

DYNAMIC PLANET 2017 ONLINE LIBRARY
All Internet Links Active as of 6/29/16

Use this online library to further research topics associated with the Dynamic Planet Event Rules that you may need a better understanding of, or to expand your knowledge of plate tectonics, earthquakes, volcanoes and Earth's planetary structure.

THE SCIENTIFIC METHOD AND HYPOTHESIS WRITING

http://www.sciencebuddies.org/science-fair-projects/project_scientific_method.shtml

Science Buddies webpage providing key info and a nice flow chart of the scientific method.

<https://sciencebob.com/science-fair-ideas/the-scientific-method/>

Science Bob discussion of the Scientific Method with downloadable PDF.

<http://www.geosociety.org/educate/NatureScience.pdf>

Detailed discussion of the scientific method by the Geological Society of America.

<https://www.youtube.com/watch?v=BVfl1wat2y8>

A good video that highlights differences in how the scientific method is used by different disciplines. Includes nice flow charts.

<https://www.youtube.com/watch?v=EJTqG-RQeT8>

Basic discussion of differences between independent and dependent variables.

<http://www.wikihow.com/Write-a-Hypothesis>

Wiki-How 13 steps to writing a hypothesis

<http://www.public.asu.edu/~kroel/www500/hypothesis.pdf>

University of Arizona detailed description of hypothesis writing.

<http://www.lincolnlutheran.org/book/export/html/1428>

Classroom guidelines for writing a hypothesis

<http://documents.routledge->

interactive.s3.amazonaws.com/9781848721166/chapter1/Ch01_Hypothesis_writing-examples.pdf

Very detailed PDF showing elements of writing a hypothesis and experimental design

http://www.earthonlinemedia.com/ebooks/tpe_3e/essentials/geography%20and%20the%20scientific%20method.html

Geography and the scientific method- important in working with remote sensing images

<http://www.onestopenglish.com/clil/clil-teacher-magazine/your-clil/hypothesis/hypothesis-geography/551493.article>

An excellent grammatical guide to writing geographical hypotheses

<http://www.onestopenglish.com/clil/clil-teacher-magazine/your-clil/hypothesis/hypothesis-geography/551493.article>

Physical Geography discussion of hypothesis testing

<http://www.geography.learnontheinternet.co.uk/gcse/coursework/introduction.html>

Internet Geography outline of hypothesis writing

<https://www.pinterest.com/markvanhecke/science-teaching-pins/>

Check out my Science Teaching Pinterest Board for lots of great tips and articles related to science education.

SCIENCE PROCESS SKILLS

<https://www.narst.org/publications/research/skill.cfm>

National Association for Research in Science Teaching outline of science process skills needed by students

<http://www.longwood.edu/cleanva/images/sec6.processskills.pdf>

Excellent PDF of science process skills

<file:///C:/Users/mvanhecke/Downloads/POWModule3ScienceProcessSkills.pdf>

4-H discussion of science process skills in PDF form

<http://my.ilstu.edu/~jdpeter/THE%20SCIENCE%20PROCESSES.htm>

Illinois State University discussion of science process skills. Excellent descriptions of skills but lacks images

https://serc.carleton.edu/sp/library/process_of_science/how_process_science.html

Pedagogy in Action discussion of strategies for teaching science process skills

https://serc.carleton.edu/sp/library/process_of_science/how_process_science.html

Intel chart of science process skills

<https://www.pinterest.com/markvanhecke/science-vocabulary-pins/>

Check out my Science Vocabulary Pinterest Board for lots of great tips for teaching science vocabulary.

GENERAL EVENT RESOURCES

<https://www.pinterest.com/markvanhecke/science-olympiad/>

Check out my Science Olympiad Pinterest Board for current PPTs and other event tips

<https://www.pinterest.com/markvanhecke/earth-science-pins/>

Check out my Earth Science Pinterest Board for lots of great websites, infographics and ideas.

<http://www.waterproofpaper.com/graph-paper/>

Source of free printable graph paper and maps

<http://geology.com/time.htm>

Geology.com webpage describing the geologic time line.

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<http://geology.com/teacher/>

A great website by Geology.com featuring a cornucopia of resources for teaching any branch of Earth Science.

<http://education.usgs.gov/>

USGS portal for K-College Earth Science teaching resources

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

Lengthy National Geographic video that provides an excellent introduction to this year's event topics.

http://www.slideshare.net/jtripp8/chapter-1-plate-tectonics-power-point?qid=7efc2b26-8222-46ea-ac9f-767db9e6ebfb&v=&b=&from_search=4

Well-illustrated presentation of most topics related to this year's event topics.

