# BRINGING A 1-TO-1 PROGRAM TO LIFE

## A HANDBOOK FOR PRIMARY SCHOOL TEACHERS

Microsoft

Microsoft Partners in Learning

Queensland Government

Government of South Australia
Department of Education and Children's Services

State Government Victoria
Department of Education and Early Childhood Development

# Acknowledgements

This series of three guide books is the result of a joint endeavour between Microsoft® Partners in Learning (PiL) and State Departments of Education from around Australia.

Microsoft Partners in Learning is an initiative committed to helping teachers and school leaders connect, collaborate, create and share so that students can realise their greatest potential.

These guides were developed following discussions on how governments partnering with Microsoft could best support the Digital Education Revolution. They aim to provide teachers who are grappling with significant change brought about by the Digital Education Revolution by providing curriculum ideas, examples, case studies and tips.

1-to-1 learning can be challenging to traditional models of teaching and learning. To be effective it demands significant shifts in pedagogy, physical space and the design of learning experiences.

These guides provide starting points to make the journey more manageable and exciting. By providing practical guidance from experienced educators we hope to inspire teachers to take advantage of the range of software and devices from Microsoft and its partners to engage and empower students in the learning process.

To develop these guides, we worked with three departments of Education, specifically: the Department of Education and Early Childhood Development in Victoria, the Department of Education and Children's Services in South Australia and the Queensland Department of Education and Training.

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### Queensland Department of Education and Training schools featured in the case studies for this book

Brisbane School of Distance Education
Hermit Park State School
Annandale State School
Ironside State School
Caravonica State School
Crestmead State School
Marsden State School

### Victorian Department of Education and Early Childhood Development Schools featured in the case studies for this book

Quarry Hill Primary School
Haddon Primary School

# Table of contents

# Introduction

Today's students need a richer and more engaging curriculum that meets the demands of an increasingly globalised and interconnected world. Access to Wikis, blogs, webcasting, distant experts, mentors, and to communities of collaborative practice and shared virtual environments can help to break down classroom walls, opening up exciting possibilities and creating a powerful educational journey.

Teachers can harness Web 2.0 applications and new technologies to create learning opportunities that develop the knowledge, skills and behaviours students require to live, learn and work in the 21st century. ICT-rich learning and teaching can increase student participation, engagement and achievement, and enable students to connect with experts and with other learners all over the world.

## How to use this handbook

This handbook is based on the essential question:

*How can using devices in my classroom transform learning into 21st century skills?*

This handbook has been developed to support teachers working with a 1-to-1 program. It explains digital pedagogy and provides learning and teaching ideas and strategies that demonstrate how to use readily available software and online tools. These learning and teaching strategies are designed to be flexible and relevant to any year level or learning area. Teachers are encouraged to adapt them to best suit their students.

This handbook also provides real-life success stories from teachers who are enacting digital pedagogy and working with a 1-to-1 program.

It is not intended that teachers 'work through' this handbook systematically. Rather, they should use it to reflect and plan for valuable learning experiences and as a springboard from which to transform their pedagogical practice.



### Reflective Questions

- What does digital pedagogy mean to me?
- How can I set up my classroom for successful learning experiences?
- What are my values and beliefs about the role of ICT in learning and teaching?
- How do I use technology to help me develop my curriculum planning so that it supports enquiry learning and assessment practices?
- How does my philosophy of teaching reflect 21st century learning?
- What do I think 'learning in the 21st century' means? For students? For teachers?
- What skills will my students and I need in the 21st century?

# Digital pedagogy

## What is digital pedagogy?

Digital pedagogy is a new way of working and learning with ICT to facilitate quality learning experiences for 21st century digital learners. It is defined as the convergence of technical skills, pedagogical practices and understanding of curriculum design appropriate for digital students. It moves the focus from ICT tools and skills to a way of working in the digital world.

Used effectively, digital pedagogy:

- Supports, enables and transforms learning and teaching to provide rich, diverse and flexible learning opportunities for a digital generation.
- Provides the basis for engaging students in actively constructing and applying rich learning in purposeful and meaningful ways.
- Enhances opportunities for authentic, contextualised assessment that supports learning in a digital context.

## Reflective Questions

- How will I judge my success?
- What does my current pedagogy look like?
- How is teaching with ICT similar to and different from my current pedagogy?
- How can I involve parents in the learning and teaching experience?
- What ICT 'expertise' is available in my classroom for other students to tap into – e.g. a webcasting expert?
- How will my classroom management strategies support students working in groups – location, monitoring of students to ensure all are on-task, meeting the needs of all students, etc?

## Redesigning teaching practices with a digital pedagogy focus

Digital pedagogy asks us to understand how effective teaching practices that are already commonly used in the classroom can be redesigned to incorporate digital tools and technologies in order to enhance and extend the learning experience for students. For example:

### Standard teaching practice 1

Ask students to keep a journal so that they can reflect on their learning.

### Redesigned activity

Set up a personal blog for each student.

### Advantage

Student journals can connect to a local or global audience, students can receive immediate feedback from their teacher and peers – and, most importantly, entries, comments and feedback on the blog can be recorded for use at a later time.

### Standard teaching practice 2

Discussion with students.

### Redesigned activity

Online discussion forum.

### Advantage

Gives students an opportunity for extra 'think time'.

## Device management – Top Ten Tips

Effective classroom management strategies are a prerequisite to good teaching. When devices are introduced into the classroom, it is critical that the teacher is equipped with knowledge and skills to manage the students' use of these devices. It is also important for teachers to construct engaging, challenging learning experiences.

Managing a classroom of students with devices is mostly about managing the student learning experiences.

1. **Start small, and then grow.** Students want to use the devices, so will accept if their use in the classroom is infrequent at first. Ensure that you praise their good use, and encourage students to make suggestions in relation to how the devices could be used to support their learning.
2. **When you first begin using devices** in class, try building a focused and structured task all students are doing at once. It's a great way to understand how differently individuals will use the devices to address the same criteria.
3. **Create a culture of responsible use.** Good usage by individual students should be praised and lead to benefits for the whole group. Encourage students to support each other and to problem-solve any technical or organisational issues encountered, building a positive classroom culture.
4. **Have strategies for gaining or refocusing student attention.** For example, lids down or 'half mast' this means that the device screen is lowered but not completely shut. This will ensure that the students cannot be as distracted while you or other class members are attempting to impart information, without sending the machines to 'sleep' mode. Their lids need to be below the line of sight for students' eyes.

   During the lesson, conduct a 'hands-up pop quiz' or a short test or other sorts of quizzes to gauge student progress. You could have the students show you or email you their work progress, ask the class questions during activities about the activity, such as good Web sites they have found, etc. to assist in keeping the students on task.
5. **Be wary of extended device use.** Try to encourage the students to stretch, move around, and focus on 25m + lines of sight every 20 minutes. With a 30 second break every 20 minutes, safe practices will be observed.
6. **Technological monitoring and filtering solutions are not perfect.** Many teachers would like to use screen-monitoring software to see all the students' screens during a class and not have to walk around the room. These software solutions are never 100% and the teacher must still circulate in the classroom. For real-time management, such tools can slow down the natural discourse. 'Non-virtual proximity control' is better! Rigourous learning activities should engage the students.
7. **Review your expectations.** If you measured the success of a learning experience by how quiet your room is, now is a good time to revisit this. Powerful learning occurs when students collaborate and work together in teams. This can be noisier than traditional, individual learning.

   Try new things, but remember what used to work too.
8. **Be realistic.** Students may need time to become used to ready access to devices. Pair students, by selecting an ICT-competent student to work with a less experienced student, to complete a task, and in the process help each other learn. Students benefit from the experience of learning with, and from, other students.
9. **Build a solid foundation.** Technology has great power to help students obtain, organise, manipulate, and display information. Some students will impress you with innovative uses, processes and results. Other students will have more basic achievements. Regardless of how advanced the students appear, if they haven't mastered file management, they will need your help. File management (including data backup) is an important technology based skill you can help them develop.
10. **Catch them being good and empower them to empower each other.** Be sure to move around the classroom when teaching, and make note of the use of the devices in class. Help students learn from, and with each other, and share their innovative learnings.

# Cybersafety

## Help keep your students' devices secure online by following these guidelines:

- Turn on Automatic Updates – Make sure you have Windows® Updates set to Automatic. This will ensure that you have the most up-to-date protection on your operating system. Microsoft release updates every month, which you will automatically receive once you have done this. You can check manually for any updates by clicking Start>Control Panel>System and Security>Windows Update.
- Install antivirus and antispyware software – Microsoft Security Essentials ***(www.microsoft.com/security_essentials/)*** offers you real-time protection for your student PCs. This high-quality and hassle-free download* helps guard your student PCs against viruses, spyware and other malicious software. This will automatically be kept up to date and will scan itself weekly. Your PC must run genuine Windows® to install Microsoft Security Essentials and download* fees may apply as set by your Internet service provider.
- Make sure you have a firewall switched on – A firewall adds another layer of protection between you and the Internet. It can help block viruses and malicious software and help prevent your PC from sending out harmful content to other users. You can check this by clicking Start>Control Panel>System and Security>Windows Firewall.
- Ensure that you are using the latest browser version – In the case of Microsoft® Internet Explorer®, this is version 9. Visit ***www.microsoft.com/ie*** for the download* and instructions. Older browser versions only protected you against older online threats; newer browsers have new technologies designed to provide you with greater protection.
- Ensure that you are using the latest operating system version – This will offer you greater protection from online threats. Windows® 7 is the most recent operating system by Microsoft and is available to everyone now. Visit ***www.microsoft.com/australia/windows/windows-7*** for more information.

**Download fees and charges may apply as set by your Internet service provider.*

- Always set new users as standard users and not as admin users – Avoiding giving out admin rights ensures that you have complete control of your PC. As a standard user, they will still be able to fully function, but if they were do something that affected other users, a permission request would be sent to you.
- Visit ***www.thinkuknow.org.au*** – ThinkUKnow (TUK) is an Internet safety program offering interactive presentations to parents, carers and teachers via primary and secondary schools across Australia, using a network of trained volunteers from the Australian Federal Police (AFP) and Microsoft Australia. Created by the UK Child Exploitation and Online Protection (CEOP) Centre, ThinkUKnow Australia is being rolled out nationally by the AFP and Microsoft Australia. Topics cover cyberbullying, social networking, mobile technologies and gaming, and you can register for a presentation and/or obtain further information at the Web site above.
- Visit ***www.microsoft.com/australia/protect/default.mspx*** – As well as the TUK initiative, Microsoft has a dedicated online team to help keep you up to date with all the latest privacy and protection information.
- Visit the Australian Communications and Media Authority's Web site ***www.cybersmart.gov.au/*** – This is the Australian Government's online security initiative to help kids, parents and teachers stay safe online and help fight against cyberbullying.
- Finally, if you are concerned that the security of your PC may be compromised, you can run a scan at any time at ***www.microsoft.com.au/protect***

### Reflective Questions

- How can I develop my students' understanding of the importance of safe and ethical use of technology at home and at school?
- What parent information might be required?

# Planning your 1-to-1 program

**Reflective learning**
**Shaping my thinking**

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# Reflective learning

This section of the handbook provides teachers with a framework through which to reflect on the way that 1-to-1 devices are making a difference in their classroom practice and, most importantly, their impact on student learning, particularly in literacy and numeracy. Through careful planning, teachers can develop a process that will guide their enquiry as they collect and analyse data, and reflect on their practice. This is classroom-based action research that will form an important part of the school-based evaluation of the 1-to-1 devices.

Teachers are encouraged to work in collaboration, whether face-to-face or online, in order to deepen their understanding, share practice, test ideas with colleagues and stay motivated!

Reflective learning starts with a question, which could be as simple as "If my students used their devices to record their science projects as a blog, would it deepen their understanding?" Next, you will need to work out what it would take to see if others have already tried this approach and if they were successful. It also involves deciding how to evaluate and measure success and what changes might be required to improve classroom practice.

There are three stages that make up the 1-to-1 Devices Reflective Learning process:

## 1. Finding focus

## 2. Commitment to act

## 3. Implementation plan



### Reflective Questions

- How can I use my current pedagogical practices and transform them into powerful 1-to-1 experiences?
- How can I build on the ICT skills, interests and experiences of my students?
- What existing ICT skills and understanding do I have that are readily applicable to working 1-to-1?
- What are my ICT professional goals?

## 1. Finding focus

Reflecting on how your 1-to-1 devices are making a difference in the classroom starts with a question. The framework below will help you with this first stage of the process. Use the questions below to identify your needs and focus your research and next steps.

**What is my essential question?**

This is your broad, 'big picture' question.

**How did I identify my essential question?**

This is a description of the rationale and any background information that helped you to identify this question as your essential question.

Why is this question important to you and your students' learning?

**What questions do I need to ask to get started?**

These are focusing questions to get you started with your research.

Which questions need to be addressed along the way to help you answer your essential question?
Write these as open-ended questions.

**Success indicators – How will I know?**

Success indicators are the evidence of progress. They should be supported by tangible evidence.

**Fast forward to a year ahead. What do I want my student learning to look like?**

How will improvements in student literacy and/or numeracy be demonstrated?

What changes in your classroom practice – curriculum planning, teaching, learning, and assessment – do you want to achieve?

**What data will I need to collect throughout the year as evidence of achievement?**

What will you need in order to 'write' your new story?

What school/system/data is available to provide some prompts?

- Local data
- National Assessment Program – Literacy and Numeracy (NAPLAN) national tests
- Online demand testing
- Video footage

**Where are we now? How are we progressing?**

### Baseline situation

How are things now in relation to the presence of the above indicators? What is your starting point in terms of your student skills, your pedagogy, practice and ICT skills? The reflection questions from the 'Shaping my thinking' section on page 15 may help you with this process. Also, consider gathering some initial student reflections, observations, artefacts and responses.

(Adapted from EdPartnerships International)

## 2. Commitment to act

| What I will do to investigate my questions: | | | | |
|---|---|---|---|---|
| Possible focus | Specifications | | | |
| | Term 1 | Term 2 | Term 3 | Term 4 |
| Professional reading | | | | |
| Something new – I'll try ... | | | | |
| How will I test a new practice? | | | | |
| What school-based professional learning is available? | | | | |
| People I can work with | | | | |

## 3. Implementation plan

| My essential question: | | |
|---|---|---|
| | | |
| I will achieve this through (e.g. professional reading, professional learning, reflection, coaching): | | |
| | | |
| So that it leads to: | | |
| | | |
| Milestone: | Date/time: | Evidence of progress: |
| | | |

# Shaping my thinking

## My values and beliefs

**Purpose:** The questions below are intended to help principals and teachers reflect on the values and beliefs that underpin the learning and teaching practice across the school. Some suggested uses for 'Shaping my thinking' include 'conversation starters' for Professional Learning Teams, as foci for peer-coaching sessions or for reference when planning curriculum.

1. Where can I start?
2. How can I take my successful classroom strategies (what's working now) and use them to create a new way of working with 1-to-1 devices?
3. How do I use technology to help me develop my curriculum planning so that it supports enquiry learning and assessment practices?

| Questions | Links for further information |
|---|---|
| • What are my values and beliefs about student learning?<br>• What are my values and beliefs about the role of ICT in learning and teaching? | Curriculum Planning Guidelines Phase 2: Planning and Resources: ***http://www.education.vic.gov.au/studentlearning/curriculum/preptoyear10/guidelines/phase2/psg/planproctemplate.htm***<br>Curriculum Planning Modules: ***http://www.education.vic.gov.au/studentlearning/curriculum/preptoyear10/modules/default.htm***<br>*School Improvement: A Theory of Action*<br>'Core beliefs', page 6, Fraser, D. & Petch, J. 2007, Victorian Department of Education, Melbourne |
| **Students** | |
| • How do I involve students in curriculum planning?<br>I can ask students:<br>– What should teachers know about you?<br>– What is important for you to learn?<br>– What do you think younger students need to learn?<br>– How do you learn best?<br>– How do you want to be assessed?<br>• How can I best harness students' enthusiasm for the 1-to-1 devices?<br>• How can I build on the ICT skills, interests and experiences of my students? | Curriculum Planning Modules – Facilitator's advice: ***http://www.education.vic.gov.au/studentlearning/curriculum/preptoyear10/modules/faciladvice.htm*** |

| Questions | Links for further information |
|---|---|
| **Learning and teaching** | |
| • Where can I go to discover professional learning opportunities?<br>• What does my current pedagogy look like? (How do I teach?)<br>– What does it look like when I am teaching with ICT?<br>– How are they the same/different? Why?<br>– How might it look in my 1-to-1 classroom?<br>• What are my curriculum planning practices?<br>– How do they reflect the integration of ICT?<br>– How might they need to change to reflect learning and teaching with 1-to-1?<br>• What are my assessment practices?<br>– How do they reflect the integration of ICT?<br>– How might they need to change to reflect learning and teaching with 1-to-1?<br>• What learning and teaching strategies do I currently use that support the development of higher-order thinking?<br>• What existing learning and teaching resources do I have (right now!) that I use regularly and that readily support a 1-to-1 environment?<br>• What existing online resources and tools do I use regularly that readily support a 1-to-1 environment?<br>• How do I currently model correct copyright practices, and safe and ethical use of the Internet?<br>• What processes for permissions and protocols for intellectual property including copyright, and safe and ethical use of the Internet are in place and followed across the school?<br>– How might these need to be updated to reflect introduction of 1-to-1 devices?<br>• How can we keep students and parents informed of new processes? | Microsoft Education Australia:<br>***http://www.microsoft.com/australia/education***<br>Microsoft Partners in Learning:<br>***http://www.microsoft.com.au/partnersinlearning***<br>Queensland Government Department of Education and Training:<br>***http://deta.qld.gov.au/***<br>Bloom's digital taxonomy:<br>***http://edorigami.wikispaces.com/Bloom%27s+Digital+Taxonomy***<br>South Australian Department of Education and Children's Services:<br>***http://www.decs.sa.gov.au/***<br>Victorian Department of Education and Early Childhood Development:<br>***http://www.education.vic.gov.au/***<br>Classroom Instruction That Works:<br>***http://www.middleweb.com/MWLresources/marzchat1.html***<br>What makes a good enquiry unit?<br>***http://www.eqa.edu.au/site/whatmakesagoodinquiry.html***<br>Principles of Learning and Teaching:<br>***http://www.education.vic.gov.au/studentlearning/teachingprinciples/default.htm***<br>Curriculum planning:<br>***http://www.education.vic.gov.au/studentlearning/curriculum/default.htm***<br>Intel® Teach Unit Plans:<br>***http://educate.intel.com/au/ProjectDesign/UnitPlans/index.htm***<br>Working with the Web:<br>***http://www.education.vic.gov.au/management/elearningsupportservices/www/***<br>Smartcopying:<br>***http://www.smartcopying.edu.au/scw/go*** |
| **Professional learning** | |
| • What existing ICT skills and understandings do I have that are readily applicable to 1-to-1 devices?<br>• What skills and understandings do I need to develop? | Microsoft Partners in Learning Professional Learning Programs:<br>***http://www.microsoft.com/australia/education/schools/partners-in-learning/professional-development.aspx***<br>ePotential ICT Capabilities Resource:<br>***http://epotential.education.vic.gov.au/***<br>eLearning ICT Showcases:<br>***http://epotential.education.vic.gov.au/showcase/***<br>SA eStrategy Framework:<br>***http://www.decs.sa.gov.au/learningtechnologies/pages/leaders/30742/***<br>QLD SMARTClassrooms Professional Development Framework:<br>***http://education.qld.gov.au/smartclassrooms/pdframework/*** |

## K-W-H-L chart: Shaping my thinking about 1-to-1 devices

K-W-H-L charts are a way to organise what you'd like to learn about a topic before you launch into the research. The K stands for what you already *know*; the W stands for what you *want* to learn; the H stands for deciding *how* you think you can learn it; and the L stands for what you *learn* as you go.

