CRS
COMMUNITY RESOURCES FOR SCIENCE
practical support for great science teaching

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Websites
5th Grade Earth Science

A Stream Table Makes a Miniature Stream

http://www.watersheds.org/earth/streamtable.htm
2nd;3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Student Background;Teacher Background
This site has some nice photos of different river formations modeled in the stream table and real life. Has good vocabulary links.

AfterSchool KidzScience

http://www.lawrencehallofscience.org/kidsite/collections-2/afterschool-kidzscience/
K;1st;2nd;3rd;4th;5th

Website Type: Teacher Activities;Teacher Background;Teacher Videos
This webpage offers a range of science kits designed for afterschool programs. These could certainly be used in the general classroom as well. At the bottom of the page is a series of videos on teaching strategies and how to use the kits. Valuable whether you are using the kits or not.

ASTER Earth Image Database

http://asterweb.jpl.nasa.gov/data.asp
4th;5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Student Background;Teacher Background
ASTER = Advanced Spaceborne Thermal Emission and Reflections Radiometer. This site has several different ways of looking at and exploring the details of this great source for data on planet earth

Astronomical Society of the Pacific

http://www.astrosociety.org/education.html
3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Teacher Activities;Teacher Background
Has filtered good educational activities on the web and also lists a sampling of hands-on astronomy activities from The Universe at Your Fingertips and the Teacher's Newsletter. Has links to other astronomy sites, online planetarium viewing, other institutions, information on Project Astro, teacher workshops and information and their catalog of astronomy products. Also provides a free newsletter for those teaching astronomy in grades 3 - 12. Parents: See Family Astro.

Bad Astronomy

http://www.badastronomy.com/bad/misc/index.html
3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Student Background;Teacher Background
Older site, but information is still accurate. As much fun as the movies are to review and the news is to analyze, it's the everyday misconceptions that are the heart and soul of Bad Astronomy. We learn a lot from school and our parents, but a lot of what fills our brain is "common knowledge", things we seem to accumulate out of thin air. Everyone knows that you can stand an egg on end on the first day of spring... or can you? Of course toilets flush the other way in the southern hemisphere... don't they?

BRIDGE

http://www.vims.edu/bridge
K;1st;2nd;3rd;4th;5th;6th

Website Type: Teacher Activities;Teacher Background
Online resources for marine science education. Has a link for elementary grades and curriculums/units specific for each grade, like Under the Sea, Pollution, Why is the Sea Salty and more. Also includes links to numerous real-time data sets which can be incorporated into your lesson plans.

Bucket Buddies

http://www.k12science.org/curriculum/bucketproj/
K;1st;2nd;3rd;4th;5th

Website Type: Student Background;Student Online Activities;Teacher Activities;Teacher Background
This is one of a group of CIESE's on-line data-collection projects that unite classrooms and teachers around the world through the use of real-time data that involves students in meaningful real-world learning. Students collect samples from local ponds to answer the question: Are the organisms found in pond water the same all over the world?

Build a Solar System

http://www.exploratorium.edu/ronh/solar_system/
3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Student Background;Student Online Activities;Teacher Background
a terrific calculator for scaling the solar system – plug in the diameter you'd like to see the Sun and the rest of the planets are revealed, along with a lot of other interesting relationships. Also features links to solar system modeling activities and other cool stuff like "how much do you weigh on other planets."

CA State Water Resources Board

http://www.swrcb.ca.gov/water_issues/programs/outreach/education/school/index.shtml
K;1st;2nd;3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Student Background;Student Online Activities;Teacher Activities;Teacher Background
This site has links to many resources about water. It has a section on games and interactives for kids, lesson plans for teachers, grants for teachers and more

Challenger Center for Space Science Education

https://www.challenger.org/stem-resources/
K;1st;2nd;3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Student Online Activities;Teacher Activities
Using space exploration as a theme, the Challenger Center web site offers a large searchable database of hands-on lessons related to the solar system and earth sciences, as well as podcasts, webcasts and interdisciplinary design challenges to do in your classroom.

Climate Change - Kids' Site

http://epa.gov/climatechange/kids/index.html
2nd;3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Student Background;Student Online Activities;Teacher Background
This EPA website is designed for kids learning about Global Climate Change. Good jumping off point for most grade levels and for teacher background.

Climate Change Education.Org

http://www.climatechangeeducation.org/
2nd;3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Student Background;Teacher Background
Portal Web Site Dedicated to: Global Warming Education, Climate Change Education, Science, Solutions -- Resources Directory

Color Changing Milk

http://www.stevespanglerscience.com/experiment/00000066
3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Teacher Activities
The following activity uses the movement of color in milk to give some hints about what type of milk it is. At one point, the color moves pretty fast so don't let it get past-your-eyes!!

Comunidad Educativa de Castilla y Leon Kingdoms of Living Things -site in Spani

http://www.educa.jcyl.es/en
5th

Website Type: Student Online Activities;Worksheets
Click-through explanations of the water cycle for students, as well as animations, games, and experiments. Content is in Spanish.