<http://www.slideshare.net/ltanigawa/plate-tectonics-slides-re>

Another well-written presentation discussing plate tectonics and boundaries

<http://www.earth.northwestern.edu/people/seth/107/>

A very comprehensive resource for plate tectonics, earthquakes, volcanoes and other aspects of structural geology

<http://aashscience.weebly.com/plate-tectonics.html>

Excellent teacher website with lots of great resources for plate tectonics

<http://allfreeprintable.com/tectonic-plates-map>

Source of free printable maps

<http://crescentok.com/staff/jaskew/ISR/ps/class42.htm>

A great Internet Science Room website featuring plate tectonics, volcanoes and earthquakes

THEORY OF TECTONIC PLATE MOVEMENT

<http://www.physicalgeography.net/fundamentals/10i.html>

Physical Geography page featuring a well-written and well-illustrated introduction to plate tectonics

<http://nationalgeographic.org/media/plate-tectonics/>

National Geographic web page and video discussing plate tectonics

<https://www.pinterest.com/markvanhecke/plate-tectonics/>

Check out my Plate Tectonics Pinterest Board for lots of great infographics, websites and articles related to plate tectonics and associated features.

https://www.classzone.com/books/earth_science/terc/navigation/chapter08.cfm

Exploring Earth online text resources by McDougall Little includes some excellent animations of plate tectonics. The investigations are good introductory level activities.

http://www.ck12.org/earth-science/Continental-Drift/lesson/Continental-Drift-HS-ES/?referrer=featured_content

CK-12 Earth Science chapter on Wegener's Theory of Continental Drift. Nice illustrations and videos.

<http://www.slideshare.net/duncanpatti/plate-tectonics-notes>

Good introductory level discussion of plate tectonics and boundaries

http://www.slideshare.net/shoaib1982/plate-tectonics-6927703?qid=3dbc9ede-1e90-4357-9ffb-55e18ff1c43d&v=&b=&from_search=10

Somewhat detailed discussion of plate tectonics and boundaries. A good choice after introductory level activities have been completed

<http://www.regentsprep.org/regents/earthsci/units/earthquakes/tectonics.cfm>

NY Regents Pre for plate tectonics- well written and illustrated

IDENTIFICATION OF EARTH LAYERS

http://www.ck12.org/earth-science/Earths-Layers/lesson/Earths-Layers-HS-ES/?referrer=featured_content

CK-12 Earth Science chapter on Earth layers. Short, crisp text and well-illustrated. Includes practice activities. Check out some of the other chapters related to event topics.

<http://volcano.oregonstate.edu/earths-layers-lesson-1>

Oregon State University lesson on Earth Layers. Check out the other Chapter lessons on the right menu.

<http://pubs.usgs.gov/gip/dynamic/inside.html>

USGS Earth Layers webpage. Short and well-illustrated.

<http://nationalgeographic.org/encyclopedia/mantle/>

National Geographic webpage describing Earth's mantle and its sublayers.

<http://nationalgeographic.org/encyclopedia/crust/>

National Geographic webpage describing Earth's crust.

<http://spaceplace.nasa.gov/earth-fan/en/>

NASA layers of Earth webpage that includes an activity for making a fan to represent Earth structure. May be more appropriate for middle school.

<http://www.iupui.edu/~g115/mod04/pop02.html>

Detailed Pearson description of Earth structure

TYPES OF PLATES, BOUNDARIES AND MARGINS

https://www.youtube.com/watch?v=hqp_TbIZU64

Somewhat dry but well explained video describing plate boundaries.

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<http://oceanexplorer.noaa.gov/facts/plate-boundaries.html>

NOAA Ocean Explorer website describing plate boundaries

<http://www.indiana.edu/~g103/plate/plate2.html>

Like many Indiana University resources, this webpage provides an excellent treatment of plate boundaries and margins

<http://science.nationalgeographic.com/science/earth/the-dynamic-earth/plate-tectonics-article/>

National Geographic Plate Tectonics webpage providing a well-written and illustrated discussion of plate boundaries

<http://adjr06.tripod.com/id8.html>

Simple discussion and animations of plate boundaries

<http://geology.com/plate-tectonics.shtml>

Geology.com animated webpage highlighting plate boundaries and margins

http://www.globalchange.umich.edu/globalchange1/current/lectures/evolving_earth/evolving_earth.html

Very detailed University of Michigan discussion of plate boundaries and margins.

TYPES OF TECTONIC BASINS

<http://www.csus.edu/indiv/k/kusnickj/geology12/tectonicbasins.html>

Historical geology website that covers many different kinds of tectonic basins including illustrations.

<http://geology.com/articles/east-africa-rift.shtml>

Geology.com well-written and illustrated web page describing East African rift valleys.

<http://www.le.ac.uk/gl/art/gl209/lecture3/lecture3.html>

Very thorough but well written treatment of rift formation and the Wilson Cycle in the development of ocean basins.

<http://nationalgeographic.org/encyclopedia/basin/>

National Geographic webpage providing a holistic treatment of the concept of basin- that is it includes river and ocean basins as well. Good for putting tectonic basins in perspective.

