

International Education Science/Mathematics Connections

General

<http://www.mathgoodies.com/webquests/climate> Mathematics and Global Climate Change: Lesson plans, topic links, related math worksheets

<http://sln.fi.edu/school/math3/index.html> Franklin Institute: Melting Pot Math – math problems/calculations based on other cultures

Ancient Empires

<http://www.pbs.org/wgbh/nova/lostempires/> NOVA: "Secrets of Lost Empires" – Medieval Siege, Pharaoh's Obelisk, Easter Island, Roman Bath, China Bridge

<http://www.teachersdomain.org/resource/hew06.sci.phys.maf.trebuchet/> Potential and Kinetic Energy, Force, Lever, etc. Site connects with/complements NOVA's "Secrets of Lost Empires" series at <http://www.pbs.org/wgbh/nova/lostempires/trebuchet>

<http://www.discovery.com> "What the Ancients Knew:" 1-3 min. Videos Related to Math/Science (Golden Ratio, Buoyancy, Battering Ram, Archimedes Screw, Levers & Pulleys, Catapult, Coliseum Elevators, Roman Weapons, Aqueducts, Crane, Arch Design, Pyramids, etc.). In Search Box, type "What the Ancients Knew" to access hundreds of video clips.

<http://www.carlwozniak.com/MSED250files/LeversInHistory.ppt> PowerPoint Showing How Ancient Egyptian, Roman, Chinese Used Levers

<http://fi.edu/learn/tut/5-8/links.html> Franklin Institute: The Science of Ancient Egypt – Lesson plans & activities connected to Egypt

<http://www.youtube.com/watch?v=jE1UFKczQ04> "The Story of Maths:" (Episodes 1, 2, 3, 4) BBC Documentary on the History of Mathematics. Connects various areas of mathematic developments to different locations of the world. Very interesting connections. Really good.

http://www.popularmechanics.com/home_journal/workshop/4328400.html 3 Mysterious Builds: How Ancient Peoples Moved Monoliths — Stonehenge, Pyramids, Easter Island Statues

http://www.pbs.org/wgbh/nova/parthenon/program_t.html (NOVA: entire Secrets of the Parthenon video, divided into 5 chapters (8-12 minute segments) describes history of Greece, marble quarries, illusion techniques, perfect proportions, standardized units of measure, architectural dimensions, golden ratio, etc.) Complete PBS NOVA TV Program 1/08 (<http://www.pbs.org/wgbh/nova/parthenon> links to page with teacher's guide, other resources, etc)

<http://www.theglobaleducationproject.org/egypt/articles/stonetech.php>
Ancient Egyptian Stone Technology: Egyptian methods of cutting, sawing, drilling, etc. explored in relation to technology used by the ancient builders.

<http://www.asiasociety.com/education-learning/resources-schools/secondary-lesson-plans/indian-mathematical-achievements> Indian mathematicians

<http://science.discovery.com/videos/what-the-ancients-knew-force-achimedes-style.html>
Discovery Channel: "What the Ancients Knew" Series - Many short online video clips (1-5 minutes) that look at well-known scientific/mathematic principles (buoyancy, force, golden ratio, arch, crane, etc) used by the ancient Greeks.

Ancient Empires

Easter Island

<http://www.pbs.org/wgbh/nova/easter/> NOVA: "Secrets of Easter Island" – compatible with "Secrets of Lost Empires" at <http://www.pbs.org/wgbh/nova/lostempire>

<http://www.teachersdomain.org/resource/phy03.sci.phys.energy.moai/> Video Recreating Raising Moai at Easter Island Using Levers. Site lets you search, gives state standards, lessons, etc. Compatible with NOVA site.

http://www.world-mysteries.com/easter_island.htm Easter Island historical background, photos, mystery surrounding, statues statistics, map, transportation theories, etc.

Egyptian Pyramids

<http://www.pbs.org/wgbh/nova/egypt> NOVA: "Mysteries of the Nile" - great set-up for classroom projects and lessons. Obelisk loading on barge and raising theories and experiments, pyramids, ancient Egypt, famous sites, resources, teacher's guide, etc. Very inclusive with series of extensive applications.

<http://www.pbs.org/wgbh/nova/pyramid> NOVA: "Pyramids – The Inside Story." Great with NOVA "Mysteries of the Nile." Very extensive site with many avenues to explore.

<http://www.theglobaleducationproject.org/egypt/studyguide/gpmath.php> Dimensions and Mathematics of the Great Pyramid and Additional Information on the Pyramids

http://www.thekeep.org/~kunoichi/kunoichi/themestream/egypt_maths.html Details Geometric Precision and Mathematics Used in Constructing Egyptian Pyramids

Global Issues

<http://www.climatechangeeducation.org/k-12/math.html> Lesson plans from Climate Change Education.Org. Searchable by subject and grade. Extensive site, all topics related to various climate change issues. Great for all subject areas.

<http://www.keystonecurriculum.org/index.html> The Keystone Center: Resources and lesson plans on the topic of climate change subject area and correlated to Curricular Standards. Also lots of teacher web resources by topic.

Other Cultures

http://www.livescience.com/history/070222_medieval_tiles.html Medieval Islamic Mosaics Used Modern Math

<http://www.sfusd.k12.ca.us/schwww/sch618/Art/Art2.html> Islamic Art Uses Complex Geometric Designs)

<http://teachersnetwork.org/teachnetnyc/fianni/pisa.htm> Leaning Tower of Pisa and Math/Physics