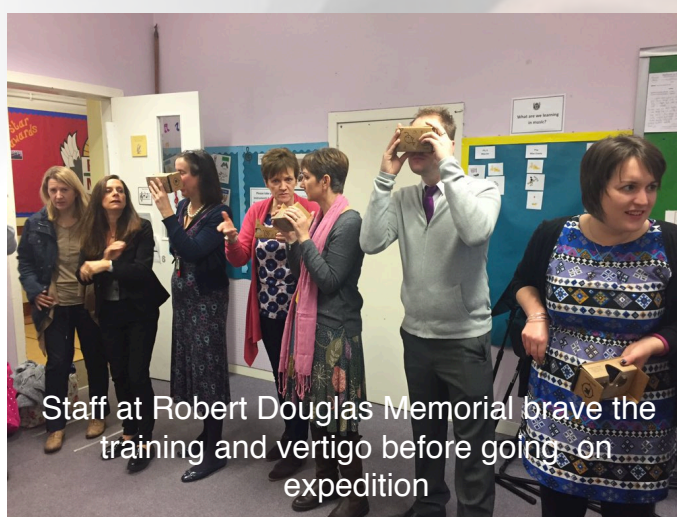
Schools across Perth & Kinross had an opportunity this autumn to take part in some virtual reality, courtesy of Google Expeditions who have been travelling across Scotland to provide pupils with a unique learning opportunity, one that couldn't easily be afforded by many of our schools.

Google Expeditions use a special viewfinder (called Google Cardboard) which, when paired with a typical smartphone, can really bring learning to life. Using the technology, teachers can take pupils on immersive virtual journeys to places like the surface of Mars, majestic coral reefs, the magnificent Machu Picchu in Peru, the frozen wastelands of Antarctica and countless others.



Perth Academy Geography pupils off to Hawaii!

Alastair Gray, Head of Geography at Perth Academy gave us a really great breakdown of the experience
 "The kids loved it and were completely immersed and engaged in the experience. We had all pupils in S1-S3 experiencing it - approximately 500 students.



Staff at Robert Douglas Memorial brave the training and vertigo before going on expedition

It's not something that you would use for long periods during a lesson. However, there are some things that it allows pupils to understand much better than a video or textbook, such as travelling through the human digestive system, due to the immersive nature of the experience. I believe that pupils will stay engaged for longer using VR. Some pupils did say they felt a bit dizzy or slightly sick after a while, however, this passed quickly. There are literally hundreds of expeditions to choose from and are being added to on a regular basis. The actual learning is determined by the class teacher rather than what is being viewed. The training for this took approx. 15 minutes and was extremely easy to pick up! I have only managed to get limited feedback from one S1 class so far but a few of their comments are:

"I loved this experience.", "I thought it was amazing", "...more lessons should involve it, it's both fun and educational.", "I think it was the best experience ever.", "It was awesome because it was like I was actually there."

Pupils themselves feel there are advantages and possible risks to engaging with Virtual Reality. They want to do exciting things but without the danger.



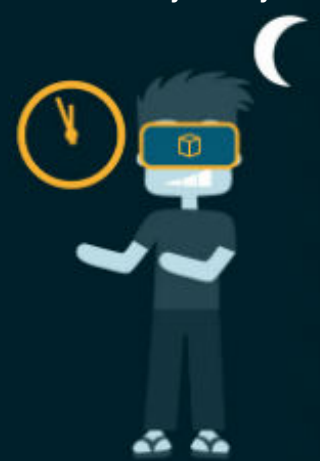
Cause Health Issues
(Radiation, Dizziness, Headaches, Vision/Hearing)



Headsets too heavy



Might cause people to hurt themselves (bump into walls, fall down, etc.)



Addiction to VR

VR vs AR

There can be some confusion between Virtual Reality(VR) and Augmented Reality (AR). Virtual Reality is a computer generated world that the user can interact with. It may even use real data and images to produce that virtual world. Augmented Reality on the other hand is the blending of reality and computer generated content so that you can see, in your real environment, objects and information that have been layered on top by computer. The most recent example of this is the madness of Pokemon Go, which this summer had everyone out hunting for creatures down the High Street and across the North and South Inch in Perth.



