

Science Games For Children
GENERAL SCIENCE GAMES
(Teaching basic scientific principles)

Kinetic City is an online science activities site dedicated to children grades 3 to 5. Some of the games are fun enough to teach and entertain children and adults past the fifth grade. (www.kineticcity.com)

Games include:

- *All Systems Are Go!* where players help Arnold (supposedly Schwarzenegger) click and drag his respiratory, digestive, nervous, and circulatory systems back into the correct position in his body.
- *Gravity Launch* teaches angles, motion, and basic physics using satellites.
- *Zap!*, which teaches about reaction time by helping a frog try to catch a fly.

Planet Science has some of the best science games and activities on the web. (www.scienceyear.com/wired/)

Games include:

- *Earth Rock Hunter* (which is reminiscent of old Atari games), where you fly through space shooting aliens and collecting rocks from the former planet Earth, which exploded. After you collect the rocks, you have to answer geological questions before you are paid, or given points, for the rocks.
- *Energize*, where you try to stop pollution by turning Smog Jockeys into Eco Monkeys while traveling in your Eco-raft down a polluted stream in front of a smoke billowing factory.

GAMES TEACHING ABOUT SPECIFIC TOPICS

COMPUTER SCIENCE

- *Neverwinter Nights* teaches computer programming, visual design, and more. It must be purchased, but it will operate on Linux, Mac, and Windows. Neverwinter Nights is great for all sorts of learning because such a complicated and modifiable game. Teachers could even have students use it to build scenarios that could then be used to teach other students.
- *Cosmic Blobs* (<http://www.cosmicblobs.com/software/index.html>)
Cosmic Blogs is a computer animation program that teaches concepts of form, shape, and movement, as well as basic computer skills and a level of comfortability with technology. This must be purchased.
- *Josie True* (<http://www.josietrue.com/>)
Mary Flanagan's *The Adventures of Josie True* is a web-based historical adventure game for girls. The hero of the game is Chinese-American Josie True, a regular girl who becomes involved in intrigue across time and space as she tries to find her inventor-turned-teacher Ms. Trombone. This is a free online game with over 11 cool science, math, + technology games in this internet adventure. One thing that makes this site appealing is that it has a phenomenal teacher's guide that gives prep for teachers before the games and worksheets and activities to reinforce the concept after the game.

NATURE

- National Geographic interactive maps teaches about Earth's ecosystems (<http://www.nationalgeographic.com/wildworld/>)
- PBS interactive nature (<http://www.pbs.org/wnet/nature/fun.html>)
- Planet Science doesn't claim to be the most amazing science site like Kinetic City, but it does declare to have the best science games and activities on the web (www.scienceyear.com/wired/).
- Other general science games you can demo online and then purchase: Role-playing photo hunt in Yellowstone (<http://www.spinapse.com/products/photohunt/>)

ART AND NATURE

- Two beautiful and delicate introductions to the beauty of nature and science are the Orisinal games. (<http://www.ferryhalim.com/orisinal/>)
- And, *AquaMoose 3D* (<http://www.cc.gatech.edu/elc/research.html>)
- *Grow* – a beautiful game that teaches how objects affect those around them. (<http://www.albinoblacksheep.com/flash/grow.php>)
- <http://www.funbrain.com/>
- Explanatoids teaches about science. While these aren't really games, students are certain to enjoy watching these and exploring the website: (<http://www.explanatoids.org>)

ENGINEERING

Bridge Building Games

- <http://www.pbs.org/wgbh/buildingbig/bridge/challenge/multi/meeting.html>
- <http://www.bridgebuilder-game.com/links.php>
- <http://www.gingerbooth.com/courseware/pages/demos.html#toys>
- Build a satellite (<http://www.thetech.org/hyper/satellite/>)
- Do it yourself 3D model building blocks (<http://www.distorter.net/builder/default.asp>)

ORGANIZATIONAL AND CRITICAL THINKING GAMES

- Games like *SIM CITY* and the *Civilization* games teach city building, social trends, and about issues like irrigation, farming, city zoning, and more. These games must be purchased, but they are extremely fun and students can learn many different skills and concepts.

HEALTH

- http://www.connectforkids.org/resources3139/resources_show.htm?attrib_id=374&doc_id=255417
- <http://healthfinder.gov/kids/>
- <http://www.kidshealth.org/kid/>

PLAGUES

- Infectious disease study game (<http://www.amnh.org/nationalcenter/infection/infectionindex.html>)
- Epidemic/who wants to be a millionaire game (<http://www.disted.mcw.edu/mpm/epidemic/millionairegame/millionairegame.htm>)

- Paper-based plague game http://www.mcn.org/ed/cur/cw/Plague/Plague_Sim.html
- Online of the same
(<http://scorescience.humboldt.k12.ca.us/fast/teachers/Plague/P.html>)

GIRL SCOUTS

- *GirlTech* has a “game cafe” where you can download instructions on science games to play with your friends, but it is not an actual video game. This is quite prevalent now as online gaming for both girls and education becomes more popular.
(www.girltech.com)

CHEMISTRY

- Proton Don’s Game to learn the periodic chart
(www.funbrain.com/periodic/index.html) or other element games from the Jefferson lab (<http://education.jlab.org/indexpages/elementgames.html>).

BIOLOGY

- Virtual frog dissection kit (<http://froggy.lbl.gov/>). After learning the parts of a frog, students reconstruct a 3-D virtual frog, piece by piece, by pointing and clicking to complete the frog’s anatomy (<http://froggy.lbl.gov/cgi-bin/dissect>). The Virtual Frog is just one example of the many video games and interactive websites that help students of all ages learn science.
- Cool board game that teaches the basics of genetics
(<http://www.edvotek.com/S-80.html>)

SCIENTIFIC AND TECHNICAL WRITING

- Almost all games can teach scientific and technical writing through the fan walkthroughs, which detail how parts of the game operate and how to play each section, including details on how to perform certain maneuvers and more. To see examples, see (<http://www.gamefaqs.com/>)

OTHER, NON-COMPUTER GAMES

- Many games aren’t directly created to teach still teach scientific concepts. In non-free, console game systems, games like the Nintendo GameCube’s *Super Mario Sunshine*, *Pikmin*, *Metroid Fusion*, and *Beyond Good and Evil*.
- Almost all games teach basic scientific concepts, along with most games that use evolutionary monsters (where the monsters slowly become stronger versions of the earlier monsters – *SMB*, *Maximo*, MMORPGs), creatures indigenous to their regions (*Legend of Zelda*, MMORPGs, almost all games), and more.

Overall, the best games for education are the games that both teach abstract skills like critical thinking, accurate real world data, and games that are fun to play so that kids will play them. This list includes some of the best games we’ve found and we encourage you to email us (using the contact form here: <http://www.recess.ufl.edu/contact.shtml>) with any games that you find so we can keep our online list updated and useful as we encourage kids in science.