Cool Cosmos

http://coolcosmos.ipac.caltech.edu/
3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Student Background;Student Online Activities;Teacher Activities;Teacher Background
This great educational site from Cal Tech offers all sorts of resources to assist in learning about the universe. Using the fun, gear-like menu on the left of the screen, visitors can pick from site areas such as the Cosmic Classroom (which offers classroom activities, lessons, reference info and an Ask an Astronomer option), Cosmic Kids (where kids can learn about what's in space through stories and resources like the Infrared Zoo), the Video and Image Galleries, and lots more. The site should be a great resource for teachers introducing students to the study of the universe or those visitors who are simply interested in getting lost in space for a while.

Cool the Earth

http://www.cooltheearth.org/
K;1st;2nd;3rd;4th;5th;6th;7th;8th

Website Type: Student Online Activities;Teacher Activities;Teacher Background
Cool The Earth is a ready-to-run program that educates K-8 students and their families about global warming and inspires them to take simple actions to reduce their carbon emissions. The program is successful because it’s fun and empowering for the kids, and their enthusiasm is contagious! Includes assemblies, website tools, lesson plans

CuriosiKid - site is in Spanish

http://www.curiosikid.com/
1st;2nd;3rd;4th;5th;6th;7th;8th

Website Type: Student Online Activities;Teacher Activities
This site from El Museo de Los Ninos in Caracas, Venezuela has a bunch of on-line games and simple experiments for kids on most of the science topics. Site is all in Spanish.

Dan's Wild Wild Weather

http://www.wildwildweather.com
1st;2nd;3rd;4th;5th;6th;7th;8th;9th;10th

Website Type: Student Online Activities;Teacher Activities;Teacher Background
This site has some activities for students to do and an extensive teacher section with lesson plans and links to other good weather resources.

Dirty Water Project

http://teachers.egfi-k12.org/dirty-water-project/
3rd;4th;5th

Website Type: Teacher Activities

Civil, chemical, and environmental engineers work together to develop new water treatment systems or to improve existing ones. In this activity, teams of students in grades 3 – 5 investigate different methods (aeration and filtering) for removing pollutants from water, then design and build their own water filters.

Disappearing Water

https://eduref.org/lessons/science
K;1st;2nd;3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Teacher Activities
Science lessons at every grade level and topic

Down the Drain" Online Project

http://www.k12science.org/curriculum/drainproj/
4th;5th;6th;7th;8th

Website Type: Student Background;Student Online Activities;Teacher Background
This is one of a group of CIESE's on-line data-collection projects, interdisciplinary projects that unite classrooms and teachers around the world through the use of real-time data that involves students in meaningful real-world learning. Do you know how much water you use everyday? Do you think people in other parts of the world use more or less water than you? Join this project and find out! For other online data collection projects, visit http://www.k12science.org/collabprojs.html.

Earth Wind Map

http://earth.nullschool.net/
5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Student Online Activities
This interactive map shows the current pattern of wind across the planet. With your cursor you can move the point of view around to see any point on the globe you prefer. Click on the word Earth in the lower left corner to get more info.

Edu Place - Weather Activities

http://www.eduplace.com/cgi-bin/searchengine.cgi?SEARCH=Weather&WORD_POINTS=0,1,0,0
K;1st;2nd;3rd;4th;5th

Website Type: Teacher Activities
17 grade-level activities about weather observation and weather science from Houghton Mifflin's on-line library of classroom activities. Check their index for activities in other subjects too!

EL SISTEMA SOLAR

http://www.educar.org/SistemaSolar/
K;1st;2nd;3rd;4th;5th

Website Type: Student Background;Student Online Activities;Teacher Background
This site is all in spanish with photos, diagrams and basic information about the solar system.

Enchanted Learning "Label Me" Printouts

http://www.enchantedlearning.com/label/
K;1st;2nd;3rd;4th;5th;6th;7th;8th

Website Type: Student Background;Teacher Activities
This Web site contains elementary-level diagrams on many subjects which may be printed out and labeled for practice. The diagrams come with a word bank, complete with definitions printed on the same page. Diagrams are available, including the human eye, ear, brain, skeleton, teeth, plant parts, animals and insects, geology and weather. Some diagrams also available in French, German, Italian, or Spanish.]

EPA Ecosystems Teaching Resources

https://www.epa.gov/students/lesson-plans-teacher-guides-and-online-environmental-resources-educators
K;1st;2nd;3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Student Background;Student Online Activities;Teacher Activities;Teacher Background
links to a wide variety of teaching resources; curriculum and lesson plans; on-line data projects, etc.

EPA Water Curriculum

https://www.epa.gov/students/lesson-plans-teacher-guides-and-online-environmental-resources-educators
K;1st;2nd;3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Student Background;Teacher Activities;Teacher Background
Offers various water curriculum and water activities on drinking water, ecosystems, lakes, oceans, rivers, water pollution, watersheds. Activities and curriculum on conservation energy, environmental stewardship, natural resources, pollution prevention. drinking water, fish advisories, indoor air, lead, ozone depletion, pesticides, radon, smog, garbage, household, hazardous & solid waste, landfills, superfund cleanups, trash. Has a kids page.