**Term 1**

| **What do I know about learning and teaching with 1-to-1 devices?** |
| --- |
| |
| **What do I want to find out about learning and teaching with 1-to-1 devices?** |
| |
| **What have I learned about learning and teaching with 1-to-1 devices?** |
| |

Term 2

| What do I know about learning and teaching with 1-to-1 devices? | What do I want to find out about learning and teaching with 1-to-1 devices? | What have I learnt about learning and teaching with 1-to-1 devices? |
|---|---|---|
| | | |

Term 3

| What do I know about learning and teaching with 1-to-1 devices? | What do I want to find out about learning and teaching with 1-to-1 devices? | What have I learnt about learning and teaching with 1-to-1 devices? |
|---|---|---|
| | | |

Term 4

| What do I know about learning and teaching with 1-to-1 devices? | What do I want to find out about learning and teaching with 1-to-1 devices? | What have I learnt about learning and teaching with 1-to-1 devices? |
|---|---|---|
| | | |

# Case studies

Brisbane School of Distance Education makes an IMPACT with ICT

Hermit Park State School builds on learning

Annandale State School students learn about ergonomics with their 1-to-1 program

'Just in time learning' at Ironside State School

A 1-to-1 program helps students at Caravonica State School produce better quality work

Students engaged in flexible, independent learning through 1-to-1 laptop program at Crestmead State School

Learning zones at Hermit Park State School add to the advantages of a 1-to-1 program

School-owned laptops at Marsden State School create enhanced learning experiences for students

Team teaching at Quarry Hill Primary School

OPENSIM at Haddon Primary School

Microsoft

## Brisbane School of Distance Education makes an IMPACT with ICT


"For years I shied away from digital pedagogy. If only I had seen the light earlier."

At the start of 2008, Glen Watt was appointed as a Head of Department at Brisbane School of Distance Education. In his short time at the school, Glen has transformed his teaching using ICT.

He takes centre stage when required, but now emphasises student collaboration and creativity.

"Like many of us, I have been on a steep learning curve over the past couple of years. I find it useful to reflect on why I focus on digital pedagogy and how my practice has changed over this time."

"The underlying motivation is the reaction I see in my students each day."

Mr Watt has developed his own instructional design for 1-to-1 programs using laptops with the Windows® operating system, which he sees as integral to learning now and into the future.

It is called the Individual IMPACT model and Mr Watt recommends it for all subjects across all year levels.

"IMPACT is an acronym. The word was chosen because it reflects my aim as a teacher - to have a positive impact on my students learning and lives in general. IMPACT stands for Inspire Model Practice Apply Connect Transform."

Mr Watt was a winner of the prestigious Smart Classrooms Teacher Award in 2010. He has presented the Individual IMPACT model to various forums including the Australasian Association of Distance Education Schools (AADES) Conference in Adelaide, and the Virtual Schooling Service Annual Conference in Brisbane.

"The IMPACT model has also been used as an example of best practice by the Learning Mentors facilitating DEEWR's Integrating ICT Pedagogy in School Communities Workshop in 20 regional and remote locations across Australia. Feedback from teachers with a variety of backgrounds and experiences was very positive," he said.

"I think teachers like the model because it provides a simple, yet comprehensive structure. It is based on a number of learning theories so it's easy to relate to and importantly, it provides the teacher with flexibility. The amount of time devoted to each step and the sequence of activities is influenced by the subject matter being taught and the nature of the students in the class."

'It also makes it easy to add in new options as they become available. I didn't know what pencasting was a few months ago; now it is an integral part of my online courses," Mr Watt said. Pencasting is a way of turning handwritten notes into interactive Adobe® Flash® movies or PDF files and sharing them online or a specified group of recipients.

"The underlying motivation is the reaction I see in my students each day."

Queensland Government

### URLs

Microsoft Education Australia:
***http://www.microsoft.com/australia/education***

Queensland Government Department of Education and Training:
***http://education.qld.gov.au/smartclassrooms/***

## Hermit Park State School builds on learning

"A laptop should not be considered an object that learning may occur on, but a device that enables learning."

Hermit Park State School Principal Clayton Carnes said that the role of teachers would only become more important with the introduction of a 1-to-1 programs using laptops with the Windows® operating system in schools.

Students have always been encouraged to learn new things; however, a recent fear is that the students of today are exposed to too much information. This leads to the theory that teachers are information 'gatekeepers' who need to prevent students from focusing on too much – too quickly.

"Teachers in the 'new' classroom need to realise that, although learning can occur anywhere, anytime, the role of the teacher is very much to guide learners and build on existing knowledge," Mr Carnes said.

"In the next 5 to 10 years many schools will have engaged in transformational development to some level, and the laptop will no longer be described as an added benefit but an accepted norm."

Mr Carnes said there are three concerns that teachers in traditional classroom use to justify not making a change to a 1-to-1 model:

- The role of the teacher will become obsolete.
- Children will become antisocial and not interact with each other.
- Weight issues and how carrying the computers will affect young children.

Mr Carnes said that those fears and concerns are unfounded because, once in practice, the program enhances the role of a teacher by allowing learning to occur in a progressive way.

Mr Carnes also said that students at his school have really been involved in peer support. Instead of withdrawing from their classes and working individually on their laptops, students are regularly participating in collaborative discussion. Peer encouragement and coaching are commonplace in classrooms at Hermit Park State School.

"The other issue that may be considered a problem is weight issues, but we work on a case-by-case basis on determining the best way for students to bring their laptops to school.

"Students will always need a teacher to facilitate their learning, to be there for support, direction and encouragement.

"Teachers need to be constant learners themselves; and by doing this they will be able to pass on this knowledge to their students.

"There needs to be an understanding that, in today's environment, our students need to have a competitive edge, and familiarity with current technology will only add benefits to students' lives."

Queensland Government

**URLs**

Microsoft Education Australia:
***http://www.microsoft.com/australia/education***

Queensland Government Department of Education and Training:
***http://education.qld.gov.au/smartclassrooms/***

"There will always be a place for direct instruction and explicit teaching. Students will always need a teacher to facilitate their learning, to be there for support, direction and encouragement."

## Annandale State School students learn about ergonomics with their 1-to-1 program

Annandale State School students sit on height-adjustable seating.

The school is proactively learning about ergonomic environments that have been established as part of the 1-to-1 program using laptops with the Windows® operating system.

The 1-to-1 program has been running for several years at the school and has become an integral part of Year 6 and Year 7 students' lives.

Year 7 teacher Karyn Lawrence said that students have really enjoyed the benefits of the program.

"Students in the class have been highly motivated and enjoy the depth of learning that they can achieve. Students feel that their success has really been linked to being a class that has access to the wealth of resources available online.

"I have thoroughly enjoyed teaching in these classes because the students can be so creative. I teach, but I also facilitate learning. I learn from the students, and we work things out together. When planning a unit, I am always seeking ways to incorporate this powerful tool that we have to use.

Ms Lawrence said that one of the issues she has dealt with after establishing the successful 1-to-1 program using laptops with the Windows® operating system was establishing healthy work practices when using laptops in regular practice in the classroom.

"My school has had a variety of experts come into the school. We had an optometrist come into the school to see students and explain to them the importance of preventative care.

"We also had a physiotherapist come in and explain the proper carrying technique for heavy items. Students who regularly rode their bike to school were required to carry their laptops in backpacks.

"The students are aware about caring for their backs when working and when carrying the laptops to and from school. They are shown how to adjust a backpack and wear it to avoid backache," Ms Lawrence said.

"I thoroughly recommend starting a program such as this as it can produce so many benefits for a range of students. It has been a long journey for us, and not without serious challenges, but very much worthwhile."

Queensland Government

### URLs

Microsoft Education Australia:
***http://www.microsoft.com/australia/education***

Queensland Government Department of Education and Training:
***http://education.qld.gov.au/smartclassrooms/***

"Students produce work of a much higher standard because they have access to the world from their desks. Many different learning experiences are available that can cater to different learning styles."

## ‘Just in time learning’ at Ironside State School

Ironside State School teachers have been using laptops to respond to ‘just in time’ learning needs.

Deputy Principal Adam Knights said that the school had been involved in the 1-to-1 program using laptops with the Windows® operating system for the past three years and had seen significant change in that time.

“There have been a lot of changes since the program began; one of the latest will be the wireless network access that students at the school will have.

“What we see as the main advantage of the program is the ability of the students to engage in just in time learning.

“Just in time learning – describes ways of making information available to people over the Internet as soon as they need it and at the right level to complete the task they wanted the information for.

“New skills or knowledge can be picked up in just a few minutes. The learner is in control and can access information when they need it. That’s how learning occurs ‘just in time’.

“Students have really been encouraged to get information as soon as they need it. They could be considering a difficult problem... instead of worrying about when they can get lab access to do research, they simply need to log in to their personal computers and then have unlimited resources at their fingertips.

“The role of our teachers in this new way of learning has become even more involved. Teachers are no longer the fountain of information but the people who are able to help ‘decipher’ the endless information available.

“Students who do not participate in the program continue to have access to desktop computers.

“In this way we hope to achieve a 1-to-2 program, as we don’t have enough laptops to provide a 1-to-1 program for all students.

“Our students today want the knowledge as soon as they ask their questions; the days of ‘we will look it up later’ are gone. Students are knowledge hungry, and as educators we need to provide this knowledge.”

“Our program has been really successful, and sixty per cent of students apply to get into the program.”

Queensland Government

### URLs

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***http://www.microsoft.com/australia/education***

Queensland Government Department of Education and Training:
***http://education.qld.gov.au/smartclassrooms/***

“Our program has been really successful, and sixty per cent of students apply to get into the program.”

## A 1-to-1 program helps students at Caravonica State School produce better quality work

"Technology continues to evolve along with the constantly changing environments of the 21st century. Teachers need to develop a pedagogical approach that caters to the needs and experiences of their students."

Caravonica State School teacher Ann Marie Ladner said that results of her survey with students participating in the 1-to-1 program using laptops with the Windows® operating system trial were very positive.

"It is imperative that teachers use what makes learners 'different' from learners of the past in order to stimulate them.

"In classroom, we strive to instigate engaged, fun, interactive and personalised learning through digitally-rich learning environments

"We continually endeavour to extend our knowledge of the digital world and to use a range of technologies for planning, implementing and assessing.

"This year we conducted a proof of concept trial class. We had 27 students with Acer laptops in the class. Our next step is to extend the program to all Year 6s and 7s in the school."

Ms Ladner said that the school would like to include all senior primary school students in the program in the short-term future.

Ms Ladner also said that laptops have an integral role in the classroom of today.

"At Caravonica State School we see a laptop like another necessary device in the classroom, just as the calculator and abacus once was... Technology is commonplace in the rest of our students' lives; we need to follow suit at school.

"Since we have started this program, we have noticed the difference in the quality of work produced. We had a Year 6 class with computer 'lab' access only once a week do a similar project to our laptop class kids.

"We were amazed at the difference in results and work quality... The students with weekly access spent significantly less time researching and developing their projects."

Ms Ladner said that students in the laptop class really exceeded all expectations when it came to class projects, as they had resources at their fingertips.

"Caravonica State School sees the integration of laptops as a resource and enabler for learning."

Queensland Government

**URLs**

Microsoft Education Australia:
***http://www.microsoft.com/australia/education***

Queensland Government Department of Education and Training:
***http://education.qld.gov.au/smartclassrooms/***

"We were amazed at the difference in results and work quality... The students with weekly access spent significantly less time researching and developing their projects."

## Students engaged in flexible, independent learning through 1-to-1 laptop program at Crestmead State School

"Crestmead State School teacher Jean Murdoch said that since the establishment of the 1-to-1 laptop program at her school two years ago, students have been able to work with more self-direction and motivation. The laptops enable all learners to readily engage in a variety of learning experiences."

"I believe students have more motivation to learn if they feel that the learning gained is relevant to their lives.

Ms Murdoch said the 1-to-1 program has created opportunities for all learners to access the curriculum at their own level and allows teachers to easily cater to different learning styles. The 1-to-1classes cover the same curriculum content as their year level peers however, the students use laptops, Flip cameras, webcams, digital cameras, interactive whiteboards, animation programs and online learning environments to support their learning.

"The 1-to-1 program builds organisation skills and independence in our students and creates self-motivated learners. Teachers of the 1-to-1 laptop classes have noticed students have become leaders of their learning and actively collaborate with peers to develop the necessary skills for the future."

With the 1-to-1 laptop program, Crestmead State School endeavours to prepare and equip their students with skills for the real world. The students become adept at collaborating and communicating with peers, teachers and community members using email, web 2.0 tools and virtual classrooms. Students are motivated to share, discuss and question their understanding of topics with each other and experts and professionals across the wider community through blogs, wikis and other chat environments.

Student assessment also models this philosophy of flexible, multi-modal learning as students who would traditionally present an oral by standing in front of the class with palm cards are now using visual and interactive support with an IWB. This allows students to extend on their task and explore new options for presentations.

"Learning in the laptop classes has been totally transformed to skill our students for their future."

Queensland Government

**URLs**

Microsoft Education Australia:
***http://www.microsoft.com/australia/education***

Queensland Government Department of Education and Training:
***http://education.qld.gov.au/smartclassrooms/***

"Students have more motivation to learn if they feel that the learning gained is relevant to their lives."

## Learning zones at Hermit Park State School add to the advantages of a 1-to-1 learning program

A Hermit Park State School teacher has created new learning zones within his classroom to allow students to be involved in the 1-to-1 program using laptops with the Windows® operating system more effectively.

Teacher Brad Coey-Braddon said that his ability to teach students in a very confined and regimented space would be restricted when using personal devices.

"Once we decided that we were going to participate in a 1-to-1 program, it became quite clear that the usual space classroom would not really be appropriate for a laptop class.

"I wanted to be able to create a flexible learning space. So I created a classroom with three 'zones'... each area has a designated purpose.

"The front of the classroom is where students have clover-shaped desks, which are grouped in bunches. These desks are definitely a big move from having students sitting in regimented rows. This promotes collaboration and communication, where students can work on like-topics."

Mr Coey-Braddon said that if students were given flexibility in learning, their learning environment should also be flexible.

"There is an open space located in the middle of the room for students to have a quiet time and to work in a relaxed environment on individual projects.

"The back of the classroom is where there is a designated group work area. When students need to work collaboratively, they either move to the floor space or to the group area," he said.

"To really encourage students to develop people skills, I have the students move around on a day-to-day basis, with the aim to encourage working with different people... We achieved this by not having individual student desks.

"By having flexibility, students can come in the morning, grab their work tray and sit wherever they want to and they work productively.

"This approach may not work for all teachers, but it definitely works for me. Students need to be aware of rules, and once these have been accepted by the class, learning and teaching is usually very smooth sailing."

Mr Coey-Braddon said that the 1-to-1 program using laptops with the Windows® operating system could really be taken further by creating tailored learning environments.

"My students have gained so much from having a wealth of information available instantly through personal laptops. I think that flexible learning spaces are a way to create a better, more productive environment for this to occur."

Queensland Government

### URLs

Microsoft Education Australia:
***http://www.microsoft.com/australia/education***

Queensland Government Department of Education and Training:
***http://education.qld.gov.au/smartclassrooms/***

"My students have gained so much from having a wealth of information available instantly through personal laptops... Flexible learning spaces are a way to create a better, more productive environment for this to occur."

## School-owned laptops at Marsden State School create enhanced learning experiences for students

Marsden State School students love using their laptops to learn.

A Year 5 class and a Year 6 class are paving the way for integration of ICT at Marsden State School.

Principal Kevin Leathwaite said that students in the classes are benefiting from the use of school-owned laptops, as there are fewer problems than with parent-owned laptops.

"Students have the security of knowing that if they accidentally drop their machine or bump it there is a minimal 'gap' cost associated for repairs.

"The first term we gave the kids the computers, we explained in detail to students the basics of care and use of their computers," he said.

"After the initial introduction in first term, students were given the option of taking the computers home... We achieved this by getting parents to sign a disclaimer about the permissible uses for laptops at home."

Mr Leathwaite said that in the two years since the inception of the 1-to-1 program using laptops with the Windows® operating system at Marsden State School there have only been very minor repair issues.

"The parents also had to make sure that the students had adequate transport from after-school sport, as we try to minimise lost computers by not allowing students to leave laptops in their bags at football.

"We have had only one dropped and cracked computer this year, and none in the first year of the program. Students are really looking after these computers well."

Students have been given added benefits by being in the trial groups. Some comments from class students of the 1-to-1 program using laptops with the Windows® operating system included:

> "We have more of an advantage than others when we do projects."
>
> "That we have a privilege that no other class has."
>
> "We get to experience new things like making a cartoon."
>
> "It is easy to do work on the laptop and you can take it home."
>
> "I like how we get to do work on the laptop, and it is very helpful when it comes to research."
>
> "I get to learn different things and get to do fun projects."

Mr Leathwaite said that he encouraged parents to obtain a wireless Internet connection at home to get the full benefit of having a laptop.

"Most children said that they can connect on a fixed home computer to access our virtual classrooms, but would like faster connections.

Mr Leathwaite said that his school would keep expanding the program over the next couple of years.

"I am aiming for a forty per cent participation rate in the short-term future... Hopefully, the rate will continue to increase over the next couple of years. The program is definitely worth it."

"Every child who was surveyed indicated that they hoped to be in the laptop class next year. Eighty-five per cent of the children surveyed said that they take their laptop home regularly and eleven per cent of the children connect their laptops to the Internet at home."

