

Using Technology in the Elementary Classroom By Marilyn Western

Get Involved! Solve the Problem! Interactive Role Playing on the Web

How can you use technology to get kids problem solving, actively involved, and have fun at the same time? If you have an internet connection in your classroom, here are several web 'games' that can get kids to apply knowledge - and continue learning. Check out these great sites and do a little exploring before you let the kids loose. Each activity involves solving a problem of some sort – from designing an earthquake-proof bridge, to joining Lewis & Clark on their journey, to helping a fish eat & keep from being eaten. There's something for everyone in this list. Enjoy!

Science

Who Dunit? at <http://www.cyberbee.com/whodunnit/crime.html>

Students become forensic scientists by learning about fingerprinting (classification), powder analysis (chemistry), teeth impressions (observing and comparing), and foot to height ratio (data comparison using an Excel spreadsheet template). You'll have to gather a few materials to explore each of these background explorations. When students have completed the experiments, they can try applying their new knowledge to solve *The Case of the Barefoot Burglar*.

The NASA SCIENCE Files at http://scifiles.larc.nasa.gov/kids/Problem_Board/problem_board.html

Based on *The NASA SCIENCE Files* television series (broadcast on many PBS stations), each problem adventure uses action plans, a problem log, and a final report. Recent cases are *Puzzling Pyramids* (simple machines), *Catastrophe at Catchalot* (earthquakes), *Suspicious Sickness* (identify a mysterious illness), and *Spacey Scavenger Hunt* (outer space). More 'cases' from previous seasons are listed. Good practice in scientific process.

Orca Odyssey at <http://schoolcentral.com/whale/htm/LifeCycle3.htm>

This site is a great extension to a study of life cycles. Students become involved in a 'field trip' to learn about the Orca whales. Cleverly illustrated, students are exposed to a LOT of info on Orcas. Check out the additional activities – a memory game matching vocabulary with definitions, create your own Orca food web, the Fish or Whale game (characteristics of each) and an echolocation demo.

Super Bridge at <http://www.pbs.org/wgbh/nova/bridge/index.html>

Students can practice their engineering skills at this *NovaOnline* site by matching four styles of bridges to four locations. Filled with easy to digest information, this web site (a companion site to the television broadcast) would be an excellent introduction to student-built bridges.

Shedd's Aquarium <http://www.sheddaquarium.org/sea/>

Something for every grade level here. *Squish the Fish* will help K-2 students learn about what fish eat as well as shape, color, and behavioral adaptations for survival. Text is read aloud to help non-readers, and students are often presented with choices to make. Nicely interactive. *Build-a-Fish* is geared toward grades 3-6. Build your own fish, then 'drive' it around the reef to find food and avoid predators. Older students (grades 6-9) will enjoy learning about shark biodiversity in *Mysteries of Apo Island*. Solve the mystery of what's taking chunks out of local sea life by collecting clues and keeping an online notebook. Lots of pictures and interesting stories.

Geo Mysteries <http://www.childrensmuseum.org/geomysteries/index.html>

Mysteries about rocks, fossils and minerals to be solved. Each page presents information in small doses and contains several answers to choose from. Three adventures – the *Mystery of the Floating Rock* (how rocks are formed), the *Mystery of the Broken Necklace* (fossils), and the *Mystery of the Golden Cube* (characteristics of minerals) cover the study of rocks and minerals quite completely.

Secrets @Sea at <http://www.secretsatsea.org>

As Paula Pacific, ace reporter, students have resources to help figure out why local killer whales are behaving oddly. Collect *Creature Cards* as you go, use your *Field Guide* to find answers, and save your information in your *Notebook*. Also available as a cd rom game which allows you to save materials.

Case of the Broken Loop at <http://www.epa.gov/epaoswer/osw/kids/pdfs/4-6.pdf>

This pdf file is meant to be printed out to use in the classroom. The mission is to figure out how to repair the 'broken loop' – valuable resources that were thrown away instead of recycling, and paint and cleaners that were not disposed of properly. Students must decode pieces of evidence to fix the loop: matching words to definitions, completing a crossword puzzle, a word scramble, decoding a secret message, a word search, and matching raw material 'clues' with final product 'suspects'. The final puzzle uses information learned in the evidence activities and if solved correctly, the final puzzle allows the loop to be closed.

Build a Prairie <http://www.bellmuseum.org/distancelearning/prairie/build/index.html>

No mystery here, but students have a chance to choose the plants and animals for a prairie restoration project. A very well written field guide and dictionary are provided. Students are gently nudged toward correct choices. Cool animations.

Math

Who Stole the 2nd Quarter report cards? at

<http://www.csmate.colostate.edu/cltw/cohortpages/fenderson/MysteryMath.html>

This is an offline interactive mystery designed by a teacher who has an interesting idea for creating your own personalized in-school mystery. This would take some work to reproduce, but the benefits would be great.

Might be a good idea to work up next summer when you have more time.

Where in the world and what in the world is money? at

<http://www.imf.org/external/np/exr/center/students/money/index.htm>

Students are transported to various times and places throughout the world by a broken time machine and learn what people in various places have historically used for money. Select the correct answer and you go on to the next culture. Select the incorrect answer and you get feedback from the natives (and another chance). Lots of text to read, but an interesting history lesson.

Lemonade at <http://www.ae4rv.com/games/lemonade.htm>

Lemonade – with ads at <http://www.coolmath4kids.com/mathgames/lemonade/>

Kids get lots of math practice as well as a great lesson in economics from either of these sites. The first game gives you \$3 to start and it will cost you 15 cents per glass to make your lemonade. You purchase advertising signs and have to decide what you will charge per glass and how many glasses to make. You'll get a tally of what you have made at the end of each day (up to 30 days). The second site has ads and is a little more complex. Here you purchase cups, lemons, sugar and ice and have weather to consider for 30 days. Either game would be great for small groups to tackle.

Social Studies

Order in the Court <http://www.history.org/History/teaching/order/court.html>

Students take on the role of a justice of the peace during colonial times. There are three cases to try: *The Case of the Tattered Tobacco*, *The Case of the Pilfered Poultry*, and *The Case of the Mocked Monarch*. Each has a cast of characters including a clerk, the sheriff, the accused, and various witnesses to question. At the end, students make their verdict and then find out the actual outcome of the trials.

Jefferson's West <http://www.eduweb.com/portfolio/jeffwest/index.html>

Go along with Lewis and Clark on their famous expedition. Choose a character and go West, collecting things (like honeysuckle and a badger), and trading with Indians. Keep a journal about things you see and collect. Very similar to a primitive video game – kids will love it!

Leonardo's Workshop <http://www.sanford-artedventures.com/play/leonardo/index.html>

Oh, no! Someone has gone back in a time machine and changed history. You're off to travel back to the time of Leonardo da Vinci. Detectives need to explore his workshop, collecting items. Luckily, you also take along a handbook with lots of information about the Renaissance. Good luck!

If you enjoyed these resources, you'll love exploring these collections:

Educational Web Adventures <http://www.eduweb.com/portfolio/adventure.php> with Science, Social Studies, Art adventures by grade level

Sanford ArtEdventures <http://www.sanford-artedventures.com/play/play.html> with primary and intermediate Art adventures

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