ESA Kids

http://www.esa.int/esaKIDSen/index.html
3rd;4th;5th;8th

Website Type: Student Background;Student Online Activities
ESA Kids has tons of fun activities, neat lab and art activities, and interesting facts for students to explore. There is also a great vocabulary index and some news bulletins so students and teachers can stay up-to-date with new space discoveries.

Exploratorium - Global Climate Change - Research Explorer

http://www.exploratorium.edu/climate/index.html
5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Student Background;Teacher Background
At this Web site, you can explore scientific data relating to the atmosphere, the oceans, the areas covered by ice and snow, and the living organisms in all these domains. You'll also get a sense of how scientists study natural phenomena —how researchers gather evidence, test theories, and come to conclusions.

Exploring Planets in the Classroom

http://www.spacegrant.hawaii.edu/class_acts/index.html
3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Student Background;Student Online Activities;Teacher Activities;Teacher Background
Hands-on activities in solar system, planetary properties, volcanology, impact craters, dynamic earth, gradation, gravity forces and rockets, the moon, remote sensing.

Eyes on Exoplanets App

http://eyes.jpl.nasa.gov/eyes-on-exoplanets.html
2nd;3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Student Background;Student Online Activities;Teacher Background;Student Videos
Get set for launch. "Eyes on Exoplanets" will fly you to any planet you wish—as long as it's far beyond our solar system. This fully rendered 3D universe is scientifically accurate, allowing you to zoom in for a close look at more than 1,000 exotic planets known to orbit distant stars. With the click of a mouse, you can visit newly discovered gas giants, Earth-sized planets and "super Earths"—rocky like ours, but gargantuan. The program is updated daily with the latest finds from NASA's Kepler mission and from ground-based observatories around the world as they hunt for planets like our own. You can instantly find out the time it would take to travel to each planetary system by car, jet plane, bullet train or starship. Use an overlay to compare the orbits of planets in our solar system with those around other stars. Or you can search for planets that might support life by toggling the "habitable zone" display, showing the region around a star where temperatures are right for liquid water.

Filling Without Spilling

http://www.lawrencehallofscience.org/kidsite/portfolio/filling-without-spilling/
K;1st;2nd;3rd;4th;5th

Website Type: Student Background;Student Online Activities;Teacher Activities
Can you overfill a glass with water and not spill any? "Surface tension" keeps water molecules sticking together. How does soap or salt change that? Count water drops you drip on a penny without spilling, report results online and compare them to other drop-drippers.

Glacier Photographs and Information from National Snow and Ice Data Center,

http://nsidc.org/gallery/
4th;5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Student Background;Student Online Activities;Teacher Background
Website with photo collections, slide shows, descriptions of glacial process.

GLOBE

http://www.globe.gov
K;1st;2nd;3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Student Online Activities;Teacher Background
GLOBE encourages students to utilize on-line data to help answer questions about how the environment around them works. Through investigation projects students do science, learning the importance of creating hypotheses, analyzing data, drawing conclusions and reporting their results.

Go to the Head of the Solar System

http://www.nasa.gov/audience/forkids/kidsclub/flash/games/levelfive/KC_Solar_System.html
3rd;4th;5th

Website Type: Student Online Activities
Students can review their knowledge about the solar system and learn even more as they play this question-and-answer game.

How Fast is the Wind

http://www.lawrencehallofscience.org/kidsite/portfolio/how-fast-is-the-wind/
K;1st;2nd;3rd;4th;5th

Website Type: Student Background;Student Online Activities;Teacher Activities
To get energy from the wind, the wind has to blow fast enough. Measure wind speeds near your home or school by making a spinning anemometer. When does the wind blow fastest or slowest? Enter measurements online and compare them to wind speeds across the country.

How to Predict the Weather by Reading Clouds - Video

http://www.youtube.com/watch?v=DJCIzpjBxuI
5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Teacher Background;Student Videos;Teacher Videos
5:18 Video with some basics on how to read weather maps, but more on cloud types, what they look like and what they mean. At about minute 4:40 it becomes a commercial for his build your own boat website, but you can stop video before that begins.

How to Read a Weather Chart

http://www.wikihow.com/Read-a-Weather-Map
5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Student Background;Teacher Background
Nice summary of how to read a weather chart

How to Read a Weather Maps

http://about.metservice.com/about-metservice/learning-centre/how-to-read-weather-maps/
5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Teacher Background
Nice in depth but easy to understand description of how to read weather maps. Comes from a weather service in New Zealand.