Queensland Government

### URLs

Microsoft Education Australia:
***http://www.microsoft.com/australia/education***

Queensland Government Department of Education and Training:
***http://education.qld.gov.au/smartclassrooms/***

# Team teaching at Quarry Hill Primary School

## School Happenings

### Team teaching at Quarry Hill Primary School

The introduction of netbooks has strengthened the team teaching approaches of Years 5 and 6 teachers at Quarry Hill Primary School and enhanced the literacy and numeracy programs.

**Benefits:**

Student access to netbooks has led to the integration of ICT having an increased focus throughout the curriculum planning process.

Increased student motivation and risk-taking through students exploring new applications and developing new ICT skills.

**In the Classroom:**

Use of a class Wiki outlining learning tasks and providing links to key resources encourages students to work independently and manage their own learning.

Students share their growing expertise with the class by providing demonstrations of how to use applications and through the establishment of a student technical team.

Fran Forge and Natasha Harding team taught in 2008 and were well placed to take on the Netbook Trial at the start of 2009. The teachers have complementary areas of expertise which they are able to bring to the curriculum planning process - Fran in literacy and as Student Learning Coordinator; Natasha in numeracy and as Netbook Coordinator. Pooling their combined expertise enhanced their curriculum planning.

The class comprises 61 students in a double classroom, with 32 Year 6 students and 29 Year 5 students. The school purchased 12 netbooks for the Year 5 students to use and this brought the total number of netbooks available in the classroom to 55. Students also have access to a bank of classroom PCs.

The Netbook Trial netbooks arrived mid-way through Term 1, 2009. Two sessions were held with the students to discuss the expectations and their responsibilities and to stress that the netbooks were to be an integral tool to student learning, both at school and home. Inappropriate use of the netbook or failing to have it fully charged and at school each day would result in netbook or computer access being negotiated. So far, all students involved in the Trial have met these expectations. The anticipated positive benefits were also discussed.

Andrew Schaeche, Acting Principal, felt that these ground rules helped establish clear expectations of students from the outset and this has helped the smooth implementation of the netbook program.

All Year 6 students are participating in the Netbook Trial and to date, no damage, loss or theft of any netbook has occurred.
"The netbooks have increased student engagement through a greater emphasis on self directed learning.

"I see more students immediately and efficiently able to access information and use it meaningfully in their learning.

"The netbooks have forged stronger links with respect to integrating the curriculum and the level of student engagement and enthusiasm is extremely high." Andrew Schaeche Acting Principal.

### Literacy

Having netbooks in the classroom has influenced the way in which Fran and Natasha plan their curriculum. As Natasha explained: "We consider ICT when we're planning which we're starting to do more naturally now; it's easier to plan for ICT because the netbooks are available."

The netbooks were used across the literacy program according to Fran. "During Literacy Rotations, children may be accessing a Web site game that focuses on a grammatical concept or be using Wordle to show their understanding of what a conjunction is. Another group may be accessing an interactive learning object through Digilearn, to develop comprehension skills, or link literacy with inquiry learning by reading to research a topic and respond to a task. Others may be involved in a jigsaw task, researching and sharing information for an inquiry task that they will be use to report back to the class as 'experts' about that topic. The range of learning opportunities is unlimited and we have found that the children are actively engaged in their learning during these sessions. They are able to work independently or in groups, and support each other to problem solve, while teachers are involved in focused teaching of literacy skills with small groups."

## Sample Literacy Centre Activity accessed through Digilearn

### Citizens' Arch: build your own arch (L672)

Look closely at the Citizens' Arch in Melbourne. This monument was built in 1901 to celebrate the federation of Australia's six colonies, the opening of Federal Parliament, and the visit from members of the British Royal family. Notice how the design of the original monument had a strong British influence. Build your own arch to represent Australia today. Choose from a range of flags, portraits and symbols. Explain the changes reflected in your new design. This learning object is one in a series of three objects.

### Numeracy

As part of a recent focus on fractions, some of the learning tasks described by Natasha include use of the Visual Fractions Web site ***(www.visualfractions.com/Games.htm)*** for students to explore fractions using a number line and finding equivalent fractions in Funbrain ***(www.funbrain.com/fract/index.html)***.

"In maths it has enabled us to use different programs such as Mathletics and SmartKiddies. With the number of students we have in the class it makes it easier to work that way. Students can also access literacy and numeracy activities from the class Wiki."

Student links to activities on fractions are accessible from the class Wiki.

### Benefits for students

The teachers see the benefits of the Netbook Trial for students demonstrated by such things as the different Web sites students can look at, the range of programs they're able to access, the improvement in the skills, including touch-typing skills and technical trouble-shooting skills.

Natasha also added that the netbooks are helping students develop their ICT skills a lot earlier. "It's bridging the gap between home and school – because their work is all on their netbooks they can continue at home." Further changes have been in the volume and quality of work produced by students and risk-taking is also evident, as students experiment with new applications to improve the quality of their work.

## Quick Bites…What's worked

### Team Teaching

Team teaching works – the expertise can be shared to create a richer curriculum for the students. A range of ideas are generated by thinking together. Focused teaching groups can be readily facilitate in a team teaching class.

### Wordle

Wordle enables the user to generate "word clouds" from any text provided. The more often a word appears in the text, the more prominent it appears in the cloud. In Fran and Natasha's Years 5 and 6 classes students have constructed word clouds as a tuning in activity to assess prior knowledge and as a post unit activity to reflect on what has been learned.

DEECD's Netbook Trial provided access to netbooks for all Year 6 students in Loddon Mallee Region.

### Cybersafety and Ethical Use of ICT

All students are registered with SuperClubsPLUS to use at home and at school. Year 6 students are completing the Cybersmart Detectives course. A parent information night presented by Australian Communications and Media Authority was also organised by the school.

### Student Tech Teams

A tech team has been set up and this team is the first point of call for students to go to for minor technical issues. A class Wiki has also been set up for students to share their technical tips.

### Support from the Ultranet Coach

The Ultranet coach, Marc Blanks, has also provided support for the integration of netbooks into the classroom. For instance, Marc worked with a group of eight students to develop a class Wiki while the remainder of the class worked on a teacher-led activity. Utilising an Interactive White Board, Marc assisted students to develop foundation skills in the use of the tool which could then be extended as part of the classroom program. Similar sessions with other applications, such as Audacity®, have also taken place.

### Challenges

Inadequate wireless connectivity was a challenge at the start of the Netbook Trial but classroom processes evolved over time to help ease the problem. These included planning activities so that only one class at a time required the Internet and students turning off the wireless access from their netbooks when they weren't using it. Additional wireless access points were added mid-way through the year and this has resulted in easier and effective Internet access.

### Future ideas

"I would like to have more opportunities to share with other schools. We used a blog with a school in Iowa at the start of the year and I'd like to do more along those lines in the future...team teaching beyond the classroom!" Natasha.

"In the future, I would like to see students using netbooks to extend their speaking and listening skills. This could be done by recording some of their own writing for others to listen to or recording their reflections about their learning for digital portfolios. Making links to writing for a purpose could have children writing scripts for radio interviews or creating documentaries about their learning in integrated inquiries, then recording these using Microsoft® Movie Maker and Audacity®, e.g. creating a Steve Irwin-style documentary about the wildlife they learnt about during their Antarctic Inquiry. All of this learning could easily be presented to the class and others using our Interactive White Board. I think it is important that we use the netbooks to enhance the curriculum and student learning, making their learning more real." Fran.

### School Profile

Quarry Hill Primary is a school of 233 students. Music, Art and Indonesian are offered as specialist classes. There is an eLearning Plan in place at the school and the staff has completed the ePotential survey. Classrooms have between six and eight desktop computers and eight Interactive White Boards (IWB) are available. The effective use of the IWBs in literacy and numeracy blocks is a priority in the school.

### URLs

Microsoft Education Australia:
***http://www.microsoft.com/australia/education***

Australian Media and Communications Authority:
***www.acma.gov.au/WEB/HOMEPAGE/***

Cybersmart:
***www.cybersmart.gov.au/***

CyberSmart Detectives:
***cybersmart.engagelive.net/***

FUSE:
***www.education.vic.gov.au/fuse***

Funbrain:
***www.funbrain.com/fract/index.html***

Mathletics:
***www.mathletics.com.au/***

Quarry Hill Primary School:
***www.quarryhillps.vic.edu.au/***

SmartKiddies:
***www.smartkiddies.com.au/***

SuperClubsPLUS:
***superclubsplus.com.au/***

Visual Fractions:
***www.visualfractions.com/Games.htm***

Wordle:
***www.wordle.net/***

Victoria Department of Education and Early Childhood Development

# OPENSIM at Haddon Primary School

## Virtual Worlds

**OPENSIM at Haddon Primary School. Netbooks have enabled Years 5 and 6 students to create a virtual world and develop collaboration and communication skills.**

Netbooks at Haddon Primary School have been essential in helping teacher Lucas McKay explore, through action learning research, the essential question: Can the development of and interaction with virtual worlds be used to create powerful and engaging collaborative learning experiences that improve students' team and cooperative work?

Virtual worlds are three-dimensional computer-generated environments where a virtual person, or avatar, is created to move through the landscape. Second Life is possibly the most widely known of the online virtual environments and has become increasingly popular with educators exploring the boundaries of education, technology and gaming. OpenSim is an open source (complimentary) version of Second Life and has the advantage of being hosted offline, a useful feature in an increasingly cybersafety aware world.

Through the use of OpenSim, Lucas McKay has worked with his Years 5 and 6 class to improve student engagement, enhance teamwork skills, and to develop a more helpful and positive classroom environment. Traditionally, virtual worlds are housed externally and accessed through the Internet.

The concept of housing a virtual world within a school is relatively new. To do this, Lucas loaded the open source version of OpenSim onto a former CASES server, placed user software onto student netbooks and tailored class activities to utilise the technology.

**Benefits:**

Student access to virtual worlds through the netbooks has led to improved student engagement, enhanced teamwork skills and a more positive classroom environment. Progression into the type of future setting that will occur in schooling and in life.

"Technology has to be embedded in the curriculum and not be the novelty of the curriculum." Mary-Anne Moody, Principal.

"If you show them the virtual world, the students just want to get started on it. You don't have to do much, it creates engagement, we don't have to artificially create that." Lucas McKay, Years 5 and 6 teacher.

**In the Classroom:**

Technology is increasingly integrated into the curriculum and students move seamlessly from using gaming consoles, to netbooks, to digital cameras, as appropriate to the learning environment.

A class Wiki is used to reflect on the learning that occurs at home and in the classroom, to access tasks and to post resources. Students create and share, connect and collaborate, experiment and problem solve in a safe virtual environment.

Students worked in teams of four to create a virtual environment, beginning with a blank slate and progressing to a highly landscaped and developed 'island'. Students could create anything from their imagination to put in their environment. Tasks were set within the virtual environment to facilitate student learning. In many cases the output goes significantly beyond the set task.

Initially students worked on downloaded grids of real world islands (such as Hawaii), but these were soon put aside in favour of seven student-created islands. In their groups, the students

creatively designed the placement of rivers, trees and mountains to give each of the islands their own unique geography for student interaction. Lucas McKay and the school technician also created two islands to share design possibilities with the students and to have their own space to explore OpenSim.

While the use of OpenSim has links through Interpersonal Development, Communication and Literacy to the Victorian Essential Learning Standards, it is through Space and Measurement that much enthusiasm has been generated. Lucas states, "there has been a huge development in spatial understanding through this project. Students can now plot easily within three dimensions and their understanding of Cartesian co-ordinates has blossomed." This was achieved through the creation of virtual objects in a three-dimensional world. Students manipulated the objects within the world, rotating the objects through different angles and tracking them in treasure-hunt style activities. Currently students are measuring all aspects of their real-world classroom, and recreating it to scale within the virtual world, further consolidating their understanding of ratio and scale.

Haddon Primary School has a whole school focus on utilising progressive ICT practices. The use of virtual worlds has been identified as an opportunity to provide powerful and engaging learning experiences for students. By immersing the student in a game-like environment and allowing opportunities for both social networking and valuable learning, it is hoped that there will be an improvement in student engagement, behaviour and learning. The school also uses gaming consoles as part of its gaming for learning approach, primarily in numeracy activities. Netbooks are seen as another vehicle for facilitating learning as they provide greater access to technology and increased partnership between home and school.

## Quick Bites...What's worked

### Cybersafety and Ethical Use of ICT

The ability to remove the underwear from OpenSim avatars was a unique issue for the school to grapple with. While an online patch for the software has resolved this situation, it provided an opportunity for the class to discuss responsible and ethical use of technology in an online environment.

### Challenges

Technical difficulties have hampered the project with server power supply failure, RAM incompatibility and network switch failure impeding the success of the project. The old CASES server running with 512 MB proved incapable of allowing all students reliable access to OpenSim. A new 32 GB server with 8 GB dedicated to the virtual world is expected to overcome these problems.

### Future Ideas

The long term goal for Lucas McKay is to link the Haddon Primary server with school servers in other locations, allowing students to hop between worlds and visit other schools. This would allow for collaborative projects across diverse settings in a wide range of curriculum areas. In the meantime Lucas plans to construct a homework wall in the virtual classroom (where students can download* and upload homework from home) and to fully explore the spectrum of literacy possibilities afforded in OpenSim. The design of avatars, and the choices that students make when constructing them (in terms of clothes, height, shape and body image) is another area for future exploration.

**Download fees and charges may apply as set by your Internet service provider.*

## School profile

Haddon Primary is a school of 210 students in nine classrooms, all are composite classes. Physical Education, Art and LOTE are offered as specialist classes. The school has a balanced mix of Leading teacher, Expert, Accomplished and Graduate teachers. There is an eLearning Plan at the school and it has a long history of incorporating ICT into the school curriculum.

The school strives for all students at the completion of the primary school education to be the "Best that they can be". Haddon Primary looks to the future of global communities to prepare young learners and respond to the needs of students both individually and collectively. Students have a voice and that is a critical feature of their development. This voice is to be heard in all communication mediums both locally and beyond.

This is a school with good harmony, investment and endeavour. The school fluctuates slightly with enrolment trends but consistently sits between 200–220 students. Haddon Primary is a unique and energising learning community. Parents have extremely high expectations for their children and work in partnership with teachers to achieve the pursuit of excellence and resilience.

Haddon Primary's strengths lie in high student achievement levels, extensive curriculum provision and strong community partnerships.

The school programs reflect commitment to the wellbeing of students through the raft of outdoor education opportunities provided. This is achieved through integrating the local environment into the daily life of the school as well as a relentless commitment to global learning and the technology world. All classrooms have interactivity and a high student to computer ratio. Learning through technologies and developing responsible learners using these technologies.

## URLs

Microsoft Education Australia:
***http://www.microsoft.com/australia/education***

OpenSimulator:
***http://opensimulator.org/wiki/Main_Page***

Cybersmart
***www.cybersmart.gov.au/***

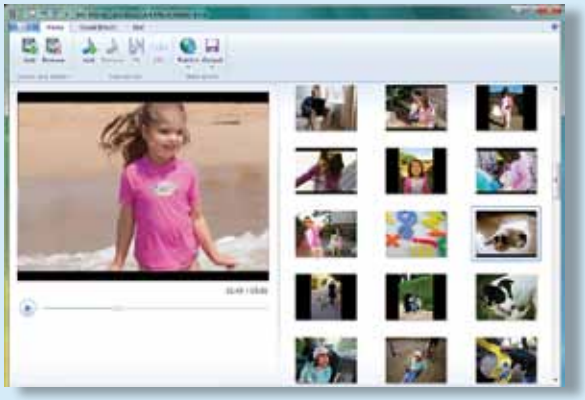
Schoolyard Blitz:
***http://schoolyardblitz.wikispaces.com/***

Cybersafe Classroom:
***http://www.education.vic.gov.au/cybersafety***

Kidlink project:
***http://www.kidlink.org***

# Ideas for project-based learning

# Using Web 2.0 tools to create an advertisement that encourages responsible behaviour

| | |
|---|---|
| **Snapshot** | Create a catchy ad for the Internet that encourages people to do one of the following whilst at the beach. |
| **Explanation** | Learning objectives: To create awareness of important issues and the power of persuasion.<br>Create a catchy ad for the Internet that encourages people to do one of the following whilst at the beach because of the environmental impact these actions have:<br>1. walk on paths rather than through the dunes<br>2. put rubbish in bins rather than pollute the beach<br>3. not run up the dunes and roll down them. |
| **Teaching tips** | Talk to your students about what makes things persuasive before they begin this task, so that they can incorporate these concepts/ideas into their advertisement to complement the knowledge they display.<br>Encourage your students to brainstorm their ideas and discuss them with a classmate before actually beginning to create the movie. |
| **Images/media** | Here's an example of a Windows Live® Movie Maker<br>  |
| **Classroom management strategies** | The more organised your students are in terms of planning before beginning this task, the less time they will need to actually complete it. |
| **Suggested duration** | 2 hours |
| **Supporting software** | ***http://www.microsoft.com/australia/education***<br>***http://www.microsoft.com.au/partnersinlearning***<br>***http://www.download.live.com/moviemaker*** |

# Manipulate digital photos using BigHugeLabs.com

| | |
|---|---|
| **Snapshot** | Use BigHugeLabs to modify your digital photos with effects and templates. |
| **Explanation** | BigHugeLabs is a Web 2.0 tool that allows you to import your photo into a range of templates, including a magazine cover and movie poster, to quickly and easily produce authentic images that can be used for presentations and other creative tasks. |
| **Teaching tips** | Ensure that students save and store all the images they have created in BigHugeLabs on their devices. The teacher should help students set up a specific folder on their device where they can keep the images for later use, reflection and editing. |
| **Images/media** | Examples of a magazine cover and a jigsaw puzzle from BigHugeLabs.<br>  <br><br>  <br>Photos sourced from Flickr™ under the Creative Commons licensed content. |
| **Classroom management strategies** | It is important that students are using photos that are copyright free or Creative Commons-licensed content. Ensure that students are not sharing their content to the World Wide Web and that they are using safe, ethical and responsible practices when working with ICT. |
| **Suggested learning modalities** | Students can work individually by accessing BigHugeLabs on their device to create photos for presentation.<br>Students can share their work with other students via a Wiki and encourage other students to give feedback and suggestions for improvement. |
| **Links to Statements or Standards etc.** | Year 3 Creating – Students have the opportunity to:<br>• explore different ICT to represent imaginative ideas and responses to problems<br>• experience ICT as a creative learning tool.<br>Year 5 Creating – Students use ICT as a creative learning tool in curriculum areas, expressing their ideas, representing their thinking and developing specific responses to learning tasks. They use and reflect on simple design processes to generate imaginative ICT learning solutions. |
| **Supporting software** | ***http://bighugelabs.com/***<br>***http://www.microsoft.com.au/partnersinlearning***<br>***http://www.microsoft.com/australia/education*** |