Read more here - <http://bit.ly/2et5b71>



360° of separation

There is now a fair bit of kit out there that allows you to produce your own virtual experiences. On the left is the Ricoh Theta S which allows you to capture 360° images and video to produce sharp, engaging content. Take it on a field trip and record what happens from every angle in a video that you can pore over later or share the panorama of you school or classroom with the world. Watch this video and hold down the mouse pointer on the video to move around the 360° landscape. (Try Chrome/Internet Explorer for this)

<https://www.youtube.com/watch?v=Mnf15KwPV-Q>

Images come alive



Quiver is a neat little app that lets pupils colour-in printed sheets and then using your iPad camera the flat 2D images spring to life as 3D models you can interact with. There are dozens of sheets, from fun pictures, to science and fashion. Has to be seen to be believed so check out these videos.

<https://www.youtube.com/watch?v=xirCqQFr6K8>

<https://www.youtube.com/watch?v=tBYm53L79YY>



Images come alive - Part II-The Sequel

Aurasma is an app that lets you create your own augmented reality experience to turn everyday images into interactive content.

Simply put, you scan any picture, scene, or image and decide what interactivity you want it to have - play a video, make a 3D object appear, take you to a website etc. When someone else using Aurasma scans the image you set up, they'll be launched into you interactive content.

Have a look here to get an idea of what it is all about

<https://www.youtube.com/watch?v=LxtaHQFnE-8>

And here are some example of how it could be used (from Edinburgh's Digital Learning team)

<http://bit.ly/2g3858C>



AURASMA



⑥

Professional Development

The days of developing yourself through a series of days out on various CPD courses are becoming a distant memory. It is technology and the access to learning 24/7 that is driving a more flexible and sustainable approach to professional development, be it through bite sized chunks of learning or connecting with a broad network of educators through social media



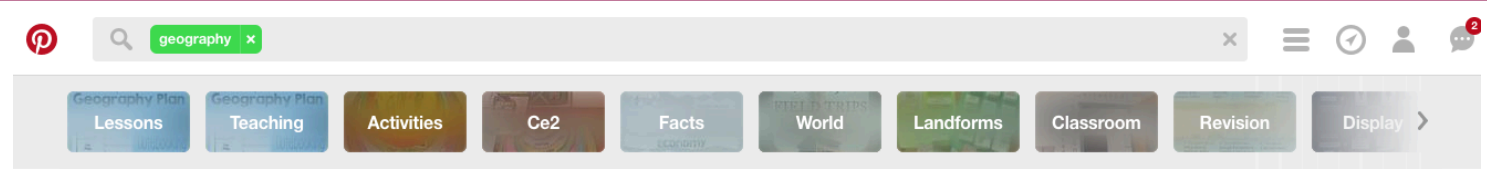
The most frequently commented upon route of professional learning, sharing ideas, lessons, and news etc is **Twitter**. Some people have resisted for a long time but remember, you can quite easily join twitter and never post a thing. Just by following different users, schools, and national groups from all over the country and beyond, you can come across really stimulating and engaging educational resources and ideas. A simple swipe through, at a time that is easy and convenient for you, can often lead you down a path to rich content and even, if you want, dialogue. I'd have to say it has been the biggest factor in my own professional development with the biggest bang for your buck in terms of time for incremental development and understanding over time.



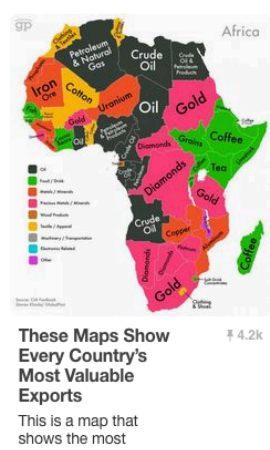
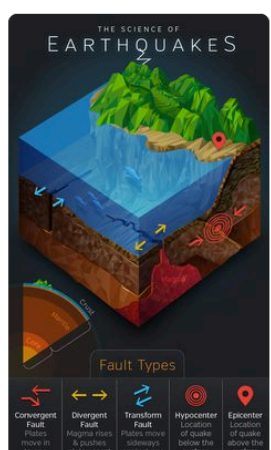
Pinterest is often described as a social media tool when in fact it is equally used as a bookmarking space for all of the interesting articles, websites, images and other media related to a particular topic - essentially we "pin" that site, picture or article to our board. Because of the sea of great sites on content that exists in digital learning for example, we use Pinterest to curate those things we find online that are of interest to us that we won't necessarily read in depth just at that moment.