How to Read a Weather Maps - Video

http://www.youtube.com/watch?v=bd7DcVnrSL8
5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Teacher Background;Student Videos;Teacher Videos
5:15 Nice description of how to read weather maps. Narrator has a non-American accent

HowToSmile.org

http://howtosmile.org/
K;1st;2nd;3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Teacher Activities;Teacher Background;Teacher Videos
Are you looking for new ways to teach kids about math and science? Do you want activities that meet you where you live, whether your “classroom” is an active volcano, the shark tank at the local aquarium, or your own kitchen table? You’ve come to the right place. SMILE is collecting the best educational materials on the web and creating learning activities, tools, and services – all designed especially for those who teach school-aged kids in non-classroom settings. We are a group of science museums dedicated to bringing science, technology, engineering, and math (STEM) out of the academic cloister and into the wider world. Our organizations are resource hubs for educational programs that involve people of all ages and backgrounds. Together we’re gathering the best STEM education materials from the web, and encouraging educators to both use and contribute to the growing collection

ISS EarthKam

https://www.earthkam.org/
3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Student Background;Student Online Activities;Teacher Background
Middle-school educator can register for the ISS EarthKAM Community, but all educators can take advantage of the map images and resources online. ISS EarthKAM is a NASA-sponsored program that provides stunning, high quality photographs of our planet taken from the Space Shuttle and International Space Station. The Students page contains a Resources link that allows kids to learn about the International Space Station, Orbital Mechanics, Maps, the Space Shuttle, and Weather, and the Challengers link provides an opportunity to test the knowledge learned. Other links on the page include activities such as games and quizzes, as well as all information needed to get your own school involved in the mission.

Journey North

http://www.learner.org/jnorth/orientation/About.html
1st;2nd;3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Student Background;Student Online Activities;Teacher Background
This website links students around the globe in collecting and comparing data about butterflies, whooping cranes, tulips, whales, and many other species.

Kid's Earth Science Enterprise

https://spaceplace.nasa.gov/menu/earth/
3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Student Background;Student Online Activities;Teacher Background
Kids can learn about earth, land, water, and natural hazards and learn how NASA studies these different topics.

Magic Schoolbus - Wet All Over

https://www.scholastic.com/teachers/lesson-plans/teaching-content/magic-school-bus-wet-all-over/
3rd;4th;5th

Website Type: Teacher Activities;Teacher Background
Join Ms. Frizzle for fun activities about the water cycle and water purification. Explore the site for more fun activities!

Milagro - Air Pollution in MegaCities like Mexico City

http://www.windows.ucar.edu/tour/link=/milagro/megacities.html&edu=elem
5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Student Background;Teacher Background
This site addresses atmospheric pollution made by humans. It touches on atmospheric science and chemistry. It's Beginner, Intermediate and Advanced buttons alters the level of vocabulary and complexity to make this a good resource for students at different levels of study

MinutePhyscis

https://www.youtube.com/user/minutephysics
2nd;3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Student Videos;Teacher Videos;Teacher Blogs
This YouTube Channel has a great assortment of short videos showing all things physical. Fun and Eduational

MinutePhyscis: Magnets: How do they work?

https://www.youtube.com/watch?v=hFAOXdXZ5TM&list=PL908547EAA7E4AE74&index=98
4th;5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Student Background;Teacher Background;Student Videos;Teacher Videos
6:25 minutes long. Why do magnets work. Some of it higher than elementary level, but still engaging and give great background info for the kids who are ready for more.

MinutePhyscis: The Tides

https://www.youtube.com/watch?v=gftT3wHJGtg&index=28&list=PL908547EAA7E4AE74
2nd;3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Student Videos;Teacher Videos;Teacher Blogs
1:58 minutes long. Why do we have tides?

Moon Phase Calendars

http://www.calculatorcat.com/moon_phases/moon_phases.phtml
3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Student Background;Teacher Background
This web page has links to moon phase calculators and many more moon resources.

Mr. Buc's Science Website

http://guest.portaportal.com/mrbucsscience
5th;6th;7th;8th

Website Type: Teacher Activities;Teacher Background
This site set up by a teacher in Massachusetts is set up for their state standards. 7th grade = Life science. 8th Grade = Physical science. In the NGSS for California the content areas are divided up between the grades. Look on the left hand side to find the topics of you choice.
* Complete set of lesson curriculum targets and handouts used with students on photosynthesis, Cells and more. Check out the different areas of his webpage. Don't forget to check out his student website to see how hi shares information with students. https://sites.google.com/a/epsd.us/mrbucs/home

NASA Spacelink

https://www.nasa.gov/audience/foreducators/index.html
K;1st;2nd;3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Student Online Activities;Teacher Activities;Teacher Background
An Aeronautic and Space Resource for Education including The Library, which is your guide to NASA's Internet resources with hundreds of subject oriented pages and the capability to search all of NASA; Educator Focus; and Cool Links. Many lithograph images online of the moon, planets, satellites, and space exploration!

NASA Wavelength

http://nasawavelength.org/
K;1st;2nd;3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Student Background;Teacher Activities;Teacher Background
NASA Wavelength is your pathway into a digital collection of Earth and space science resources for educators of all levels – from elementary to college, to out-of-school programs. These resources, developed through funding of the NASA Science Mission Directorate (SMD), have undergone a peer-review process through which educators and scientists ensure the content is accurate and useful in an educational setting. Use NASA Wavelength to quickly and easily locate resources, connect them to other websites using atom feeds, and even share the resources you discover with others through social media and email.

National Atlas

https://nationalmap.gov/small_scale/
K;1st;2nd;3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Student Background;Student Online Activities;Teacher Activities;Teacher Background
This is a site that contains all kinds of data in map form. Geology, history, biology, political boundaries, environment, climate. You can print some maps yourself, order others, and use many online.