## Let students create their own blogs to reflect on learning

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| **Snapshot** | An individual blog can be set up for each student to maintain so that they can keep a record of their planning, organisation, reflection on their learning and to write down their questions. |
| **Explanation** | Blogs are online Web pages that can be used as a publicly accessible personal journal for an individual. |
| **Teaching tips** | Blogs and online journals can be used to connect to a local or global audience thereby inviting students to write for a particular audience and purpose.<br>Students will receive immediate feedback and audience comment.<br>All information added to the blog can be recorded and used for improvement and reflection at a later date.<br>Students can quickly and easily upload photos, images and other media that support the text in their blog. This is particularly useful for students who have difficulty writing large amounts of text or early phase students to help them improve their language skills. |
| **Images/media** |  |
| **Classroom management strategies** | Establish 'norms' for what is written in a blog, the comments and feedback that are given, and the appropriate use of language and images added to a blog.<br>Blogs should be used daily for students to keep a record of their individual learning, updates on progress and reflection.<br>Blogs can be used at parent/teacher interviews and discussions as an effective way of showing what the student has learned. |
| **Suggested learning modalities** | Blogs can be completed at any time, but it's important that students are given the opportunity to have quiet, reflective time both during class and outside school hours to complete their blog.<br>Students can work collaboratively in groups to discuss and comment on what they have written in their blog.<br>Use blogs as part of a rotation activity where the blog entry is part of a range of activities to be completed.<br>Blogs can be used within an online or virtual classroom that students can access at anytime, anywhere. |

## Let students create their own blogs to reflect on learning *(Continued)*

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| **Links to Statements or Standards etc.** | Year 3 Communicating – Students have the opportunity to:<br>• explore different digital media to communicate<br>• reflect on their use of ICT for communication and identify some effective strategies for enhancing their communication.<br><br>Year 3 Ethics and Issues – Students have the opportunity to:<br>• Reflect on individual use of ICT to enhance personal safety and information security.<br><br>Year 5 Communicating – Students use ICT to communicate with identified audiences, sharing ideas, information and responses, and collaborating for learning purposes. They appreciate that specific conventions may apply when using ICT for communication purposes.<br><br>Students have the opportunity to:<br>• Use ICT to collaborate and communicate ideas, information, responses and new understandings with a range of audiences.<br>• Understand that communication of information varies in different social and cultural contexts.<br>• Appropriate conventions.<br>• Use different digital media to improve the communication of ideas.<br>• Explore ways to express a personal image and establish an identity when using ICT.<br>• Reflect on their experiences and analyse their strategies when using ICT to communicate. |
| **Supporting software** | ***http://www.microsoft.com.au/partnersinlearning***<br><br>***http://www.microsoft.com/australia/education***<br><br>Windows Live® Writer lets you create a blog using visual 'WYSIWYG' software.<br><br>***http://download.live.com/writer*** |

Microsoft

### Reflective Questions

- How can I use blogging as a strategy for student reflection?
- How can I use blogging as a strategy to develop students' literacy skills?
- How can students use their devices to collaborate, reflect and share insights or questions?
- How can I use devices to share student ideas?
- What do students need to learn about participating in online discussions? How will I introduce this to students?
- How do I give students feedback on their discussion?

# Create Mind Maps using Web 2.0 tools

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| **Snapshot** | Using Web 2.0 tools such as Bubbl.us, you can create concept maps that will help you to map out your thoughts or information. |
| **Explanation** | Mind Maps allow you to quickly and easily record your information or thoughts around a central theme or topic. Mind Maps have a hierarchical nature, much like the 'branches' on a tree that stem from one central concept or 'trunk'. |
| **Teaching tips** | Help students to clarify their central idea. This could be an ideal way to show your planning, organise your thoughts or research, present ideas or reflect on an idea, whilst showing the relationship between pieces of information. |
| **Images/media** |  |
| **Classroom management strategies** | Collaborative development can be valuable for this task.<br>A great way to organise thoughts when students are unsure how to begin a task. |
| **Links to Statements or Standards etc.** | Students understand the increasingly prominent role of ICT in society and its impact on self, work and others. They have an appreciation of the roles and responsibilities of people working with ICT and are discriminating, ethical, legal, responsible and safe users of ICT. Students use safe practices to protect information and develop strategies for handling unwanted communication. They reflect on ICT issues in the past and are able to apply future thinking when exploring the impact of ICT developments.<br>***http://www.mceecdya.edu.au/verve/_resources/SOL_ICT_Copyright_update2008.pdf*** |
| **Suggested duration** | A Mind Map can be a 5-minute task to initialise the thought process or it can be an assessment item in itself, taking much longer. It is often something that is revisited and progressed. |
| **Supporting software** | Bubbl.us is the example provided here because it can be used without registering, and Mind Maps that are created can be exported as a jpeg. Students may create Mind Maps independently or collaboratively to suit the task. Bubbl.us is are complimentary online Web 2.0 tool that can be used without registering. There are many complimentary concept mapping tools available, including online tools and downloadable software* such as XMind. Some of these tools have more functionality than others, including the capabilities to link to Web sites, documents and image galleries, as well as to use prepared templates.<br>***http://www.microsoft.com.au/partnersinlearning***<br>***http://www.microsoft.com/australia/education*** |
| **Additional ideas** | Students should not share personal information online, including not using personal information to register to use Web 2.0 tools. |
| **Suggested development level/s** | Suitable for all development levels. |
| **Assessment ideas** | This is a great way for students to share an assessment plan to help them prepare for an assessment piece. |

**Download fees and charges may apply as set by your Internet service provider.*

# Explore Dreamtime stories using Web 2.0 tools

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| **Snapshot** | Use the Dust Echoes Web 2.0 tool to explore Dreamtime stories with your students in the classroom. |
| **Explanation** | Learning objectives: To explore Australia's history and origins.<br>Dust Echoes is a series of 12 beautifully animated Dreamtime stories from central Arnhem Land, telling stories of love, loyalty, duty to country and Aboriginal custom and law. With music, animation and voice over, this Web site allows students to 'sit around a virtual campfire' and enjoy learning about elements of Aboriginal culture and society.<br>You could listen to one of these stories in a History, English or even Art classroom and have students complete one of the following activities:<br>• Use moviemaking software to make their own Dreamtime story that emulates the style of the story they have viewed.<br>• Write a descriptive piece that explores what they see, think and wonder about what the story is suggesting. |
| **Teaching tips** | Play one story to the class using a projector before allowing students to explore their own stories. Encourage a discussion of the key components of the story you viewed together, ensuring that students are aware of areas you would like them to draw on for their task. |
| **Images/media** | Here is the home page for Dust Echoes.<br>  |
| **Suggested duration** | You could vary the amount of time allocated to this task considerably depending on the number of stories you would like the students to watch. |
| **Supporting software** | ***http://www.microsoft.com.au/partnersinlearning***<br>***http://www.microsoft.com/australia/education***<br>***http://www.abc.net.au/dustechoes/*** |
| **Assessment ideas** | Assess the work that students produce following the stimulus of the stories. |

# Create a Medieval movie from digital photographs using Windows Live® Movie Maker

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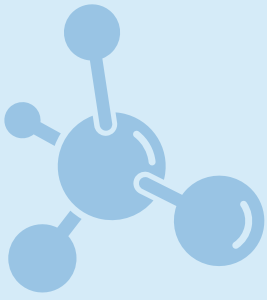
| **Snapshot** | Create a medieval movie based around the topic 'A day in the medieval life of...' |
| **Explanation** | Learning objectives: To explore the way of life in alternative times.<br>Create a movie using still images and music with Windows Live Movie Maker on one of the following topics. Your movie is not to be longer than 3 minutes and no shorter than 1 minute. You must include pictures, sound, and a title page. Your movie must be historically accurate.<br>A day in the medieval life of...<br>Choose one of the following people or places: Knight, Castle, Housewife, Marketplace, King, Serf.<br>OR Compare medieval times and today for one of the following aspects of living conditions: Weapons, Clothing, Eating/food, Farming, The army, Technology (tools), Infrastructure, Punishments.<br>OR Create a medieval movie based around one of the following titles: The battle, A woman's work is never finished, Becoming a knight, Heraldry, Guilds, Entertainment, Black plague, Chivalry. |
| **Teaching tips** | The teacher may like to delegate different areas to different students so that they can cover a broad range of topics.<br>Have a showcase of the movies at the completion of the task with the whole class, so that students can experience a sense of pride in their achievements.<br>Ensure that the students use images from Creative Commons.<br>If you don't want to spend as much class time on this task, then source the images yourself before class and disseminate these to the students to work through. |
| **Classroom management strategies** | Set the students small tasks to complete by the end of each lesson. For example,by the end of the first period students should have collected all the photos/images they need for their movie. Ensure that they are achievable goals, but challenging enough to keep the students on-track. |
| **Suggested duration** | 2–4 hours |
| **Supporting software** | ***http://www.microsoft.com.au/partnersinlearning***<br>***http://www.microsoft.com/australia/education***<br>Both the following Web sites provide information about images that are accessible and classified as Creative Commons.<br>***http://www.creativecommons.org.au/***<br>***http://www.flickr.com/creativecommons/*** |
| **Assessment ideas** | Assess the historical accuracy and detail in the movies that the students create. |



Microsoft

# Use exploratree and SurveyMonkey to explore cultural symbols and celebrations

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| **Snapshot** | Use exploratree to answer the enquiry question "Why is it important to respect other people's beliefs and symbols?" with regard to the celebrations and symbols that reveal the culture and values of other countries. |
| **Explanation** | Create a class survey using SurveyMonkey to access information from families regarding their celebrations and symbols. Students incorporate their research into an interactive, multimedia presentation exploring enquiry questions. |
| **Classroom management strategies** | As a whole-class activity, students can each work on a different part of the enquiry and contribute to/disrupt each other's position. Here are a range of additional and alternative ideas:<br>• Brainstorm grid – Using exploratree, students will be asked to fill in a grid with symbols and pictures of celebrations they know under the headings of: Australian celebrations, Australian symbols, Aboriginal and Torres Strait Islander celebrations, Aboriginal and Torres Strait Islander symbols, Celebrations from other cultures, and Symbols from other cultures.<br>• Web sites – Students will have the opportunity to look at Web sites such as Kids Web Japan, Holidays and Celebrations Around the World, and Celebrations and Festivals, and read about different celebrations.<br>• Survey – Using SurveyMonkey, as a class design a survey about celebrations and symbols that students can then ask family members and friends to fill out.<br><br>Enquiry questions could come from the following:<br>• What is a celebration and who the group of people who celebrate this?<br>• What is the explanation of the reasons behind the celebration?<br>• What are symbols that are related to this celebration and why?<br>• What is a list of values that are present with an example of how these values are displayed?<br>• What is your personal response as to why this celebration interested you and why/if you think it should be celebrated in our classroom? |
| **Links to Statements or Standards etc.** | The ISTE National Educational Technology Standards (NETS) and Performance Indicators for Students: ***http://www.iste.org/standards/nets-for-students.aspx***<br><br>Microsoft Partners in Learning Network: ***http://www.microsoft.com.au/partnersinlearning*** |
| **Supporting software** | Microsoft Education Australia – ***http://www.microsoft.com/Australia/education/***<br><br>exploratree – ***www.exploratree.org.uk/***<br><br>SurveyMonkey – ***www.surveymonkey.com/***<br><br>Bubbl.us – ***http://bubbl.us/***<br><br>Microsoft® Photo Story 3 – ***www.microsoft.com/windowsxp/using/digitalphotography/PhotoStory/default.mspx***<br><br>Audacity® – ***http://audacity.sourceforge.net/***<br><br>Windows Live® Movie Maker – ***www.microsoft.com/windowsxp/downloads/updates/moviemaker2.mspx***<br><br>Microsoft® Online Publisher – ***http://office.microsoft.com/en-au/publisher/default.aspx*** |

## Use exploratree and SurveyMonkey to explore cultural symbols and celebrations *(Continued)*

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| **Additional ideas** | Resources:<br>*Tokyo Friends* by Betty Reynolds<br>*Japanese Celebrations* by Betty Reynolds<br>*China: A Portrait of the Country Through its Festivals and Traditions*, Moondrake<br>*Key into Japan* by Sally Heinrich<br>Holidays and Celebrations Around the World:<br>***http://www.topics-mag.com/internatl/holidays/festivals.htm***<br>Celebrations and Festivals:<br>***http://lvillage.education.vic.gov.au/lv/beps/hp.nsf/PreviewHomePages/celebrations***<br>Kids Web Japan:<br>***http://web-jpn.org/kidsweb/index.html*** |
| **Assessment ideas** | Student Self-Assessment and Reflection<br>Assessment as learning (throughout the study – Developing students' metacognition and encouraging them to personally monitor what they are learning and use the feedback from this monitoring to make adjustments, adaptations and even major changes in what they understand). For example, personal blog, assessment rubric discussions etc.<br>Personal journals – Students will be given the opportunity to write a journal using ***www.edublogs.org*** where they can record their thoughts and opinions and reflect on what they have been learning about celebrations and symbols.<br>Students must research a celebration/festival/ceremony of their choice from a culture other than their own, and create a presentation to show the rest of the class. The presentation can be in the form of a:<br>• photo story, using Microsoft® Photo Story<br>• video, using Windows Live® Movie Maker<br>• song/rap, using Audacity®<br>• radio announcement, using Audacity. |
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# Conduct effective Web searches using Bing™

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| **Snapshot** | Bing is a visual search engine that helps students to locate appropriate and relevant sources on the Web. |
| **Explanation** | Students (especially in the lower primary school) can spend a lot of time searching for topics on the Web, sometimes not even finding what they were looking for. Quintura is a visual search engine that allows students to use the word cloud to discover popular search topics. |
| **Teaching tips** | Students still require explicit teaching about how to conduct an effective search and should develop a Mind Map or list of key words related to the topic they plan to research. |
| **Images/media** |  |
| **Classroom management strategies** | All students should be closely supervised when conducting Internet searches, to ensure they find appropriate content and know what to do if their search reveals inappropriate Web sites. |
| **Links to Statements or Standards etc.** | Year 3 Enquiring with ICT<br>Students use structured searches to locate information sources, navigate to these sources and access the required information and/or data.<br><br>Year 5 Enquiring with ICT<br>Students identify possible sources of information and/or ways to gather data, then plan and conduct structured searches from different sources. |
| **Supporting software** | ***http://www.microsoft.com.au/partnersinlearning***<br><br>***http://www.microsoft.com/australia/education***<br><br>***http://quintura.com/*** and ***http://quinturakids.com/***<br><br>Other visual search engines include:<br><br>***http://middlespot.com/search.php***<br><br>***http://redz.com/***<br><br>***http://eyeplorer.com/*** |

Microsoft

## Reflective Questions

- How can I support my students in discovering relevant and useful information on the World Wide Web?
- What is the best way to work with conflicting information on the Internet?

# Create a presentation using a personalised speaking character in Voki

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| **Snapshot** | Use Voki to create a short presentation or idea. |
| **Explanation** | Learning objectives: Reflection or presentation of ideas.<br><br>Voki is a complimentary service that allows you to create personalised speaking avatars and use them on your blog, profile, and in email messages.<br><br>You can select from a number of different people/animals/oddballs as the person you would like to convey your message. Students simply either type a short script for the Voki to read, or they can record their own voices for 60 seconds. They can also personalise the look of their character.<br><br>Some classroom applications:<br>• Imagine that the Voki is the main character from a novel you have been studying. Get them to talk about an experience or event from the novel and describe how they felt.<br>• Imagine the Voki is a historical figure who is giving you an exclusive insight into a moment in history.<br>• Students could use this as an alternative to traditional oral presentations. |
| **Teaching tips** | Get the students to write the script for their Voki before going to the Web site and creating it. |
| **Images/media** | Here is what a Voki looks like.<br><br>  |
| **Suggested duration** | 30 minutes |
| **Supporting software** | ***http://www.microsoft.com.au/partnersinlearning***<br><br>***http://www.microsoft.com/australia/education***<br><br>***http://www.voki.com*** |
| **Additional ideas** | This task could be applied to almost any subject area. |

# Create a word mosaic to visually represent an area of knowledge

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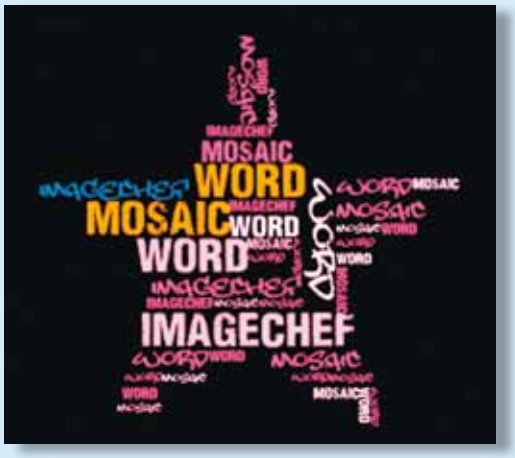
| **Snapshot** | Create a word cloud to deconstruct your understanding of an area you have studied. |
| **Explanation** | Learning objectives: Brainstorming and ordering key terms and ideas.<br><br>Use Wordle to demonstrate knowledge about an aspect of your curriculum. Some examples include:<br>• Using previous knowledge about the ways to manage the environment being studied, e.g. forest, coasts. Students are to create their word cloud using 20 of the key terms, strategies used in management of the environment.<br>• Whilst completing an assignment on the development of technology through time, have students brainstorm what technology is and compile a list of 20 different technological advances in the last 20 years.<br>• While completing your study of a novel, have students compile a list of adjectives that describe a character, or verbs and adverbs that describe the character's actions.<br><br>The advantage of using Wordle is that you can shape the mosaic to represent the task you are completing. |
| **Teaching tips** | As this is a consolidation of previous knowledge taught, students may need a point of reference such as a textbook or relevant Web sites. |
| **Images/media** | Here's an example of a completed word mosaic.<br><br>  <br> |
| **Classroom management strategies** | Have your students prepare their list of terms before they go to the Web site, so that they use their time online effectively. |
| **Suggested duration** | 20 minutes |
| **Supporting software** | Wordle – ***http://www.wordle.net***<br><br>***http://www.microsoft.com.au/partnersinlearning***<br><br>***http://www.microsoft.com/Australia/education/*** |
| **Additional ideas** | This task could be applied to almost any subject area.<br><br>Students should not share personal information online, including not using personal information to register to use Web 2.0 tools. |
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# Create audio recordings or webcasts using Audacity®