<https://www.youtube.com/watch?v=rc3da3-znK4>

One of my favorite videos describing stratigraphy and cross-cutting relationships

DRIVING FORCES OF PLATE TECTONICS

http://www.ck12.org/earth-science/Magnetic-Polarity-Evidence-for-Continental-Drift/lesson/Magnetic-Polarity-Evidence-for-Continental-Drift-HS-ES/?referrer=featured_content

CK-12 Earth science chapter on magnetic polarity as evidence for Continental Drift. Good introductory level discussion.

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<https://www.youtube.com/watch?v=ryrXAGY1dmE>

Well-animated basic discussion of forces driving plate tectonics

<https://www.youtube.com/watch?v=fKNuNZpV-Bk>

A good introductory level with nice animations related to forces driving plate tectonics.

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

A well animated and explained discussion of forces driving plate movement.

<http://pubs.usgs.gov/gip/dynamic/understanding.html>

USGS Understanding Plate Motions webpage. Includes a good discussion of plate boundaries.

<http://www.ucmp.berkeley.edu/geology/tectonics.html>

University of California Plate Tectonics webpage feature several interesting animations.

https://msnucleus.org/membership/html/k-6/pt/earthquakes/3/pte3_1a.html

Lab comparison of seismograms from the San Francisco Bay area

AULACOGENS AND HOT SPOTS

<http://www.geologyin.com/2015/02/what-is-aulacogen.html>

Description of an aulacogen

<http://www.geosci.usyd.edu.au/users/prey/Teaching/ACSGT/EReports/eR.2003/GroupB/Report1/styles.html>

Illustrated description of rifting styles

<http://volcano.oregonstate.edu/what-is-a-hot-spot>

Oregon State University website describing geologic hotspots. No illustrations.

<http://volcano.oregonstate.edu/hot-spot-volcanoes-hawaii-and-yellowstone-lesson-9>

A better Oregon State University webpage describing geologic hotspots.

<http://www.hawaiihistory.org/index.cfm?fuseaction=ig.page&PageID=364>

Well-illustrated and explained discussion of a Hawaiian hot spot beneath the Pacific Plate

ISOSTATIC ADJUSTMENTS

<https://www.cliffsnotes.com/study-guides/geology/inside-the-earth/isostatic-equilibrium>

Basic description of isostatic equilibrium

<https://www.youtube.com/watch?v=G9rN7qhUQZg>

Video lecture of isostatic adjustment

<https://www.youtube.com/watch?v=gY3j7PWH7fw>

Lengthy- but well detailed discussion of isostatic adjustment

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

Part II of previous video series

<https://www.youtube.com/watch?v=2eJD89Qt3LQ>

Part III of previous video series

<https://www.youtube.com/watch?v=ybd17tx4Tz4>

Another well-made and illustrated isostasy video

VOLCANISM

https://www.classzone.com/books/earth_science/terc/navigation/chapter09.cfm

Exploring Earth online text resources by McDougall Little includes some excellent animations of volcanism. The investigations are good introductory level activities.

<https://www.youtube.com/watch?v=DwROmLEd7sA>

A somewhat uneventful- but well explained introductory level video describing volcano formation.

<https://www.youtube.com/watch?v=WgktM2luLok>

Nice well explained and animated video that includes footage of all the things you find fascinating about volcanoes.

<https://www.youtube.com/watch?v=Xtkys3-T-Y8&list=PLQInTldJs0ZQmYcKNCBTiv2Ea64Qg0GJo>

National Geographic for Kids video series related to volcanoes. More appropriate for middle school.

<http://www.slideshare.net/graniteiii/types-of-volcanoes-11593943>

One-page Slideshare illustrating different types of volcanoes

<http://www.explorevolcanoes.com/types-of-volcano.html>

Explore Volcanoes.com website

<https://www.youtube.com/watch?v=lgIYDMby5WA>

Video of different volcano types

GEOLOGIC HISTORY OF NORTH AMERICA

<https://www2.nau.edu/rcb7/nam.html>

Paleogeography and geologic evolution of North America. Includes a nice index of maps.

<https://www.geol.umd.edu/~jmerck/geol100/lectures/25.html>

Historic geology of North America. Includes illustrations and descriptions of geologic provinces.

http://gec.cr.usgs.gov/data/geomap_natatlas/east.shtml

Comparison of 1965 and 2005 USGS geologic maps

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ECONOMIC GEOLOGY AND ENGINEERING PRACTICES

<https://www.eoas.ubc.ca/academic/careers/geolengineering.html>

University of British Columbia webpage describing engineering geology

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

Somewhat lengthy introduction to engineering geology including risk assessment for hazards. It does relate well with previous material, but you may want to jump around the video to find areas of interest to you.