If you find yourself jotting down ideas or bookmarking websites and then forgetting about them, then Pinterest can help you keep these ideas organised and easy-to-find when you need them.

The best way is often to start by looking at other people's boards to begin pinning their stuff to yours. So here we've looked for pins and boards that are all about Geography. You can search for any subject or topic and someone has bound to have already started to curate the best stuff, saving you a lot of time.



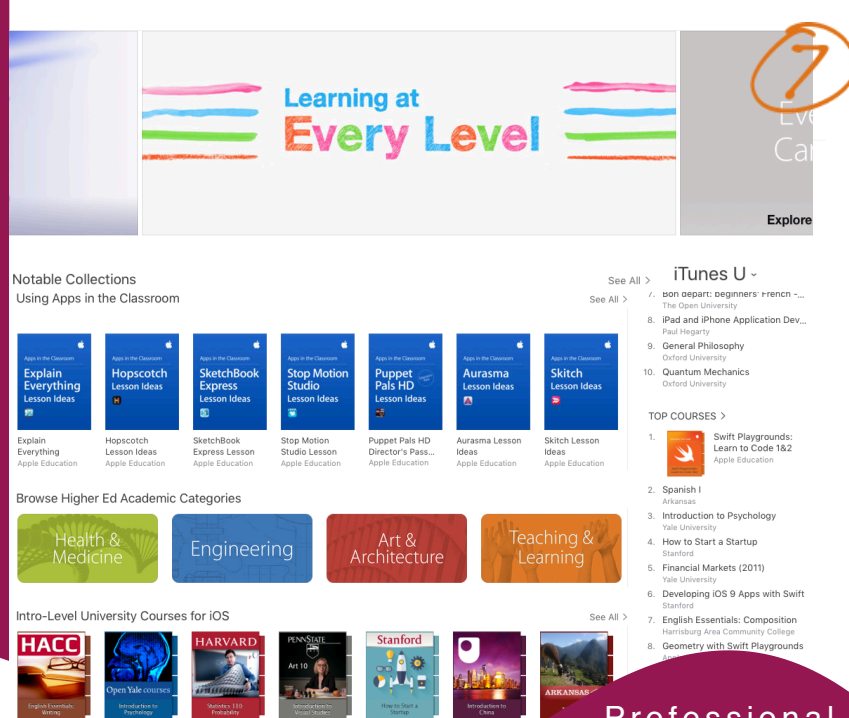
All Pins Your Pins People Boards





iTunesU you lets you access some of the best online training that is out there, using any iOS device. Material from all the major universities and learning platforms is there, with everything from Spanish and Creative Writing to App Development and Philosophy. You can also create your own courses for pupils and other teachers, right on the device itself. Each course comes with it's own instructor, lessons and assignments that can be paced to suit your approach to learning.

For Educators there is a wealth of material on teaching and learning and on using particular apps in classroom situations. Some of these are courses and some of these are books but both offer a rich seam of focused learning for staff.