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| **Snapshot** | Audacity is complimentary, open source software for recording and editing sounds. |
| **Explanation** | Audacity is a fantastic way for teachers and students to create audio recordings or webcasts.<br><br>Teachers can record a webcast of themselves giving a tutorial about a difficult concept. For example, you could record yourself teaching how to do long division. Students could then listen to this webcast at any time if they need to revisit that concept, use it for revision or if the student is absent. This gives students the opportunity to manage their own learning by reflecting on what they need to learn.<br><br>Use Audacity to record students practising their reading aloud. This is an effective way of demonstrating improvement throughout the term, semester or year, and it's a useful tool to show to parents. Students also find it valuable to listen to themselves read aloud, because they hear the mistakes they make and fix them for the next time they read.<br><br>Students can record themselves practising for an oral presentation, e.g. a monologue. They can then ask their peers to listen to the webcast and collaboratively provide feedback. The feedback might be added into a Wiki or blog to refer to at a later time.<br><br>Students can conduct interviews and record them in Audacity ,making them available for use at a later time – for example, for assessment or reflection.<br><br>Audacity can be used to record blog entries, particularly for early phase students and for students who find it easier to verbalise their thoughts than to write them. |
| **Images/media** |  |
| **Classroom management strategies** | The Audacity webcasts can be used with the '1, 2, 3 before you see me' strategy – whereby students know that they have three activities or tasks to complete before they see the teacher. For example:<br>1. Complete the relevant learning object available in their virtual classroom.<br>2. Listen to a webcast of the concept they are having difficulty with.<br>3. Ask a student coach for help. Then, if the student still requires assistance,they can ask the teacher.<br><br>This strategy encourages students to manage their own learning by seeking out information from a range of sources before going straight to the teacher for the answer. This builds capacity for students as lifelong learners and empowers them to understand that they can find the information they are looking for by themselves. |
| **Suggested learning modalities** | Students can work individually, in collaborative groups and at any time and anywhere to record webcasts, which can then be saved and stored on each student's individual device. These archived recordings are a useful resource for students, parents and teachers to refer to at a later date to see improvement and advancement in the student's work. |
| **Links to Statements or Standards etc.** | Year 3 Communicating – Students explore the use of ICT to share and communicate their ideas, understandings and responses, and to collaborate with appropriate audiences. They experiment with and use ICT to communicate as part of their learning in curriculum areas.<br><br>Year 5 Communicating – Students use ICT to communicate with identified audiences, sharing ideas, information and responses, and collaborating for learning purposes. They appreciate that specific conventions may apply when using ICT for communication purposes. |
| **Supporting software** | ***http://www.microsoft.com.au/partnersinlearning***<br><br>***http://www.mceecdya.edu.au/verve/_resources/SOL_ICT_Copyright_update2008.pdf***<br><br>***http://www.microsoft.com/australia/education***<br><br>***http://audacity.sourceforge.net/*** |

# Create a word cloud using Wordle

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| **Snapshot** | Use Wordle to interrogate and deconstruct texts. |
| **Explanation** | Wordle is a Web 2.0 tool that generates 'word clouds' with text that the user provides. The more frequently a word is used in the text, the more prominent it appears in the word cloud. Once generated, the word cloud can be customised and individualised with different fonts, colour schemes and layouts. The word clouds can be printed out or saved as a jpeg file.<br><br>How you can use Wordle to enhance learning and teaching experiences:<br>• Literacy – Wordle can be used to display a range of words that students then select as either nouns, verbs, adverbs, adjectives, pronouns and more. The text use could be from a novel, news article, sentence and even the students' own work.<br>• Wordle is an effective way of displaying key words or topics at the beginning of a unit to establish students' prior knowledge and understandings.<br>• Wordle can be used for students to write and display information about a range of topics. For example: a word cloud displaying the students' own hobbies, interests and characteristics.<br>• Use Wordle when discussing current affairs by placing the text from a news article to display the most frequently used words. In this way, Wordle can invite discussions about the use of persuasive language to portray point of view. |
| **Teaching tips** | Whole-class lesson to introduce Wordle.<br><br>Brainstorm ideas as a whole class about the use of Wordle in learning experiences and display them in a Wordle word cloud.<br><br>Encourage students to evaluate their own work by adding the text from their writing or assessment pieces.<br><br>The Wordle word clouds could be displayed on the classroom walls and used for revision of content learned in class.<br><br>Students can easily access Wordle via their personal computer, and they should save and store the word clouds that they generate in a digital portfolio or folder on their device. |
| **Images/media** |  <br><br>A word cloud of Martin Luther King's 'I have a dream' speech.<br><br>  <br><br>A word cloud 'About Me'. |
| **Links to Statements or Standards etc.** | Year 3 Creating with ICT – Students have the opportunity to:<br>• explore different ICT to represent imaginative ideas and responses to problems<br>• experience ICT as a creative learning tool.<br><br>Year 5 Creating with ICT – Students have the opportunity to:<br>• use ICT as a tool to represent creative thinking and ideas<br>• make simple plans to use ICT to create solutions for learning<br>• reflect on the use of ICT and explain strategies for innovative use of ICT<br>• evaluate ICT solutions based on the choice of ICT, the extent to which the required features work to meet the purpose, and then make modifications, where appropriate<br>• recognise ICT as a creative tool for recording their planning, thinking and learning.<br><br>Year 5 Communicating with ICT – Students have the opportunity to:<br>• use different digital media to improve the communication of ideas. |
| **Supporting software** | ***http://www.microsoft.com.au/partnersinlearning***<br><br>***http://www.microsoft.com/australia/education***<br><br>***http://www.wordle.net/*** |

# Understanding chance and probability using Microsoft® Office Excel®

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|---|---|
| **Snapshot** | Students will engage with Microsoft Office Excel to develop and consolidate understandings of chance and probability. |
| **Explanation** | Chance is about the concept of uncertainty, and the vocabulary of chance is used in everyday life. This unit provides students with opportunities to develop and clarify this language. Through a range of activities students will collect, organise, summarise, display and interpret data, and measure and describe uncertainty and make predictions. They will be given opportunities to design and trial a variety of data collection methods to order the likelihood of occurrence of identified outcomes. Students will play a number of games and participate in simple maths investigations with the aim of developing and consolidating concepts of probability. Students will engage with spreadsheet software to record, manipulate and present data.<br><br>**Orientation**<br><br>• Identify and play existing games of chance. Discuss characteristics of games of chance. What defines a fair game?<br><br>• Identify, discuss and define the meaning of words, common vocabulary and colloquialisms associated with chance. Use the Internet to locate definitions of terms and Australian vernacular – e.g. pigs might fly, you've got Buckley's, once in a blue moon, fat chance.<br><br>• Classify events and scenarios according to their likelihood of occurrence – e.g. certainty, possible, most likely, least likely.<br><br>• Revise the use of tally marks.<br><br>**Enhancing**<br><br>• Explicitly teach students to create tables within a spreadsheet, insert/delete new columns and rows, format cells, insert data within a table.<br><br>• Play the game 'Heads and Tails' and discuss possible outcomes and the likelihood of those outcomes occurring. Use tally marks and record outcomes in a table format. Create the table in Microsoft® Office Word or Office Excel to record results using tally marks.<br><br>• Students participate in a range of activities to consolidate understanding of probability. For example: use available learning objects; use a deck of cards to predict and investigate the likelihood of drawing a particular suit, colour, number; rolling two dice to find most probable combinations; drawing coloured blocks/ marbles from a bag; using spinners to predict outcomes.<br><br>• Investigate the following: What colour Smartie is most likely to be found in a box of Smarties? What are the chances of a head and tail turning up when two coins are tossed? What are the chances of receiving a red card from a pack of cards?<br><br>• Use other random devices to continue investigations and record results in tables created within a spreadsheet – e.g. spinners, coloured marbles in a bag, playing cards.<br><br>• Ask students to think about how we can test and record the results. How many times would we need to perform the test? Would each test have the same results? Why? Why not?<br><br>• Create a class bar graph to record results. Use spreadsheet software to present the information as a digital graph. Discuss the graphing options available – e.g. bar graph, pie graph, line graph.<br><br>**Synthesising**<br><br>• Students collaboratively design and conduct simple investigations to prove or disprove hypotheses. (Conduct surveys and experiments, record and collate data, interpret results and present conclusions.) Transfer data from spreadsheet to publishing/presentation software – e.g. Microsoft® Office PowerPoint®, Microsoft® Publisher.<br><br>• Students work collaboratively to design and create a game of chance that is fair.<br><br>• Students critically evaluate existing games (including online games, handheld console games) – e.g. evaluate layout, purpose, rules, attractiveness, user friendliness, fairness of possible outcomes, instructions. |

# Understanding chance and probability using Microsoft® Office Excel® *(Continued)*

| | |
|---|---|
| **Teaching tips** | • Whole-class lesson to introduce Microsoft Office Excel – or use the Office Excel content in your Microsoft IT Academy as a homework task.<br>• Students work collaboratively in groups to conduct simple investigations.<br>• Students work independently on personal computers to create tables, generate graphs, record data and create presentations to communicate findings. |
| **Classroom management strategies** | • Use peer tutoring to assist learners with diverse needs.<br>• Establish group members' roles and responsibilities, and articulate clearly the expected purpose of each investigation.<br>• Nominate team leaders, recorders and resource gatherers. |
| **Supporting software** | ***www.microsoft.com.au/partnersinlearning***<br>***www.microsoft.com/education/msitacademy/default.mspx/***<br>***http://www.microsoft.com/Australia/education/***<br>Microsoft Excel, Microsoft PowerPoint®, Microsoft Publisher or Microsoft Word |
| **Additional ideas** | **Explicit teaching**<br>• Understand and make links to the language of chance. For example: Is this likely/certain/impossible? Is this fair?<br>• Develop understanding that the probability of an event occurring can be recorded as a fraction using words and symbols.<br>• Develop and consolidate understanding that equivalent fractions represent the same number of quantity – e.g. 4 out of 10 is equivalent to 2 out of 5.<br>• The chance process – that is, the likelihood of events occurring.<br>• Use spreadsheet software to create simple tables, record data and create simple graphs. |
| **Suggested development level/s** | Years 4 and 5 (Ages 9–10) |
| **Assessment ideas** | Students independently design and conduct simple investigations to prove or disprove hypotheses. Conduct surveys and experiments, record and collate data, interpret results and present conclusions.<br>Possible investigations:<br>• Monopoly is more popular than Scrabble.<br>• Most students travel to school by car.<br>• Soccer is more popular than cricket.<br>All data is to be recorded using spreadsheet software and results presented using digital graphs. |

Microsoft®

## Student Directed Learning

Prioritise the top three resources from the list below that you are most likely to try in the next two weeks. How might you use them in the classroom?

Challenge your students to write their own activity and try it with their classmates!

**Here are some ideas for your students:**

**ABC**
**www.abc.net.au/dustechoes/**

Studying Australian History?
Read, watch and listen to Indigenous stories.

**BBC**
***www.bbc.co.uk/cbbc/bamzooki/***

Studying Internet safety. Discuss the issues and create a 'zook' as one way of keeping your identity private on the Internet. Download* the complimentary 'zook kit' and create your own character. Compare your 'zook' to those created by others!

**BBC**
***www.bbc.co.uk/history/interactive/***

Watch animations, videos, take a virtual tour and play games related to historical topics.

**Digital cameras**

Take lots of photos of your school (both inside and outside) and then import them into a multimedia application. You can also provide narration about your school and include special effects into your movie. What a fun way to show your family your school.

Record experiments and processes from your Science class.

Need to do a presentation? Use the digital camera to record your presentation. You can research, practise and record your presentation, and even re-record and share it with others. How creative can you be?

**Download fees and charges may apply as set by your Internet service provider.*

**Digital images – See Think Wonder**
***http://research.microsoft.com/en-us/um/cambridge/projects/autocollage/***

Create a Microsoft® AutoCollage. AutoCollage is available as a complimentary full download* from the Partners in Learning Network at ***http://apac.partnersinlearningnetwork.com***

**Encarta Premium 2008**

Use this encyclopedia resource to support your understanding of current topics, search for famous people and events, or track information on a timeline across the ages.

**Microsoft® Office Excel®**

Use Office Excel's spreadsheet to create a timeline about key events in Australia's history, or the key events in your life. Use some of the graphic tools, and enter and format text.

Use Office Excel to create a shopping list for a recipe you will prepare. Include the ingredients and amounts of each ingredient you need, and then find out the costs of each ingredient. Learn how to enter formulas to calculate the cost of your recipe.

Create a spreadsheet that contains details about what homework you have to do.

### Reflective Questions

- How do I involve students in the curriculum planning process?
- What suggestions have my students made with regard to the use of digital tools for learning?
- How do I use the 1-to-1 environment to involve students in this topic? What is the best way to introduce it?
- How can I make the essential and the unit questions genuine questions for my students and me?
- How can I use devices effectively in class without being connected to the Internet?

### Five-shot sequence

Use digital cameras to take five shots. Download* the photos and sequence them to tell a story. Encourage students to use different camera angles to express the emotion within the story.

### Imagine strange things happening in the world – what if?

Ask the question "What if ...?" Use your imagination and see things in totally new ways. It's a game that anyone can play.

Choose a "What if" from the following list and then write, draw a picture, or create a photomontage showing how life would be changed by this new condition.

What if ...
- it rained tennis shoes everyday?
- everyone looked the same?
- animals had people for pets?
- you had a dragon for a next-door neighbour?
- cows could fly?
- people were magnetic?
- everyone lived on their own island?
- the oceans were made of chocolate pudding?
- everyday at 2:00 pm gravity went haywire for minutes?
- nothing could be thrown away?
- works of art came to life?
- all the art in the world was stolen by aliens?

### Inside a Dog
***www.insideadog.com.au***

Read and write book reviews at the State Library site 'Inside a Dog'.

### National Geographic
***www.nationalgeographic.com/xpeditions/hall/index.html***

Want to go on an adventure? Visit the interactive museum that takes you on geography journeys. Here you'll climb a mountain, hover over the Earth, speed across Europe, visit an archaeological dig, and even order sushi.

### Photo editing

Take a photo of a leaf and use the image editing features in GIMP to crop, recolour, resize etc.

### Powerhouse Museum's Photo of the Day
***www.powerhousemuseum.com/imageservices/***

The Powerhouse Museum's Photo of the Day blog features a new image each day, chosen from the Powerhouse Photo Library. View the image and write a caption to match the image. Share the captions with other students in the class.

### Microsoft® Office PowerPoint® animation

Did you know that you can use Office PowerPoint to animate by using automatic transition between slides? Experiment. Demonstrate a rocket taking off using Office PowerPoint.

### Premier's Reading Challenge
***www.education.vic.gov.au/prc/students/default.htm***

Keep an up-to-date log on the books you have been reading and keep a record card of all the books you have been reading.

### Using spreadsheets and graph

Doing an experiment in one of your classes and collecting data? Put the data in a spreadsheet and communicate it visually in professional-looking graphs – it could be a bar, line or pie graph. It's up to you!

### VoiceThread
***www.voicethread.com***

Upload photos and sound bytes to VoiceThread, use a microphone to add your voice and commentary. Your presentation can be shared with others through the Internet!

### Voki
***www.voki.com/***

Create a Voki character and record your voice. You could share your learning goals or explain a task. You can use your Voki as an 'avatar' (picture of 'yourself') and also embed a Voki in a blog or Wiki.

Create two Voki characters that you use as an 'avatar'. One that you think your classmates will identify as you and another character that you do not think your classmates will identify as you. Get the class to identify who the Voki characters belong to and provide reasons for their choice.

**Download fees and charges may apply as set by your Internet service provider.*

# The cool stuff

Software you may not have heard of, but that your students will love.

## Microsoft® AutoCollage

Photo collages celebrate important events and themes in our lives. They are great for digital storytelling, presenting themes, starting discussion and much more. Schools use collages to summarize camps, sports days, performances and other events.

Microsoft AutoCollage allows you to create an exciting photo collage in moments.

Pick a folder, press a button, and in a few moments AutoCollage presents you with a unique memento to print or email to your family and friends. Microsoft AutoCollage makes face detection, saliency filters, and other Microsoft research identifies interesting parts of pictures. Advanced object selection and blending

Download* it today:
***http://www.partnersinlearningnetwork.com***

**Only works on Windows®**

## Learning to read?

Flashcards are a great way to revise content or those activities that require rote learning, in particular basic reading. With Microsoft® FlashCards you can quickly and easily create an intelligent reading or revision program in moments.

The FlashCards software keeps track of how long it's been since you've seen each card, and whether or not you knew it the last time around. Then it uses a memory optimisation algorithm to determine which card to show you next. This means the order of the cards will be optimised for you - you'll be seeing the cards in a different order to your friend.


"If teachers, tutors, or parents want to track a student's progress, have the student print a report of their progress in a specific study session. If you want to see how you're doing across sessions, take a look at the timeline on the bottom of the Study screen. Cards on the left side are ones you need to study, or you haven't seen yet. Cards on the right side are the ones you know best. Watch the cards move toward the right side of the timeline as you play and learn them better. Over time, cards slowly move back to the left (since we all forget things as time goes on). If it's been a long time since you've seen a card and you get it right again, it gets bumped even further, since you haven't forgotten it."

Download* it today:
***http://www.educationlabs.com/projects/flashcards/Pages/default.aspx***

**Only works on Windows®**

**Download fees and charges may apply as set by your Internet service provider.*


## Microsoft® Ribbon Hero™

Imagine if you could increase student productivity while using all the benefits of game-based learning. That's the idea behind Ribbon Hero – a complimentary download*, which you can use in your classroom straight away.

Ribbon Hero is an add-in for Microsoft® Office Word, PowerPoint® and Excel® 2007/2010 designed to help boost Office skills and knowledge while you are playing a game. This idea makes the quest for increased productivity a competitive and compelling game (scores can be automatically published on Facebook).

The heart of Ribbon Hero is a set of challenges that users play right in Office applications. These challenges expose users to features that they might not be aware of and which can help users get their work done faster.

Ribbon Hero does some analysis of the person's usage patterns to prioritise the order in which it presents challenges.

Download* it today:
***http://www.officelabs.com/Pages/ConceptTests.aspx***

**Only works on Windows®**

**Download fees and charges may apply as set by your Internet service provider.*


## WorldWide Telescope

WorldWide Telescope (WWT) enables your computer to function as a virtual telescope, bringing together imagery from the best ground and space-based telescopes in the world. Explore the planets, the moons, the stars and their relationships like never before.