National Geographic Xpeditions

http://education.nationalgeographic.com/education/
K;1st;2nd;3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Student Background;Student Online Activities;Teacher Activities;Teacher Background
Activities and lesson plans are sorted by grade and geography standard, and relate to different science standards. Free Xpeditions Atlas has hundreds of black-line masters optimized for overhead transparencies, activities, lesson plans, and student reports. Parents: Visit 'For Parents' section of site.

National Oceanic and Atmosphere Administration-Education Resources

http://www.education.noaa.gov/
K;1st;2nd;3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Teacher Background
NOAA's many educational activities are distributed across the agency. This site has been designed to help students, teachers, librarians and the general public access the many educational activities, publications, and booklets that have been produced about weather and ocean. Links to educational websites divided into K-5, 6-12 and teachers.

National Science Digital Library

http://nsdl.org/
K;1st;2nd;3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Student Online Activities;Teacher Activities;Teacher Background
This website is a huge resource for finding activity ideas, videos, photos and news about science and technology. They have a section specificially devoted to K-12 teachers.

NOVA's Earth system science collection

http://www.pbslearningmedia.org/collection/earth-system-science/
4th;5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Student Background;Teacher Background;Student Videos;Teacher Videos
NOVA's Earth system science collection highlights important Earth processes normally invisible to the human eye. The standards-based media resources below expose the intricate web of forces that sustain life on Earth, allowing educators to explore the astonishing beauty and complexity of our dynamic planet with their students. For additional classroom resources, visit NOVA Labs http://www.pbs.org/wgbh/nova/labs/ , a new digital platform where students can actively participate in the scientific process. NOVA Labs participants can take part in real-world investigations by visualizing, analyzing, and sharing the same data that scientists use. Try your hand at classifying clouds and investigating the role they play in severe tropical storms, research solar storms using images from NASA telescopes, or explore ways to make the most of renewable energy sources and use real data to design your own virtual power systems.

Ology - Earth: Our World in Motion

http://www.amnh.org/explore/ology/earth/
3rd;4th;5th;6th;7th;8th

Website Type: Student Background;Student Online Activities
join the Ologists at the American Museum of Natural History as they explore through on-line games and student content the ins and outs of how our earth is changing. Rocks, plate tectonics and more.

Our Star the Sun

http://www.eyeonthesky.org/ourstarsun.html
3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Teacher Activities
Lessons available to teachers online for use in the classroom or outdoor school site.

Paper Plate Education "Serving the Universe on a Paper Plate"

http://analyzer.depaul.edu/paperplate/activities.htm
K;1st;2nd;3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Teacher Activities;Teacher Background
This site has a lot of different activities about constellations, the solar system, moon phases, navigation using the stars and more all using paper plates. It has sections on how good or bad the pictures of moon cycles are in different children's literature

Paper Plate Moon Phases

http://www.unawe.org/activity/eu-unawe1310/
K;1st;2nd;3rd;4th;5th

Website Type: Teacher Activities
In this activity, students colour and cut cheap paper plates to form a handy reminder of the phases of the moon.

Paso Partners Bilingual Instruction

http://www.sedl.org/scimath/pasopartners/
K;1st;2nd;3rd;4th;5th

Website Type: Teacher Activities;Teacher Background
The resource is designed to help elementary school teachers organize their classrooms and instructional activities in order to increase achievement of Hispanic primary-grade children whose first language is not English. The guides offer a curriculum plan, instructional strategies and activities, suggested teacher and student materials, and assessment procedures. Bilingual lessons on Five Senses, Spiders, Dinosaurs, Plants & Seeds, Human Body, Health, Oceans, Weather, Matter, Sun & Stars, Sound, Simple Machines.

Planet Families: Build a Solar System

http://www.alienearths.org/online/starandplanetformation/planetfamilies.php
5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Student Background;Student Online Activities;Teacher Background
Make your own solar system. Pick one or two stars and various size planets and see what happens.

Pocket Solar System

https://www.calacademy.org/educators/lesson-plans/pocket-solar-system-0
3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Teacher Activities;Teacher Background
Students will build a quick model of the solar system by folding a piece of register tape to illustrate the relative distances between the orbits of the planets. Images in textbooks often depict the planets squeezed together, but this model shows how far apart they are, especially beyond Mars.
Lesson courtesy of our friends from the Astronomical Society of the Pacific

Practical Uses of Math and Science (PUMAS)

http://pumas.jpl.nasa.gov/examples/index.php?order_by=grade
K;1st;2nd;3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Teacher Activities;Teacher Background
The PUMAS examples are aimed primarily at helping pre-college teachers enrich their presentation of topics in math and science. You may find a number of examples that relate to your area of interest, perhaps written in different styles, and possibly taking different approaches to the material. There may also be comments/lesson plans filed with some of the examples, written by previous users. Use these examples as a resource -- Select, adapt, recontextualize, and present the material to your students in a way that you judge will best meet your students' needs, abilities, and interests.

Predicting Weather - NASA Connect Video

http://www.youtube.com/watch?v=dqpFU5SRPgY
5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Teacher Background;Student Videos;Teacher Videos
5:53 NASA Connect segment explaining how scientists use satellites to predict weather. The segment explores the Afternoon Constellation, or the collection of satellites known as the 'A' Train as well as weather balloons, weather stations and local weather observers.