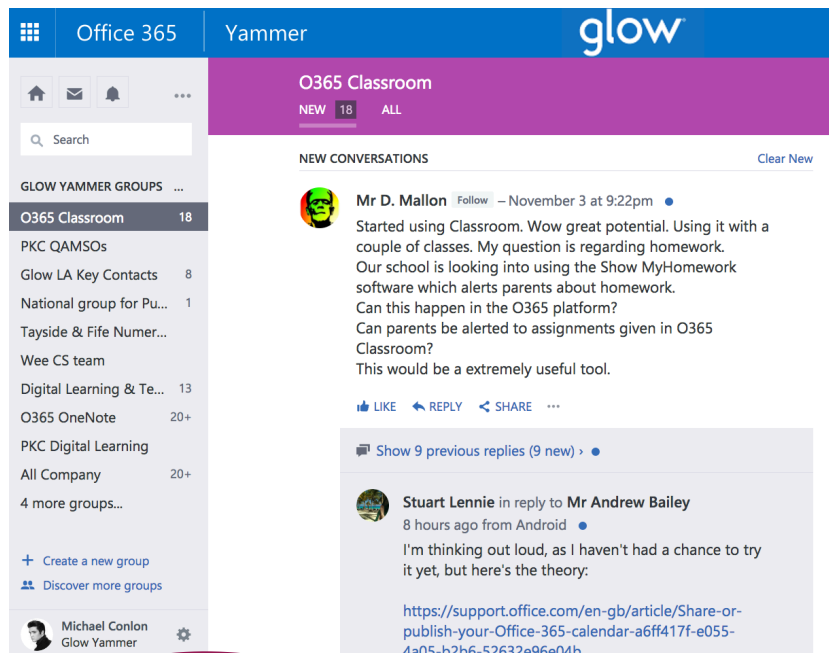


Professional networking in a secure environment is what GLOW can provide you with and we'd urge all new and existing practitioners to use Yammer as a tool for joining or creating a professional learning community.



Yammer is a social network and for those who use twitter or facebook it will be very familiar, but even if you haven't used either of these it is ridiculously simple to engage with. You can join in any group and start typing in replies, starting polls, liking, replying or sharing posts that have come from others.

In terms of teaching and learning it is easy to set up your own group for your class to have as their conversation and learning space for dialogue and peer feedback



The Rise of the MOOC

MOOCs are Massive Open Online Courses which are really just learning content delivered online to any person who wants to take a course, with no limit on attendance. Most of them you'll be interested to know are free.

You can take courses from some of the top universities in the world or using learning platforms like Coursera, OpenLearn, Khan Academy or Future Learn amongst others, to study at a wide range of levels with accreditation and badging at different levels too. Major companies like Microsoft and Google also offer courses tailored to developing skills using their platforms.

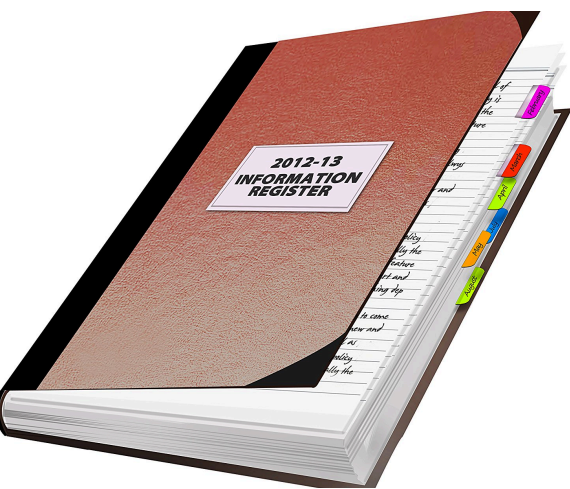


glow® Game Changer

Of all of the apps that are now FREE as part of GLOW and Office 365, by far the most powerful, for both teachers and pupils, is the collection of OneNote apps. We're all pretty familiar at the beginning of the year setting up our teacher notebooks with dividers breaking down our subjects or pupils in the attempt to keep ourselves organised.

Microsoft have spent a lot of time and effort making a digital version of a notebook that you can take anywhere and access from any device, one that you can share with other staff or pupils (if you like), with the ability to search it, store photo's, links and drawings and make audio recordings within it. In effect, dozens of things you cannot do on your normal, paper based model. And it's much more difficult to lose...

Best for teachers & students



With a digital notebook you can keep yourself easily organised, with sections for notes of meeting, to do lists, lesson plans, useful resources - all of the things you normally write down on paper but now with the ability to edit and move around, clipping things from the internet and pictures of the work of the class.

As an example you could store your lesson plans with all of the resources needed for that lesson, web links, video, worksheets etc.