Speed up time and watch the rotation of the planets around the sun. See first hand how rotation effects seasons, night and day and much much more. Stand on the moon, or on Mars, with vast panoramas created by actual photos and footage.

Create narrated guided tours of planets, solar systems, nebulae and other interesting places in the sky.

WorldWide Telescope will will inspire young people to explore astronomy and science, and help researchers in their quest to better understand the universe.

Start exploring today:
***http://www.worldwidetelescope.org/Home.aspx***

**Only works on Windows®**


## Kodu™

Kodu is a powerful visual programming language that allows anyone to build an exciting, 3D game in minutes. Students as young as 7 years are already building games for the PC or Microsoft® Xbox® 360 and learning valuable skills in the process.

Skills include problem solving, understanding audience, programming and algorithms, concept design, audience investigation, teamwork and collaboration and much.

The Victorian Department of Education and Early Childhood Development has deployed Kodu in an extensive pilot program across 26 of its schools. For the last few months it has been measuring students' levels of engagement in the program and you can see some of the results here at Planet Kodu ***(http://www.planetkodu.com/).***

Here's what some of the teachers had to say:

"The creativity and critical thinking the students have shown has been wonderful."

"Kodu allows students to make games and worlds but the students need to find out how to do it by themselves."

"The things that are worthwhile are usually challenging and Kodu is certainly challenging but our kids have taken on the challenge."

"Some students discovered talents that they didn't know they had."

"I've learnt that game based learning can be really powerful."

Download* your complimentary copy now at: ***http://research.microsoft.com/en-us/projects/kodu/.***

**Only works on Windows®**

**Download fees and charges may apply as set by your Internet service provider.*

# Lesson Plans

**Exploring FreeMind**
**Exploring Flickr™ – online safety and privacy**
**Exploring YoYo Game Maker**
**Exploring digital learning objects – numeracy (decimals)**
**Exploring collaboration**

Microsoft

# Exploring FreeMind

The tool for this activity is FreeMind, a Mind Mapping tool: ***http://freemind.sourceforge.net/wiki/index.php/Main_Page***. You might like to work through this digital sandpit activity, designed as a jigsaw activity, with the whole class.

Explain the jigsaw strategy to students if they are unfamiliar with this. Students will need to be divided into groups. The roles for the groups are described below.

| Learning and teaching activities | Teacher tips |
|---|---|
| **Purpose: To find out what Mind Maps are and investigate tools for creating them.** | |

### Setting the scene

Find out what students already know about Mind Maps and what tools they may have used to create them in the past. How have they used them in their learning?

1. Watch a short video of Tony Buzan talking about Mind Maps and discuss with your students as an introduction to this strategy: ***www.buzan.com.au//learning/mind_mapping.html*** (5:38 min). Model a Mind Map using an Interactive Whiteboard.
2. Use the jigsaw strategy to divide the class into small groups and provide each group with a specific role: Investigators, Instructors, Comparers and Designers.

### Jigsaw strategy

The jigsaw strategy is used as a random and socially sensitive way of forming students into groups. For example, a group of 28 students is to be divided into groups of 4 in order to conduct different aspects of an investigation:

- Divide the number of students in the class by 4 – in this case, resulting in 7.
- Number off each student in the class from 1 to 7.
- All 1s work together (4 in each small group), all 2s (4 in each small group) and so on.
- Each group of 4 then carries out its task and reports to the class.

The jigsaw strategy provides teachers with an equitable way of dividing and changing group roles and dynamics, and gives students the opportunity to work in different groups. Teachers can work with small and larger groups according to the requirements of the activity, observing students and facilitating progress.

Source: ***http://vels.vcaa.vic.edu.au/support/tla/collab_strategies.html#jigsaw***

- Using the jigsaw strategy, each group will produce one product, which will be then be copied onto all group members' laptops at the end of the activity. What instructions will students need to help them plan for the task, ensure it is completed in the time you allocate and resolve any issues that may arise? How will students be assessed for this task?
- What strategies can I use to tune students in to their introduction or extension of Mind Mapping tools and support the development of their visual literacy skills?

| Learning and teaching activities | Teacher tips |
|---|---|
| **Investigators** | |
| Students explore FreeMind using a K-W-H-L chart (what they know, what they want to find out, and what they have learned). Students ask other class members what they might like to find out about the tool to add to their K-W-H-L chart. | • Are students familiar with K-W-H-L charts and other graphic organisers? Do students have preferred graphic organisers? How do they decide which organiser will best suit the task? What level of detail do you expect from students? |
| **Instructors** | |
| As students explore FreeMind, they develop a '10-step how-to chart' – a procedural chart on basic use of the application, from opening it up to creating a simple map that highlights FreeMind's features and saving a file. | • You may wish to take this opportunity to focus on procedural texts. Students can use screen dumps to illustrate their work.<br>• Other 10-step how-to charts could be developed by students for the other applications loaded on their devices or favourites they might use from elsewhere to build up a classroom-based resource for all to use. |
| **Designers** | |
| Students explore FreeMind and use it to create an advertisement to go in a magazine such as a travel, pets, sports magazine etc. Details for the advertisement are provided in a design brief. | • Prepare a design brief for students to use for this activity. For example:<br>You are going to design an advertisement to go in a print magazine – a travel, sports, or pets magazine. A number of these types of magazines will be available for your group to look through to help you choose. You are to design an advertisement that promotes FreeMind and create a FreeMind Mind Map to demonstrate how readers of the magazine could use the program to help them in planning a holiday, buying a pet, or preparing a training schedule for a soccer club. Your map must include... |
| **Comparers** | |
| Students compare FreeMind with other Mind Mapping tools that might be available, such as Inspiration, and use a Venn diagram to show differences and similarities. Alternatively, students can create a paper-based Mind Map using video demonstration on the use of Inspiration. As a group, students write a description of their preferred tool and explain why, based on the evidence they have shown in their Venn diagram. | • Students can watch the video demonstration on the use of Inspiration at: ***http://www.inspirationsoftware.com/videos/Inspiration*** (7:50 min) to make their comparison, if the students are not already familiar with this tool. |

**Comparers *(Continued)***

3. Student-led presentations. Group members present to their original groups; other group members provide feedback.

- **Investigators** present their K-W-H-L chart and add to it to reflect further input from group members. These charts can be displayed in the classroom or saved on the network or on students' individual devices and added to in the coming weeks.
- **Instructors** lead a 'test run' of their instructions for their group members to try. Instructors refine their chart. These can also be displayed or made available electronically for all students to use.
- **Designers** present their advertisement to their group for feedback. In what ways does the advertisement highlight how FreeMind can be used? In what ways might the advertisement be enhanced using the tool's features?
- **Comparers** present their Venn diagram and seek input from group members. Do group members agree with the data captured in the Venn diagram? Why/Why not? What else might need to be included?

- Regularly revisit the topic as a class to discuss changes and answers to 'want to find out' questions in order to highlight students' growing expertise.

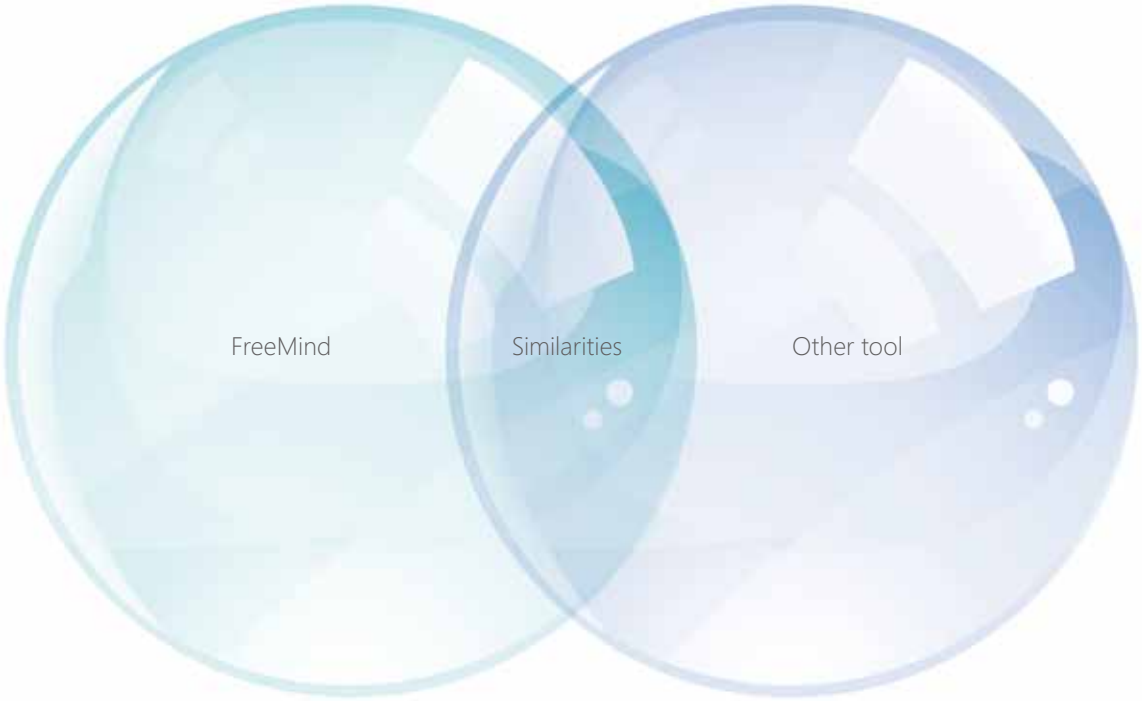
## Reflective Questions

- Hold a class discussion about what students have learned about FreeMind, their likes, dislikes, the strengths of the tool, questions they still have. Each student creates their own FreeMind Mind Map to capture their thinking about how and when they could use the tool to help with their learning in the future.
- How can I prepare my students to work collaboratively and cooperatively to maximise learning potential? See 'Collaborative/ Cooperative Learning' at: ***www.csd.uwa.edu.au/altmodes/to_delivery/collab_coop.html.***
- How will my classroom management strategies support students working in groups – location, monitoring of students to ensure all are on-task, meeting the needs of all students, etc.?
- How can I develop and enhance student skills in building social relationships and working in teams throughout my learning and teaching program?
- How can I support my students to reflect upon their contribution to the group work and the group's achievement overall?
- How can I support my students in their use of a range of graphic organisers in their learning? See 'Graphic Organisers' at: ***www.eduplace.com/graphicorganizer/.***

## K-W-H-L chart for FreeMind (Investigators' group)

| What do I know about FreeMind? |
| --- |
| |
| **What do I want to find out about FreeMind?** |
| |
| **What have I learned about FreeMind?** |
| |

## Venn diagram




Our preferred way to create a Mind Map was:

We preferred this because:

# Exploring Flickr™ – online safety and privacy

Flickr – ***www.flickr.com/*** – is an online tool that allows users to organise, edit and share their photos online. This tool also provides an authentic opportunity for students to develop their understanding of broader issues such as online safety and privacy as they explore the sharing capacity of this tool. The introduction of Flickr would be a good follow-up to an activity in which students have taken digital images while on an excursion, or to capture a learning experience, giving them a real purpose to save, file and edit their images. It is also a good tool to use as a basis for a discussion on online safety because of its capacity to share images on the World Wide Web.

**Note:** If students take digital photos to use for this activity, it is recommended that you first discuss with them the information contained in 'Acceptable Use Agreements', to ensure that they understand the privacy issues associated with digital photography. This resource is available at: ***www.education.vic.gov.au/management/elearningsupportservices/www/lead/use.htm***

| Learning and teaching activities | Teacher tips |
|---|---|
| **Purpose: To explore Flickr and discuss sharing work online safely and ethically.** | |
| **Getting ready**<br>Prior to introducing this activity, consider how well students are able to create a folder onto their personal, portable computers, download images from a digital camera, edit, save to a designated folder and insert images into a Microsoft® Office® Word document or presentation. Depending on students' skills, you may need to create a checklist to assess their skills, and identify 'experts' or skill clinics that may be required. These skills will set a foundation for this activity. | • How will students be assessed for this task?<br>• Note: You could ask students to develop a storyboard first as part of the activity. |
| **Setting the scene** | |
| • As a class, view the extensive FAQs page on the Flickr home page – ***www.flickr.com/help/faq/***. Discuss the various features highlighted in the video, e.g. setting up accounts, sharing photos, setting permissions, creating galleries, editing images, contacts etc. | • How will students be assessed for this task? |

**Reflective Question**

• How do I currently model correct copyright practices and safe and ethical use of the Internet?

| Learning and teaching activities | Teacher tips |
|---|---|
| **Going further** | |
| • Discuss file structure and how best to set this up for future access.<br>• Plan where students will download* images to – either a shared folder on the school network (file path) or directly onto their personal devices. Allow students time to use Flickr™ to file and edit images.<br>• Ask students what they think the 'share' feature of Flickr might allow (you may want to show the video introduction again and ask students to pay particular attention to this). Discuss the Flickr Community Guidelines – ***www.flickr.com/guidelines/***– as appropriate to the students.<br>• Highlight with student that to share photos over the Web using Flickr requires users to create a Yahoo account. You may wish to show the 'Terms of service' form to the students to bring to their attention the need for account creators to be over 18 years of age. Discuss with students why they should never complete an online form without direct adult supervision.<br>• Students work in groups to complete a Starburst – all points covered organiser (see next page). Students write their names above the star and circle those who might already share photos online.<br>• Groups share their perspectives with the whole class. From this input, create class rules for sharing digital images/videos online that are consistent with the school's current policies on Internet use. Students could work collaboratively to rewrite the 'Acceptable Use Agreements' policy in a student-friendly voice.<br>• Using the class rules and the 'Acceptable Use Agreements' policy kit, students develop a presentation for their parents, demonstrating Flickr and how they have used it in class, and the rules for safe use that all students have agreed to. | • Note: You could ask students to develop a storyboard first as part of the activity.<br>• You may need to consider how you will follow up on questions raised by students during this activity. What further instruction may be needed? How well are students' concerns and questions reflected in the school's Internet use policies? |

## Reflective Questions

- What is the learning value for my students of using Flickr in the classroom?
- How can I use this activity to strengthen home–school partnerships?

**Download fees and charges may apply as set by your Internet service provider.*

Student names:

## Starburst

Why would you want to share photos online?

What do you think is good about sharing photos online?

What are some potential dangers in sharing photos online?


How would you safeguard yourself and your friends from potential online dangers?

What are some Caution: Stop–Think Questions that need to be considered?

Are some spaces better/safer than others to share photos online?

# Exploring YoYo Game Maker

Game Maker 7.0 – ***www.yoyogames.com*** – is a complimentary application that can be used to develop computer games without the need to understand a programming language. The YoYo Games Web site contains many games created by users of Game Maker. These are freely available for non-commercial use, and they can be played online or downloaded, so that an Internet connection is not required to play them. While the educational value of many of the games is primarily in the making of them, some are suitable for developing activities that could be used to assess Information and Communications Technology, Mathematics and Science.

A series of activities developed from the Aqua-artist game (© YoYo Games) follows. Each activity builds on the activity preceding it. Students can create their own virtual aquarium that they manage for profit. They can keep over 40 types of fish and are able to decorate their tank with ornaments and plants. As the fish grow, they increase in value and 'drop' coins of differing value according to the type of fish and its size. This provides an income that students can use to buy more fish and increase their profits. However, the fish have to be fed or they will die, and feeding costs money! Working in groups, students will develop strategies to manage their tank to make the largest and fastest possible profit.

| Learning and teaching activities | Teacher tips |
|---|---|
| **Purpose: To explore Game Maker, taking a business enterprise approach.** | • It is recommended that Aqua-artist be downloaded to the computer hard drive, or to a USB drive. The game can then be played without incurring ongoing Internet usage costs. While playing Aqua-artist, students can save the game at any time and resume play at a later date. This allows flexibility in running the activities, which can be run in one session or over several sessions. It is recommended that students play the game from a USB drive, if possible, so that some activities can be continued at home as well as in class.<br>• How will students be assessed for this task? |
| **Setting the scene** | |
| Spend some time discussing with students the type of online games they have played and any that they may have created. What do they think makes a good online game and why? What expertise might game-makers need to have? | • What strategies can I use to tap into the existing online game-playing or game-making expertise of my students? |

**Reflective Question**

- How could I use game-making to support students' literacy and numeracy skills?

| Learning and teaching activities | Teacher tips |
|---|---|

### Activity 1: Aqua-artist familiarisation

Students familiarise themselves with the basic functions of the game.

Students view the Aqua-artist_Game_Overview.ppt or Aqua-artist Tutorial at TeacherTube (the Game Overview Office PowerPoint® and Aqua-artist Student Recording Sheet, required for Activity 2, are also available as Support files from TeacherTube – ***www.teachertube.com/viewVideo.php?video_id=75796&title=Aqua_artist_Tutorial*** – or go to ***www.teachertube.com/*** and search for 'Aqua-artist').

In groups of 4–5 students, open the game and explore the features. As a minimum, students need to familiarise themselves with feeding and buying fish, saving their game, collecting coins and noting the total value they have collected.

Think-pair-share: each group pairs with another group and discusses what they discovered by playing the game and provides feedback on each other's findings.

- Download* the Aqua-artist game from YoYo Games: ***www.yoyogames.com/games/show/15018.*** Extract to an appropriately named folder. Use your knowledge of your school network, and your students, to decide the best way for students to access the game when required.
- View the Aqua-artist Overview video tutorial on TeacherTube and play the game at least once to gain basic familiarity with how it works.
- If there is a class blog or Wiki, embed the TeacherTube tutorial for Aqua-artist for easy student reference.

### Activity 2: Profit-making strategies for your aquarium – group investigations

Play a jigsaw activity in which students investigate the possible profits that can be achieved by using four different fish purchasing strategies. They share what they have learned with the whole class. This activity prepares students for the next activity in which they will develop their own profit-making strategies using what they have learned from this activity.

Groups are assigned one of four strategies to investigate. The investigation runs for a designated time. Each group completes an Aqua-artist Student Recording Sheet.

- Strategy 1: Groups assigned this strategy should only buy $500 fish.
- Strategy 2: Groups assigned this strategy should only buy $2,000 fish.
- Strategy 3: Groups assigned this strategy should only buy $4,500 fish.
- Strategy 4: Groups assigned this strategy are to investigate the cost of feeding. As soon as sufficient funds are available, they should buy only one feeder fish.

Groups record their responses to the questions on the Aqua-artist Student Recording Sheet.

- Organise students into groups of 2–3 for the remaining activities.
- Provide each group with an Aqua-artist Student Recording Sheet. ***www.yoyogames.com/games/show/15018.***
- How do students need to organise themselves in order to record their data accurately on the Aqua-artist Student Recording Sheet?
- What will be the most effective way for the groups to report back their findings to the class?
- How can students give feedback in a constructive manner?