Primer on Solar Eclipses

http://www.nsta.org/publications/press/extras/files/solarscience/SolarScienceInsert.pdf
K;1st;2nd;3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Student Background;Teacher Background
The National Science Teachers Association (NSTA) is making available a popular-level introduction to help explain the eclipse, and how to view it, to students and the public. The free 8-page booklet is available in PDF format

Project WET Water Festival

https://www.projectwet.org/
3rd;4th;5th;6th;7th;8th

Website Type: Student Online Activities;Teacher Activities
The site features an online water festival that consists of structured learning stations and exhibits. Station topics include the hydrologic cycle, ground water, and spring water, in addition to water quality, water conservation, and properties of water. In sample learning stations, students investigate how much water is available on our planet as they solve multiple choice questions, and watch the water cycle in action through a colorful computer animation. A text version of the activities can be downloaded and printed out.

QUEST - Science on the SPOT: Watching the Tides

http://www.kqed.org/quest/television/science-on-the-spot-watching-the-tides
3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Student Online Activities
Video you can watch in your classroom. Ocean tides rise and fall twice a day, influenced by the gravitational forces of the sun and moon. Studying tides' rhythmic movements helps us understand both the ocean and the cosmos. Astronomer Ben Burress explains how tides work, and QUEST visits Crissy Field in San Francisco to see the oldest continually operating tidal gauge in the Western Hemisphere.

San Francisco Bay Lesson Guides

https://www.aquariumofthebay.org/teachers/resources/
K;1st;2nd;3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Teacher Activities
These guides provide a valuable resource for teaching about the San Francisco Bay and its watershed in your classroom. Discover new ideas for teaching students about everything from salmon to climate change to the Farallon Islands. Each guide contains multiple lesson plans focused on local animals and ecosystems and is aligned to state standards, including the Common Core and the Next Generation Science Standards.With twelve guides spanning multiple grade levels and a variety topics, you can be sure to find lesson ideas to support your classroom curriculum.

San Francisco Bay Wind Streaklines

http://www.met.sjsu.edu/wind/streaklines.shtml
5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Student Background;Teacher Background
This new visualization scheme was devloped independently by Nick Thompson who has kindly allowed us use of it. While this may initialy appear to be a time-series animation it is instead a dynamic rendering of particle streaklines. Rather than evolving through time the animation is describing the flow of the wind at a given time.

Scaling Up and Down - Cards & Activities

https://drive.google.com/file/d/0B7fdLKjXoelyTzR6UFJXQktoODQ/view?usp=sharing
5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Teacher Activities
These cards can be printed and used for teaching about scale on all levels. Check out the related documents for different activity ideas.
https://drive.google.com/file/d/0B7fdLKjXoelyUUZhQ2lXMXVFRjA/view?usp=sharing
and
https://docs.google.com/document/d/1DTFglT7WlvKlaDloSEMZjLsXcnySGn-sETj7IZjh-JA/edit?usp=sharing

School Garden Curriculum -

http://extension.uga.edu/k12/school-gardens/curriculum/grade-4.cfm
3rd;4th;5th

Website Type: Teacher Activities;Teacher Background
This site from the University of Georgia Extension has a series of lessons geared towards Ecosystems in the Garden for 4th grade.

Science Education Gateway

http://cse.ssl.berkeley.edu/segwayed/index.html
3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Student Online Activities;Teacher Activities;Teacher Background
A collection of online student activities and printable lessons with teacher tools to help build unique lessons. The SEGway is designed to help each user create their own custom collection of SEGway resources. The Grab Bag holds supplemental resources for your science lesson like related images, illustrations, quizzes and games, movies, image data and maps, and projects.

Science for Kids - Geography

http://www.sciencekids.co.nz/geography.html
K;1st;2nd;3rd;4th;5th

Website Type: Student Background;Student Online Activities;Teacher Activities;Teacher Background;Student Videos;
The Geography page on Science for Kids has games, experiments, images, videos, facts, lessons and activities on subjects such as weather, volcanoes, earthquakes, rocks, fossils
For videos go to http://www.sciencekids.co.nz/videos/earth.html

Science@NASA

http://science.nasa.gov/
5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Student Background;Teacher Background
This page, from Science at NASA, offers updated information and recent articles about new scientific discoveries related to space.
For website in spanish: <http://ciencia.nasa.gov/>

Scientists @ the Smithsonian

http://www.smithsonianeducation.org/scientist/
K;1st;2nd;3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Student Background;Teacher Background
Scientists aren't just nerds who wear lab coats. All kinds of people become scientists. And scientists do all kinds of things. Watch and read about these scientists at the Smithsonian. What kind of scientist would you like to be?

SciJinks Weather Activities and Info

http://scijinks.jpl.nasa.gov/teachers
5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Teacher Activities;Teacher Background
Several lessons, printable games and posters, and activity ideas from the GOES-POES project.