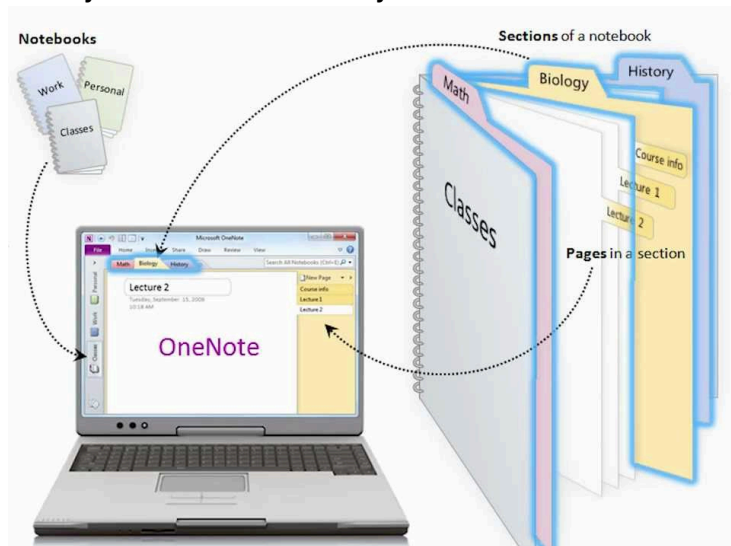
You can then collect evidence during the lesson, taking pictures or perhaps audio recordings of pupils speaking their own or a foreign language or talking about a piece of evidence of learning.

OneNote exists already in GLOW but you can open your notebook up on the desktop version of OneNote for added functionality. OneNote comes free on your tablets and phones - all you do is sign in with your GLOW email address or you can use it directly in the browser.

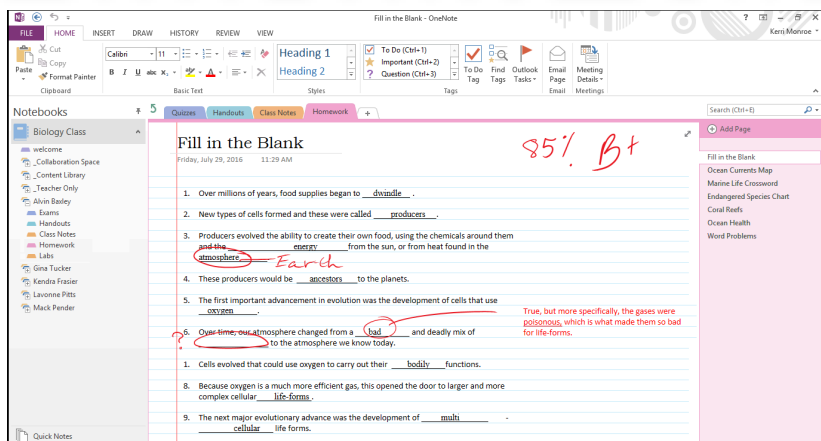
Best for evidence

With the best will in the world it is simply impossible for schools to provide the kinds of storage for staff and pupils that is increasingly becoming necessary for collecting evidence of learning. Because GLOW gives you 1 terabyte of space it means you can set up a notebook that can store tens of thousands of images, audio recordings and more. For example in the Digital Media class in Perth Grammar all pupil images and evidence they create is stored in a notebook that is shared with the teacher. In this way pupils have their work with them all the time, there is plenty of space to store their images and the teacher can look at pupilwork at any time, posting comments and ideas onto their notebook as they develop the quality of their work.

Over the page you'll find how to go one step further which will likely blow your mind....the OneNote Class Notebook.



OneNote Class Notebook



The OneNote Class Notebook gives you the ultimate organisational tool for your teaching. It allows you set up a class with your students that they can see when they log into GLOW. It has three distinct spaces:

Collaboration Space

Here is a notebook that both you AND your pupils can write and create on. Everyone can write on and access this space at the same time so it is great for collecting ideas, doing direct teaching, exit passes, quizzes and formative assessment.

Content Library

Think of the amount of photocopying you do each year with workbooks, course materials, past papers, scholar materials, handouts etc. Stop doing that. The content library is a notebook that you can add all of these documents to that pupils can then access anywhere, anytime - not lost at home or eaten by the dog but the resources they need at a time when they need them that they can access on a device of their choice.

Student Notebooks

Each student in the class has their own notebook that they can keep themselves organised with. This can be their own notes from lessons, their homework, their own resource bank and any other content like quizzes and videos. Whilst you can see every students notebook, they can only see their own.