**Download fees and charges may apply as set by your Internet service provider.*

| Learning and teaching activities | Teacher tips |
|---|---|

### Activity 2: Profit-making strategies for your aquarium – group investigations *(Continued)*

Students then present to the class their responses to the questions:

- Which strategy did you use? ($500, $2,000, $4,500 or feeder fish.)
- What was your final profit? (Show the graph of your profits building over the 30 minutes.)
- How many fish were you able to buy?
- How much coin value did your individual fish have?
- How much money did you spend on feeding and buying fish?
- What else did you notice?
- What recommendations would you make on how to make the best profit from what you observed?

After each presentation, the class gives group feedback on their recommendations.

### Activity 3: Developing your strategy to make the most profit from your aquarium – working in groups

Students work in the same groups as in Activity 2. Using the observations of all groups from Activity 2, students construct a profit-making strategy that they believe will make the maximum profit in the time allowed (see Activity 4). Students assess their performance as a team.

- How can students record their results in a meaningful way?
- What would be the ideal time for this activity?

### Activity 4: Putting your strategy into action – working in groups

Students work in the same groups as in Activity 2. Students work in the same groups as in Activities 2 and 3. Groups implement the strategy they developed in Activity 3. They build and manage their aquariums for the agreed time. Accurate records of the rate at which profit builds should be kept.

Group report will include:

- statement of strategy used, money spent and final profit
- graph of rate at which profit/loss occurred
- comment on the effectiveness of their strategy
- suggestions for modifying their strategy to increase the profit rate.

- How will you establish how long students need to prepare their aquariums? Minimum run time needs to be at least one hour for students to be able to build a reasonable profit and for differences in profit-making strategies to become apparent. Decide if this time should be completed in one session or if students should save their game and run the activity over a number of shorter sessions. Could this activity be run as a homework activity (run from USB drives)?
- How will you make sure that students accurately and comprehensively record the data generated during this activity? Consider the use of a spreadsheet to generate the graph. What explicit teaching might the students require to use a tool such as Microsoft® Office Excel® to create their graph?
- How can you help students to understand what the profit vs time graph means?

## Reflective Questions

- How will I choose groups for optimum learning?
- How can I encourage students to collaborate?
- What protocols can be used to help groups work more effectively together online and face-to-face?

| Learning and teaching activities | Teacher tips |
|---|---|
| **Activity 5: Open challenge – individual or group work** | |
| This is an open activity in which students create their own challenge. Some possibilities include:<br>• Developing a new strategy to build profit: Using their learning from Activity 4, students develop a new strategy that they believe will be more effective in building profit.<br>• Creating a self-sustaining aquarium: Using 'money collecting' snails and feeder fish, students create self-sustaining aquariums. How long can their aquarium run without any input from them?<br>• Ethics in animals for profit: One strategy for maximising profit is to 'flush' less profitable fish and replace them with fish that have a higher coin value. Would such a strategy be ethical if the aquarium and fish were real? Students consider and present their thoughts on keeping animals for profit. | • Could this activity be run as a competition between groups?<br>• How could students present their findings?<br>• How could this activity be assessed? What could be assessed?<br>• How could I utilise games that students are familiar with to support literacy and numeracy skills? |

## Activities

- What is the learning value for my students of using Game Maker in the classroom?

### Activity 1

- How can I ensure that students can quickly move beyond the basic game functions and focus upon developing strategies?
- How will I know that students understand that the task is about more than playing the game?
- How might this activity inform me about the ICT skills of the students in the class? How might I ensure that the learning of students with low-level ICT skills is not hindered?
- What learning and teaching advantages are there to creating my own video tutorials? (What types of learners could benefit?)

### Activity 2

- How can I help students to work cooperatively to extract the maximum data they can? What role should each member perform?
- What discussions about the power of group learning could be generated from this activity?

### Activities 3 and 4

- How could ICT be used to record, analyse and present results effectively?
- What role might a spreadsheet play and what dimensions in the ICT domain could this assess?
- How could an Interactive Whiteboard be used to help students to visualise their thinking and to present and share their findings?

### Activity 5

- How can I help students to fully extend themselves in this activity? (The goal should be students developing a task that involves academic rigour. How can I ensure students do not simply make a 'pretty' aquarium with little deep learning occurring?)

### Ethics

- While Aqua-artist is 'complimentary' for non-commercial use, it still carries a © YoYo Games tag. How can I use this to help my students respect and appreciate the meaning of the terms 'copyright' and 'intellectual property'?
- Who makes these games? What value is there to the game-makers to put their games on a Web site such as YoYo Games? What do the creators get out of belonging to an online community? What are the benefits and what are the risks? How can I use this to help my students appreciate the pros and cons of joining an online community?

# Exploring digital learning objects – numeracy (decimals)

The learning activities that follow are designed to address some of the following goals and questions. They offer some ideas about how learning about decimals can be enhanced in a 1-to-1 environment. They are not a complete learning sequence; there needs to be more planning of assessment throughout, but they are a starting point.

**Essential question:**

- Why do we need decimals?

**Unit questions:**

- What is a decimal?
- How are decimals different from whole numbers?
- How are decimals different from fractions?
- What makes a decimal number bigger or smaller?
- How can we add and subtract decimals? What strategies can help us do this quickly?

**Understanding goals:**

- To understand that decimal numbers include parts of a whole.
- To understand place value in decimal numbers.
- To understand how to compare and order decimals.
- To understand strategies for calculating decimals.

**Reflective Question**

- What misconceptions do my students have now about decimals?

**What are digital learning objects?**

Digital learning objects are interactive multimedia resources that are designed to teach particular skills and concepts.

Digital learning objects are included in The Le@rning Federation digital content, which is available complimentary to government teachers through The Le@rning Federation (TLF). For access arrangements by State see: ***www.thelearningfederation.edu.au/for_teachers/access_information/schools/schools_in_australia_and_nz.html.***

Identify the objects you want your students to use and decide how you want students to use them. You can provide students with the Student Access Link for each object so that they can access them online. Many of the objects can also be downloaded for use offline.

The TLF digital learning objects related to decimals cater for many different starting points and levels of understanding. They include:

- **Decimaster series** (9 objects) – students use different mathematical and visual representations of decimal numbers.
- **Swamp Survival series** (6 objects) – based on a game in which students have to order decimal numbers accurately.
- **Hopper series** (7 objects) – explores estimating the multiplication of decimals and uses the idea of repeated addition. The hopper jumps along a number line after students estimate finishing or starting points.
- **Diffy** – can be used to practise subtraction of decimals. It challenges students to complete a template where each new number is the difference of two others. Students can choose whole numbers, fractions, decimals or integers with this digital learning object.

| Learning and teaching activities | Teacher tips |
|---|---|
| Start the lesson by explaining to students the purpose of this activity.<br><br>**What are we going to learn?**<br><br>• Essential question: Why do we need decimals?<br><br>Ask students to:<br><br>• Locate questions (on their device or class Wiki OR on a poster).<br><br>• Set up a decimals folder on their device.<br><br>• Record the questions and goals in a file that they save into this folder.<br><br>• Have students include one of more of their own personal learning goals. | Resources:<br><br>• data projector and screen or Interactive Whiteboard if available<br><br>• Internet connection<br><br>• create a class Wiki – see Wikispaces video tutorials on 'How to create and use a Wiki' page at: ***www.wikispaces.com/site/tour*** – introduction.<br><br>Learning purpose to include:<br><br>• the essential question<br><br>• unit questions<br><br>• understanding goals.<br><br>These need to be on display and readily available to students throughout this unit. They could be on a poster and in a shared site and saved to the devices. |
| **What do you know already?**<br><br>Have students:<br><br>• save the K-W-H-L chart into their decimals folder<br><br>• individually record three things they know about decimals in the K column of the K-W-H-L chart<br><br>• share these things with their group.<br><br>**What do you want to find out about decimals?**<br><br>Have students record at least one thing they want to find out or one question they have about decimals in the W column of the K-W-H-L chart. | Organise students into groups of 3 or 4. They will work with this group throughout this activity.<br><br>Make the K-W-H-L scaffold available for students.<br><br>Upload the K-W-H-L scaffold to your own class Wiki for students to use. |
| **Where do people use decimals?**<br><br>Get each group to identify at least three new real uses of decimals that they know about, i.e. only one of each use is allowed from the class as a whole.<br><br>The class list of uses needs to be available to all students as they are making it, so that groups can ensure that they have new uses and do not double up.<br><br>Encourage students to think broadly – some discussion at the start of this activity can make it more effective. You can also use images from TeacherTube to prompt student thinking.<br><br>Students add to the list throughout the unit as they think of more uses. | Groups might say:<br><br>• money (specific uses)<br><br>• measuring (e.g. lengths and distances – how far you can throw a ball, long jump, broad jump records, distances travelled to school, heights, etc.)<br><br>• averages (average number of children in each family is a decimal).<br><br>The class can make a list on an IWB, or groups can add their uses to the Wiki or shared file. You need to decide how it will be done and prepare accordingly. |

## Suggested option 1

The learning activities that follow are designed to address some of the following goals and questions. They offer some ideas about how learning about decimals can be enhanced in a 1-to-1 environment.

| Learning and teaching activities | Teacher tips |
|---|---|
| **How much does a litre of unleaded petrol cost today?**<br><br>How would people find this out?<br>(Students may need to know what a litre is.)<br><br>**Goal**<br><br>Get each group to identify the cheapest fuel and where it is available in the local area.<br><br>Students go to the Carsguide Web site – ***http://carsguide.news.com.au/site/tools-and-advice/petrol-prices?referrer=gtail&colseo=n*** – and put in the fuel type, unleaded, the local suburb, town name or postcode.<br><br>To prompt discussion, display the fuel map on the IWB or using a data projector and/or on the class Wiki.<br><br>**Class discussion**<br><br>• What information does the site provide?<br>• What do the grey flags on the map (e.g. 96.7) show?<br>• What is the decimal part?<br>• What does it mean? (Discuss: Why is it 70c (in 96.7) and not 7c? This is a good opportunity to discuss place value.)<br>• Where was the cheapest fuel in your local area?<br>• What was the price per litre?<br>• How much for a full tank of petrol?<br><br>**Whole-class discussion online**<br><br>• What are the positives, negatives and interesting questions that students have about the Web site and how fuel costs are displayed on this Web site?<br><br>Set up a discussion on the class Wiki you have created to do this. | Check the following Web site before starting this activity.<br><br>• Go to the Carsguide Web site – ***http://carsguide.news.com.au/site/tools-and-advice/petrol-prices?referrer=gtail&colseo=n*** – and key in a fuel type and local suburb name and postcode. See a sample results page below.<br><br>Source: Petrol Price Finder – ***www.carsguide.com.au***<br><br>  |

| Learning and teaching activities | Teacher tips |
|---|---|
| **Extension**<br>Students could investigate the maths (decimals, graphs and averages) in the following sites and report back to the class.<br>On the ACCC petrol prices site, see Chart M2: average retail prices of petrol over the last 30 days at: ***www.accc.gov.au/content/index.phtml/itemId/860637***<br>• What does the graph show about fuel prices?<br>• What is an average? How do you think they calculate this?<br>• What is the cycle that is being shown here?<br>See MotorMouth Petrol Price Tracker at: ***http://motormouth.com.au/default_fl.aspx***<br>• What does this site do?<br>• How could people use it?<br>• What questions would you like answered to find out how reliable it is? | **Some ideas:**<br>• Go to the ACCC site for the latest petrol prices over the last 30 days ***www.accc.gov.au***<br>or see the MotorMouth Petrol Price Tracker at: ***http://motormouth.com.au/default_fl.aspx*** |

## Suggested option 2

The learning activities that follow are designed to address some of the following goals and questions. They offer some ideas about how learning about decimals can be enhanced in a 1-to-1 environment.

| Learning and teaching activities | Teacher tips |
|---|---|
| **How big is Uluru?**<br>Students try to find the width, height and length of Uluru on the Internet.<br>Students might need to know:<br>• the meaning of the word 'monolith'<br>• what and where Uluru is.<br>**Ask students to:**<br>• work in groups and use at least three different Internet sources to find the dimensions of Uluru<br>• record the source and the dimensions they find<br>• make a class list of the dimensions they find.<br>You might want to use these sample answers for discussion after the activity or during it to give students an indication of what they need to be looking for. | **Preparation for background skills and information**<br>• Students might need to find out how to search effectively before starting this activity. Teachers will need to know this too.<br>• Either provide background or (better) teach students how to search and find information.<br>**Some ideas:**<br>• Ask students to locate a picture of Uluru online as a short initial activity that might lead to a discussion of how to search for word meanings and research. In Microsoft® Office Word, go to the drop-down menu Tools and open Research or look up an online dictionary such as: ***http://dictionary.reference.com/.*** |

| Learning and teaching activities | Teacher tips |
|---|---|
| Sample answers from 12 January 2009:<br>• 'Uluru is 3.6 kilometres long, 2.4 kilometres wide and 348.7 metres high.' ***www.alldownunder.com/oz-k/fact/australian-land-facts.htm***<br>• 'Uluru is 348 metres (1141 feet) high, 3.6 km (2.2 miles) long, 1.9 km (1.2 miles) wide.' ***www.outback-australia-travel-secrets.com/ayers-rock-facts.html***<br>• 'Uluru measures 2.4 km (1.5 miles) long and 1.6 km (1 mile) wide and rises up to 867 metres above sea level.' ***www.justclickaustralia.com/guide_ayersrock.htm***<br>Students will realise that answers vary markedly. Students might identify different units, differences in how length and width are measured, errors in measurement, errors in copying information, etc.<br>They might consider the purpose of the pages and the audience they cater for. | Preparation for the activity itself:<br>• Do the search yourself and try to predict how students might react and what they will need to know.<br>• Decide how students can share their answers.<br>• How will they record them?<br>• Do you want to have a template or format?<br>• What dimensions do you want to record? |
| Use the following questions to get students to evaluate the data they find.<br>• What dimensions did you find?<br>• How are decimals used?<br>• Were there differences in answers? How big were the differences?<br>• How could you explain any differences in answers that you noticed?<br>• What else did you notice?<br>Encourage students to investigate different answers by considering the units used and how the measurements might have been made. | Prepare a Wiki discussion with the questions in the left-hand column. (Use the discussion area of the class Wiki.) |
| **What is a decimal?** | |
| Start with a short discussion on this question, with input from students, emphasising the meaning of the decimal point and place value.<br>There needs to be a short teacher explanation, affirming and summing up important points. Display the Introducing Decimals factsheet on the IWB or data projector for direct explanation, revision and discussion.<br>Then ask students to think about the essential question here too: Why do we need decimals? Have students contribute explanations in discussion (group or whole-class discussions). | **Resources**<br>Prepare a short explanation and have some simple examples. Have the Introducing Decimals factsheet site ready.<br>***www.bbc.co.uk/skillswise/numbers/fractiondecimalpercentage/decimals/introductiontodecimals/factsheet3.shtml*** |

| Learning and teaching activities | Teacher tips |
|---|---|
| **How can decimals be represented?**<br><br>Provide students with the student access links for the TLF digital objects, L1081, L1082 and L1083 Decimaster collections: match-up 1, 2 or 3, as appropriate to the students.<br><br>Use a data projector or IWB to introduce the object and tell students its purpose – to represent decimals in different ways.<br><br>Continue playing until students have matched up decimals with each tool shown. Encourage them to help each other if needed. | Familiarise yourself with The Le@rning Federation (TLF) digital learning objects access Web site for your State. Check that you know how to search for an object. Ensure that you can find the student access link and also download objects. Locate the TLF Catalogues and look at the Maths: Number Catalogue. ***www.thelearningfederation.edu.au/for_teachers/catalogues/catalogues.html***<br><br>Explore the TLF objects L1081, L1082, L1083 Decimaster collections: match-up 1, 2 or 3.<br><br>Explore other objects in this series for students working at different levels. |
| **Online discussion** | |
| Groups explain their understanding of what a decimal is in an online Wiki discussion. | Prepare a different discussion on your class Wiki on the topic: What is a decimal? (Use the discussion area of the class Wiki.) |
| **What makes a decimal number bigger or smaller?** | |
| Start with a short class discussion, asking students to look at example(s).<br><br>Invite the whole class to play the Introduction to Decimals game ***(www.bbc.co.uk/skillswise/numbers/fractiondecimalpercentage/decimals/introductiontodecimals/activity.shtml)*** on an IWB or a computer with data projector.<br><br>Students continue to play as groups or individually. Encourage students to talk about the game as they are playing it.<br><br>• A group can use the IWB to play the game.<br><br>• As game playing ends, give an explanation of ordering decimals, with a focus on place value and the meaning of the decimal point. Affirm student explanations where they are correct and sum up important points.<br><br>**Digital learning object – Swamp Survival**<br><br>Ask students to explore Swamp Survival – students then play a game of Swamp Survival at the highest level that they feel confident with.<br><br>Encourage them to read instructions and work with the group to begin with. When they create three successful paths in a row, they move on.<br><br>**What strategies would I use to order these numbers?**<br><br>Groups discuss and report back to the class, explaining their strategies.<br><br>**Reflection**<br><br>Give students time to add to a K-W-H-L chart. | Have two or three examples that may uncover misunderstandings for discussion. See 'Comparing Decimal Numbers' at: ***www.education.vic.gov.au/studentlearning/teachingresources/maths/mathscontinuum/number/N40001P.htm***<br><br>Students need a link to the BCC Skillwise Game for ordering decimals ***(www.bbc.co.uk/skillswise/numbers/fractiondecimalpercentage/decimals/introductiontodecimals/activity.shtml)*** on the IWB or a computer with a data projector.<br><br>From BBC Skillwise Numbers:<br><br>• Locate and play one of the Swamp Survival games before you ask students to do this.<br><br>• Demonstrate how to play Swamp Survival using L7902 Swamp Survival: Hundredths patterns ***http://www.bbc.co.uk/skillswise/numbers/wholenumbers/addsubtract/written/flash1.shtml***<br><br>• Students can choose where to start in this series. See the list of student links below this table. ***http://www.bbc.co.uk/skillswise/numbers/fractiondecimalpercentage/***<br><br>• The discussion of strategies should refer to place value and how decimal numbers to the right of the decimal point represent parts of a whole. |

| Learning and teaching activities | Teacher tips |
|---|---|
| **Rich task** | |
| Ask students to work in their groups. Give students a copy of the printable sheet for the rich task: 'Forgot the Numbers' from the NRich Web site (see link in the right-hand column).<br><br>When they have solved the problem as a group, each student explains to the rest of the group how they arrived at the solution.<br><br>Ask students to record their solutions on a Microsoft® Office Word file and save it to their 'Decimals' folder on their devices.<br><br>Students could email their explanations to you for feedback. | Calculators would help students complete this task. If they don't have them, they can use the calculator on their 1-to-1 device.<br><br>• Look at the problem 'Forgot the Numbers' at this address: ***http://nrich.maths.org/public/viewer.php?obj_id=1015***<br><br>• Read the teachers' notes, hint, key questions and explanations. Look at the sample answers and reasoning. Decide what would make a good explanation beforehand and tell students what you are looking for. (You may want to have preset headings in the explanation.)<br><br>• There are many ways that students could submit these explanations – choose the best way for your context.<br><br>• Look at the extension suggestion on the Web site. Use this for students who have solved the problem quickly and explained their methodology effectively. |
| **Reflection**<br><br>Ask students to reflect on the essential question 'Why do we need decimals?' in a discussion on the class Wiki.<br><br>Ask each student to contribute to the discussion with their ideas for answers to this question. Tell them that they can also ask questions and respond to others in the discussion.<br><br>Remind students of the uses of decimals that the class collected and about how decimals were used in the real-world applications they worked with.<br><br>**Finally**<br><br>Students can use the unit questions to reflect on what they have learned on the K-W-H-L chart.<br><br>You need to be able to access the students' K-W-H-L charts for ongoing assessment throughout the unit. You need to decide how you will manage this in your school context. | • Have the display of uses created by the class earlier available (either on their devices or on a poster).<br><br>• Students may find uses of decimals on the Internet – they can link to other Web sites on the Wiki discussion to illustrate their ideas.<br><br>• What is a decimal?<br><br>• How are decimals different from whole numbers?<br><br>• How are decimals different from fractions?<br><br>• What makes a decimal number bigger or smaller?<br><br>• How can we add and subtract decimals?<br><br>• What strategies can help us do this quickly? |

## Reflective Question

- How can using digital learning objects personalise learning formy students?