Scijinks Weather Laboratory

http://scijinks.jpl.nasa.gov/index
5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Student Background;Student Online Activities;Teacher Activities;Teacher Background
Check out this highly interactive site featuring a whimsical, blimp-like weather lab in the sky. Run the Joke Machine, travel the World of Weather Folklore and do other fun stuff. Need to do free login to play some of the online games.

Sea World Teacher Guides

https://seaworld.org/teachers/
2nd;3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Teacher Activities;Teacher Background
Teacher's Guides have been developed to help you teach your students--in an active, hands-on way--about how people interact with the environment and how we can best care for Earth's resources. Lessons integrate science, mathematics, geography, art, and la

Selene: A Lunar Construction Game

http://selene.cet.edu/
4th;5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Student Online Activities

Designed for players ages 9 and older, "Selene: A Lunar Construction Game," teaches users about basic geological processes on Earth and in the solar system. Players fire away at what will quickly become a full-fledged, pockmarked moon like our own. Educators and youth leaders can incorporate "Selene" into classroom curriculum and other activities. Follow game play with "MoonGazers," hands-on activities that take players outside to explore the moon and its phases from their own backyards.

Also available in Spanish

Solarviews.com

http://www.solarviews.com
K;1st;2nd;3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Student Background;Teacher Background
This website is available in English, Spanish, French, Porteguese and German. It offers photos and content for the solar system in all these languages.

Solid, Liquid & Gas Song and Video

http://www.youtube.com/watch?v=j2KZmRIKea8
1st;2nd;3rd;4th;5th

Website Type: Student Videos;Teacher Videos
1:22 - Song and Video from "They Might be Giants." Learn the difference between a solid, liquid and gas with this fun chemistry song for kids.
Enjoy the bright and colourful animations in this science video that helps explain the different states of matter in an easy to understand way. Sing along to the catchy lyrics and you'll be an expert on solids, liquids and gases in no time!

Space Place

http://spaceplace.nasa.gov/
2nd;3rd;4th;5th;6th;7th;8th

Website Type: Student Background;Student Online Activities;Teacher Activities
The Web site and its new Spanish companion at http://spaceplace.jpl.nasa.gov/espanol serve children 8 to 13 years of age. The site contains approximately 40 activities, including games and "amazing facts" about space, Earth and NASA. Areas easy to navigate in, include animations and great illustrations. Kids can Make Spacey Things, Do Spacey Things, see Space Science in Action, read Dr. Marc's Amazing Facts, and share with friends.

SpaceWeather.com

http://spaceweather.com/
3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Student Background;Teacher Background
News and information about the Sun-Earth environment. You can find information on solar wind and bursts and flares. Lots of pictures and information on current conditions.

Spark - Weather and Atmospheric Science Classroom Activities

https://spark.ucar.edu/activities
K;1st;2nd;3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Student Background;Student Online Activities;Teacher Activities;Teacher Background;Worksheets;Tea
Website includes K-12 classroom activities for the following topics: Weather, Climate Change, Sun-Earth Connections, and Atmosphere and Chemistry.

Spark engages people in the wonder and relevance of science. We focus on scientific literacy, workforce development, and community engagement. Our overarching goal of this plan is to make an impact on public understanding of atmospheric science concepts and process. Atmospheric and related sciences includes not only sciences associated with advancing understanding of the Earth--Sun system, but also the computational and engineering sciences and technology that afford those advances.

Star Fall

http://www.nasa.gov/audience/forkids/kidsclub/flash/games/levelthree/KC_Star_Collapse.html
2nd;3rd;4th;5th

Website Type: Student Online Activities
Players learn that they can determine a star's relative temperature by its color. Students will collect groups of stars to earn points and develop problem-solving skills, as they determine how to gain the most points.

StarChild

http://starchild.gsfc.nasa.gov/docs/StarChild/StarChild.html
3rd;4th;5th

Website Type: Student Background
Level One is good for elementary. Covers the Universe, Solar System, and Space Exploration.

Stardate - Moon Phases

http://stardate.org/nightsky/moon
3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Student Background;Teacher Background
This page contains a moon phase calendar, information about tides and other common questions about the moon.

StarDate Online

http://stardate.org/
3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Teacher Activities;Teacher Background
Teacher lessons and activities are available online, as well as a solar system and constellation guide and image gallery. The daily two minute radio script is available in Spanish and English. Information is available on a wide range of astronomy related topics. Weekly night sky updates, sky maps and information on special celestial events is updated regularly. For spanish- click bottom right corner.

Sundials on the Internet

http://www.sundials.co.uk/
K;1st;2nd;3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Teacher Background
Sundials on the Internet" has information about all aspects of sundials, including projects you can do, books you can get, national societies you can join, pictures you can see, sundials you can commission or buy and sundial trails all over the world + our competition for new ones!

Super Storm Sandy Weather Images - Science Friday

https://www.sciencefriday.com/segments/seeing-sandy-from-space/
5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Student Videos
An in depth look at satelite images of Super Storm Sandy that hit the East Coast of the US in October 2012.

The Bay Classroom

http://www.savesfbay.org/environmental-education
K;1st;2nd;3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Student Background;Student Online Activities;Teacher Activities;Teacher Background
Save the Bay's online resource where students can explore San Francisco Bay, its diverse wildlife and incredible history, and how it impacts their lives. The Bay Classroom also provides teachers with free online access to Save The Bay’s Watershed Curriculum, including Bay-specific activities to incorporate into lesson plans.