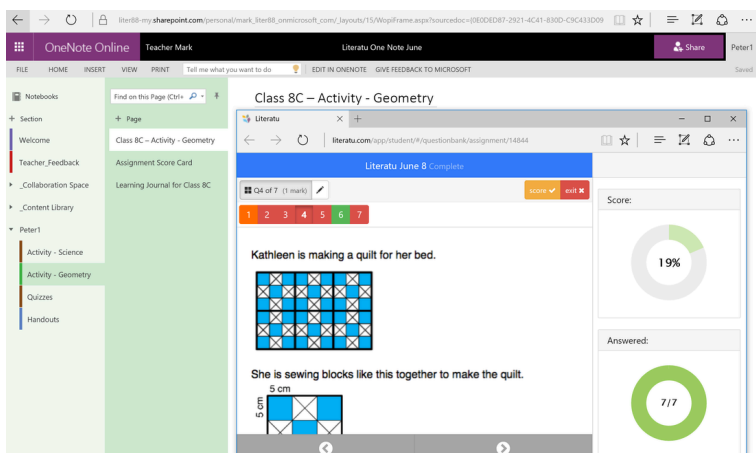
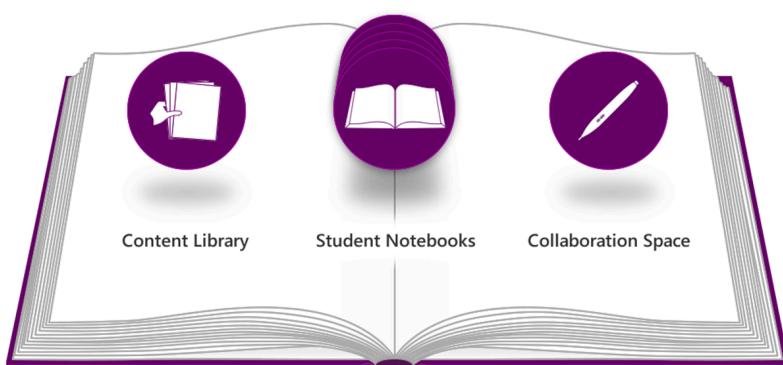
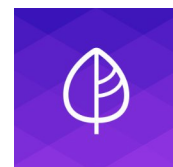
Teacher feedback.

Teachers who have used Class Notebook have spoken of the change it has had on their own workflow and workload. No more bags full of marking to carry home, they can access all their pupil work in one place digitally. For archiving of pupil folios it has provided the much needed space and layout that helps with planning and assessment.

Find out more about OneNote and Class Notebook here at a resource specifically built for teachers and learners. It'll provide you with lots of ideas and give you a sense of the look and feel of the tool.

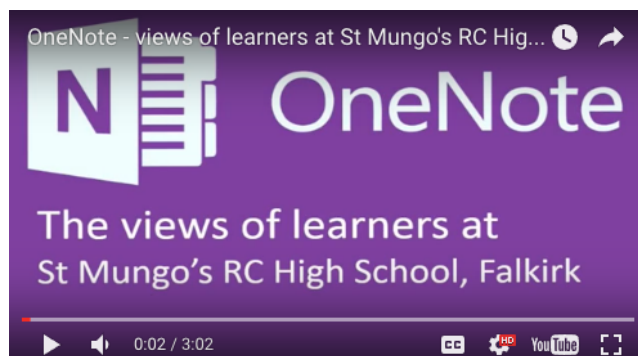
<http://onenoteforteachers.com/>

Next month look out for information on the next game changer in GLOW - Microsoft Classroom.



Pupil Feedback

Here pupils from St Mungo's RC High in Falkirk, talk about the impact that OneNote tools have had an effect on their learning



<https://www.youtube.com/watch?v=CY9KTcyyVRY>



The progress we'll make in developing Digital Learning and Teaching in Perth & Kinross will be wholly determined by the community we develop and the stories we share with each other about how we are using the tools at our disposal and pupil engagement with them.

Please visit the blog, follow twitter and join the "PKC Digital Learning" Yammer group in Glow and share with us your experience. Find out about upcoming CPD and events about GLOW

<https://blogs.glowscotland.org.uk/pk/digitalpkc/>

Join the Yammer group by searching in Yammer for

PKC Digital Learning

Solve your glow problems at

glowadmin@pkc.gov.uk