## K-W-H-L chart for decimals

| What do I know about decimals? |
| --- |
| |
| **What do I want to find out about decimals?** |
| |
| **What have I learned about decimals?** |
| |

# Exploring collaboration

Students are growing up in an increasingly connected world. Email, instant messaging and social networking sites are just some of the ways in which students regularly communicate with one another. The wireless capabilities of devices provide many opportunities for students to communicate and work collaboratively in meaningful ways.

This section provides some ideas for the use of blogs, Wikis and online collaborative documents to connect both within and beyond the walls of the classroom and to provide a space for reflection about learning.

| Learning and teaching activities | Teacher tips |
|---|---|
| **Purpose: To develop an understanding of blogs, Wikis and online collaborative documents, and their applications for learning and teaching.**<br><br>**Blogging**<br><br>Set up a blog site for students to capture their first impressions of using their devices. | • View how other teachers are using blogs for online collaboration at Teachers TV.<br><br>• You could use the edublogs or blogging resources hosted by your State Education Department for a safe blogging environment for your students.<br><br>• Read about blogs at: ***www.education.vic.gov.au/teacher/blogs.htm*** *and* ***http://help.edublogs.org/getting-started-with-edublogs/*** |
| **Online collaborative documents** | |
| Set up a document (or spreadsheet) using an online collaborative tool such as Microsoft® Office Live Workspace – ***http://workspace.officelive.com/en-au/.***<br><br>Set up an online collaborative document and invite students to collaborate on it. | • Read about Microsoft Office Live Workspace at: ***http://workspace.officelive.com/en-AU/FAQ.*** |
| **Wikis** | |
| Set up a class Wiki to support a unit of work. | Which Wiki tool will you use? For example, Wikispaces for educators – ***www.wikispaces.com/***<br><br>Read about Wikis at FUSE: ***www.education.vic.gov.au/studentlearning/elearning/technology/wikis.htm*** |

## Reflective Questions

- How can I support my students to reflect upon their contribution to the group work and the group's achievement overall?
- How can I build in future home–school partnerships using the laptops that will extend students' classroom learning?

# Online resources

## Getting creative

***www.digitalfilms.com*** – Create digital films online, requires email registration.

***www.fluxtime.com/animate.php*** – Create your own animation.

***www.voki.com/*** – Requires registration with email, create a speaking avatar.

***www.doppelme.com/*** – With DoppelMe you can create a cool graphical likeness of yourself, your friends, your family or any group of people for use as an avatar in forums, instant messenger, blogs and almost anywhere else on the Web.

## Professional learning links

***www.aalf.org*** – Join The Anytime, Anywhere Learning Foundation, which is committed to making anytime, anywhere learning a reality for all students. Members are part of a professional network with access to research and resources that help create strong 1-to-1 technology environments for students.

***www.go2web20.net/*** – Search and discover Web 2.0 tools.

***http://globalteacher.org.au/*** – This site provides an opportunity for you to join global projects with students and classes from around the world. It also provides insightful columns, teacher resources and you can post your own or your class blog here.

***www.microsoft.com.au/partnersinlearning*** - The Partners in Learning Web site showcases the range of professional development offerings from Microsoft as well as the Innovative Schools and Innovative Teachers programs.

***www.teachers.tv/*** – Teacher's Television: get a TV experience on your computer. Watch themed videos selected to match your interests, including great lesson ideas and inspiring documentaries.

***www.ted.com/*** – TED: ideas worth spreading, riveting talks by remarkable people, complimentary to the world.

***www.tigweb.org/*** – Taking It Global: Inspire Inform Involve. Join the largest online community of youth interested in global issues and creating positive change.

***www.treadwell.co.nz/*** – Complimentary, high-quality resources to make life easier for teachers.

***www.schoolkit.com/*** – Products designed to equip you with a learning framework and pragmatic strategies for embedding technology into your curricula and instruction.

## Government links

***www.acara.edu.au/default.asp*** – The Australian Curriculum, Assessment and Reporting Authority (ACARA).

***www.mceecdya.edu.au/mceecdya/*** – Ministerial Council for Education, Early Childhood Development and Youth Affairs.

***http://naplan.edu.au/*** – National Assessment Program Literacy and Numeracy.

***http://www.thinkuknow.org.au*** – Register for a presentation or further information from ThinkUKnow (TUK). TUK is an Internet safety program offering interactive presentations to teachers via primary and secondary schools across Australia, using a network of trained volunteers from the Australian Federal Police. Topics cover cyberbullying, social networking, mobile technologies and gaming.

***http://www.cybersmart.gov.au*** - The Australian Communications and Media Authority Web site has been set up by the Australian Government's online security initiative to help kids, parents and teachers stay safe online and help fight against cyberbullying.

### Reflective Questions

- What existing online resources and tools am I aware of that can support a 1-to-1 environment?
- Which technologies are my students using outside school that I could use to extend their learning? How can I find this out?
- How can I find out more about the range of digital tools available online?

# Education Resources and Programs

Microsoft

# Microsoft software and programs for education

**Microsoft has a range of programs, resources and complimentary software for teachers and schools.**

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| **Amazon Kindle® for PC** | Find out everything you need to get started with Amazon Kindle, from compatibility and installation, to registration and paying for downloads. | ***http://www.amazon.com/gp/help/customer/display.html/ref=hp_pcland_stinst?nodeId=200450200&#installing*** |
| **Microsoft Australia Education Web site** | Solutions and products that Microsoft Australia offers for education, connecting you with resources to help you get the most from existing ICT investments. | ***http://www.microsoft.com/australia/education/default.aspx*** |
| **Microsoft® AutoCollage** | Create photo collages with your students to use as posters, covers for projects or mementos of school outings. All they have to do is pick a folder, press a button, and in a few minutes AutoCollage creates a collage. | To download the trial version*: ***http://research.microsoft.com/en-us/um/cambridge/projects/autocollage/***<br>To download* a complimentary full version of AutoCollage for your school: ***http://partnersinlearningnetwork.com*** |
| **Bing™ Maps** | This is a great way to make history or geography come to life. Simply select a location and explore cities at eye level and in 3D. Download Microsoft® Silverlight® for a richer experience. | ***http://bing.com/maps/explore/*** |
| **Microsoft® Chemistry add-in** | Empowering students, teachers and chemists to easily author documents in the language of chemistry. | ***http://www.educationlabs.com/projects/chemistryadd-in/Pages/default.aspx*** |
| **Microsoft® Digital Literacy** | Teach and assess basic, everyday computer concepts and skills. Choose from three course performance levels: Basic, Standard and Advanced. | ***http://www.microsoft.com/about/corporatecitizenship/citizenship/giving/programs/up/digitalliteracy/default.mspx*** |
| **Microsoft DreamSpark™** | DreamSpark is simple; it's about giving students Microsoft professional tools at no charge. | ***http://www.dreamspark.com/*** |
| **Microsoft® Education Labs** | Explore and try out prototypes and ideas that have been developed by community members and Microsoft product teams for the education sector. This is your opportunity to provide feedback and help to design the technology of the future. | ***http://www.educationlabs.com/pages/default.aspx*** |
| **Microsoft Educators Web site** | Teacher guides, complimentary software applications and online resources as well as news and teacher blogs. | ***http://www.microsoft.com/education/teachers/default.aspx*** |
| **Microsoft® Faculty Connection** | Training resources, software and tools, news, publications and downloads. | ***http://www.microsoft.com/education/facultyconnection*** |
| **Microsoft® Flashcards** | Flashcards is a Microsoft® Silverlight® Web application where you can create, share, and study online flashcards. Find a deck in the community, or create your own. | ***http://www.educationlabs.com/projects/flashcards/Pages/default.aspx*** |
| **Imagine Cup** | The Imagine Cup is the world's premier student technology competition, open to H.S students. Every year, the Imagine Cup encourages students from all around the globe to come up with creative ideas using technology to help solve the world's toughest issues. Students are rewarded with prizes including an all expenses paid trip to the world finals and much more! | ***http://www.imaginecup.com*** |
| **Microsoft® InkSeine** | InkSeine is a prototype ink application from Microsoft Research. It is designed from the ground up to have a user interface uniquely tailored to pen input. | ***http://research.microsoft.com/en-us/um/redmond/projects/inkseine/*** |
| **Microsoft Innovative Schools** | Resources, expertise and technology for schools. | ***http://www.microsoft.com/australia/education/schools/partners-in-learning/innovative-schools.aspx*** |

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| **Microsoft Innovative Teachers** | A site dedicated specifically for inspired teachers. Find out how you can become involved in the Innovative Teacher program. | ***http://www.microsoft.com/australia/education/schools/partners-in-learning/innovative-teachers.aspx*** |
| **Microsoft Interactive Classroom** | Create in-class polls and share them over a wireless network in real time. Plus share notes and content with students during lessons using Microsoft® OneNote®. | ***http://www.microsoft.com/downloads/en/details.aspx?displaylang=en&FamilyID=d93f4cb5-e2bb-4543-a3bb-cd6a8ecb42cc*** |
| **Microsoft IT Academy** | Subscribe your institution to comprehensive IT training, resources and Microsoft certification opportunities. | ***www.microsoft.com/education/msitacademy/default.mspx/*** |
| **Kids Corner** | A great site for your students with fantastic tips and tricks, answers to all kinds of questions, kids' courses and a secure place to connect with other students. | ***http://msdn.microsoft.com/en-us/beginner/bb308754.aspx*** |
| **Kodu™** | Kodu is a new visual programming language made specifically for creating games. It is designed to be accessible for children and enjoyable for anyone. The programming environment runs on the Microsoft® Xbox® or PC, allowing rapid design iteration using a game controller (or keyboard) for input. | ***http://fuse.microsoft.com/kodu*** |
| **Learning Content Development System (LCDS)** | Create and publish high-quality, interactive, online courses including interactive activities, quizzes, games, assessments, animations, demos and other multimedia. | ***http://www.microsoft.com/learning/en/us/training/lcds.aspx*** |
| **Microsoft® Live@edu** | Complimentary hosted email, calendars, online work spaces, instant messaging and more for everyone in your school. | ***http://www.microsoft.com/liveatedu/*** |
| **Microsoft Live™ Labs Pivot** | Visit this site to see interesting ways of displaying information to inspire your students. | ***http://getpivot.com*** |
| **Marvin** | A multimedia and animation tool that lets students create animated stories using avatars. | ***http://www.marvin.com.au/*** |
| **Microsoft Mathematics** | Plot graphs in 2D and 3D, calculate numerical results, solve equations or inequalities, and simplify algebraic expressions in Microsoft Word® and OneNote®. | ***http://www.microsoft.com/downloads/en/details.aspx?displaylang=en&FamilyID=ca620c50-1a56-49d2-90bd-b2e505b3bf09*** |
| **Microsoft® Mouse Mischief™** | Allows you to create Office PowerPoint® presentations that children can interact with in class using multiple mice. | ***http://www.microsoft.com/multipoint/mouse-mischief/default.aspx*** |
| **Microsoft® Office Live® Workspaces** | 5 GB of complimentary online storage where you can share files. | ***http://workspace.officelive.com/*** |
| **Microsoft Partners in Learning Network** | Join the global community of educators who value innovative uses of information and communication technology that improve learning outcomes. Collaborate with like-minded colleagues; participate in discussions and access lesson plans, tools and more. | ***http://partnersinlearningnetwork.com*** |
| **Microsoft® Photo Story** | An easy way for students to create multimedia presentations. | ***www.microsoft.com/photostory/*** |
| **Microsoft® Photosynth®** | Students can reconstruct a scene or an object in 3D from photographs and publish it over the Internet. | ***http://photosynth.net*** |
| **Microsoft® Pro Photo Tools version 2** | Find the tools for editing metadata in photographs including latitude, longitude and other location details. | ***http://www.microsoft.com/downloads/en/details.aspx?familyid=184075d2-40b5-4172-88ae-878f81896d4d&displaylang=en&tm*** |
| **Microsoft® pptPlex** | This complimentary download* works with Microsoft® Office PowerPoint® to let you zoom in and out of slide sections and move directly between slides that are not sequential in your presentation. | ***http://www.officelabs.com/projects/pptPlex/Pages/default.aspx*** |
| **Microsoft® Ribbon Hero™** | A game for Office Word, PowerPoint, and Excel® 2007 and 2010, designed to help you or your students boost your Microsoft Office skills and knowledge in a fun way. | ***http://www.officelabs.com/projects/ribbonhero/Pages/default.aspx*** |
| **Microsoft® SeaDragon®** | SeaDragon allows you to zoom in and pan around any image on the Web. Just give us the URL to an image on the Web. | ***http://seadragon.com*** |
| **Microsoft® Security Essentials** | Provides real-time protection for your home PC that guards against viruses, spyware, and other malicious software. Always kept up to date and it's easy to tell if your PC is secure — when you're green, you're good. It's that simple. | ***http://www.microsoft.com/security_essentials/*** |

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| **Microsoft® Songsmith®** | Songsmith generates musical accompaniment to match a singer's voice. Just choose a musical style, sing into your PC's microphone, and Songsmith will create backing music for you. Then share your songs online, or create your own music videos. | To download the trial version*: ***http://research.microsoft.com/en-us/um/redmond/projects/songsmith/***<br><br>To download* a complimentary full version for your school: ***http://partnersinlearning network.com*** |
| **Microsoft® TeacherTools** | How to's, templates, tutorials and lesson plans plus a teachers' network where you can connect with others. | ***http://www.microsoft.com/australia/education/teachertools/*** |
| **Microsoft® Touch Pack for Windows® 7** | This site offers a collection of Microsoft games and applications for your multi-touch PCs and laptops running Windows 7 including Surface Globe, a program that you can use to explore the earth as a flat 2D or immersive 3D experience. | ***http://www.microsoft.com/downloads/en/details.aspx?FamilyID=b152fadd-82e4-4ddb-a46a-aebe49944428&displaylang=en*** |
| **Microsoft® Worksheet Generator** | Create your own maths worksheets in minutes. You can generate multiple maths problems based on a sample – from basic arithmetic through to algebra. | ***http://www.educationlabs.com/Projects/MathWorksheetGenerator/Pages/default.aspx*** |
| **MSDN AA** | MSDN Academic Alliance is a faculty-based subscription providing teachers and students access to a comprehensive range of Microsoft tools, including, Windows 7, VS2010, Expression® 4, Windows Server® and much more. | Sign up and take advantage today! ***www.msdn.microsoft.com/en-au/academic*** |
| **Windows Live® Essentials beta** | Free beta versions of Microsoft programs for photos, movies, instant messaging, email, blogging and more. Get them all in one easy download.* | ***http://explore.live.com/windows-live-essentials-beta*** |
| **Windows Live Mesh 2011** | Sign up for this complimentary service that lets you synchronise files across your work computer, laptop, Mac® or PC and mobile phone so you always have the latest version handy. | ***http://www.mesh.com*** |
| **Windows Live® Messenger** | Easily connect to other teachers via video, text or voice. | ***http://explore.live.com/windows-live-messenger?os=win7*** |
| **Windows Live® Movie Maker** | A fast, easy way to turn photos and video clips into great looking movies and slideshows that you can share with students, other faculty or on the Web. | ***http://download.live.com/moviemaker*** |
| **Windows Live® Photo Gallery** | This complimentary download* lets students load photos and videos from a camera to their PCs. They can also crop, recolour and retouch their photos and create impressive panoramics. | ***http://download.live.com/photogallery/*** |
| **Windows Live® SkyDrive®** | 25 GB of complimentary storage so your students don't need a USB. Sign up using your Windows Live® ID. | ***http://skydrive.live.com*** |
| **Windows Live® Writer** | A complimentary blogging tool for students. They can share comment, photos and videos on almost any blog service: Windows Live®, WordPress, Blogger, LiveJournal, TypePad, and many more. | ***http://download.live.com/writer*** |
| **Windows Media® Center** | Turn a classroom PC into a TV, where you can play videos and music. | ***http://www.microsoft.com/windows/windows-media-center/default.aspx*** |
| **Windows® PowerToys** | PowerToys are additional programs that developers work on after a product has been released to manufacturing. They'll add fun and functionality to your Tablet PC experience. | ***http://www.microsoft.com/windowsxp/downloads/powertoys/tabletpc.mspx*** |
| **WorldWide Telescope** | This amazing virtual telescope brings together imagery from ground and space telescopes from around the world, so students can explore the galaxy, the solar system, the planets and their moons. | ***http://www.worldwide telescope.org/Home.aspx*** |

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*Download fees and charges may apply as set by your Internet service provider.

# Notes

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To learn more about Microsoft® Partners in Learning, visit

**www.microsoft.com.au/partnersinlearning**

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