The Four Seasons

http://sciencenetlinks.com/lessons/the-four-seasons/
3rd;4th;5th

Website Type: Teacher Activities
To understand that it is the tilt of earth's axis that causes the seasons.

The Gateway to Educational Materials

http://www.thegateway.org/
K;1st;2nd;3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Teacher Activities;Teacher Background
GEM is sponsored by the U.S. Department of Education and is a special project of the ERIC Clearinghouse on Information & Technology. Teachers, parents, administrators can search or browse The Gateway and find thousands of high quality educational materials, including lesson plans, activities, and projects from over 200 GEM Consortium member sites: Has activities on habitat as well as many other subjects.

The Groundwater Foundation

http://www.groundwater.org
2nd;3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Student Background;Teacher Activities;Teacher Background
Website dedicated to informing the public about one of our greatest hidden resources, groundwater. The Kids Corner has lesson plans, activities, and links. Includes free resources.

The Reason for the Seasons

http://education.nationalgeographic.com/education/activity/the-reason-for-the-seasons/?ar_a=1
2nd;3rd;4th;5th;6th;7th

Website Type: Teacher Activities
Lesson plan for 35 minutes activity demonstrating how the seasons occur on Earth

The Weather Dude

http://www.wxdude.com/
K;1st;2nd;3rd;4th;5th;6th;7th;8th

Website Type: Student Background;Student Online Activities;Teacher Activities;Teacher Background
Welcome to the weather page especially for kids, parents and teachers from weather forecaster Nick Walker. Explains that weather changes daily and seasonally, affecting us all. Great links to other kids weather sites.

Universe Adventure

http://www.universeadventure.org/
5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Student Background;Student Online Activities;Teacher Background
This site is designed for students to use as an activity. There are nice sequences on both size and time scales of the universe.

University of California Berkeley Library Digital Image Finder

http://cluster4.lib.berkeley.edu:8080/ERF/servlet/ERFmain?cmd=searchResType&resTypeId=14
K;1st;2nd;3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Teacher Activities;Teacher Background
Use this site to find images from a myriad of topics.

USGS - Education Website

http://education.usgs.gov/index.html
2nd;3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Student Background;Student Online Activities;Teacher Activities;Teacher Background
Central website for a wide array of geological, geographical, mapping resources. Choose a link under education that suits your needs. Parents use USGS Learning page for at-home lesson ideas.

Virtual Courseware: Global Warming

http://nemo.sciencecourseware.org/eec/GlobalWarming/
5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Student Background;Student Online Activities;Teacher Background
"This activity illustrates principles of Global Warming and Climate Change due to natural and human caused factors."

Vortex: Unraveling the Secrets

http://www.nssl.noaa.gov/noaastory/
5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Student Background;Teacher Background
This project, Verification of the Origins of Rotation in Tornadoes Experiment, helps teachers and students understand facts about tornadoes and shows how the scientific method of making observations, collecting data, and developing and testing hypotheses to reach an informed conclusion is used.

WatchKnowLearn.org

http://www.watchknowlearn.org/
K;1st;2nd;3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Student Background;Teacher Background;Student Videos;Teacher Videos
This website has free educational videos on all topics (including science) for all age levels. There is specifically a section for younger learners.

Water Density

http://pbskids.org/zoom/activities/sci/waterdensity.html
1st;2nd;3rd;4th;5th

Website Type: Teacher Activities;Teacher Background
Lesson plan for experimenting with the density of fresh and salt water.

Water Science for Schools

http://ga.water.usgs.gov/edu/
5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Student Background;Student Online Activities;Teacher Activities
Welcome to the U.S. Geological Survey's Water Science for Schools World Wide Web site. This site offers a broad range of information about water.

Weather One

http://urbanext.illinois.edu/treehouse/
K;1st;2nd;3rd;4th;5th;6th;7th;8th

Website Type: Teacher Activities;Teacher Background
Lessons for Elementary students about clouds, seasons, air pressure, winds, global warming, and violent weather

Web Weather for Kids

https://eo.ucar.edu/webweather/
1st;2nd;3rd;4th;5th

Website Type: Student Background;Student Online Activities;Teacher Activities;Teacher Background
Award-winning online site features webweather for kids: learning, activities, and news. Resource list at the end of each activity and teachers tips! Talks about the ingredients for making weather: temperature, volume, pressure, density. Combine ingredients in the troposphere, mix thoroughly, and you will have weather!

Wetlands Time Machine

http://science.kqed.org/quest/video/wetlands-time-machine/
2nd;3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Student Background;Student Online Activities;Teacher Background
More than 100,000 acres of wetlands are being restored in the Bay Area, but how do we know what to restore them to? QUEST discovers how historical ecologists are recreating San Francisco Bay wetlands that existed decades ago.

What's It Like Where You Live?

http://mbgnet.mobot.org/sets/
1st;2nd;3rd;4th;5th

Website Type: Student Background;Student Online Activities;Teacher Background
An exploration by and for kids of the six different biomes, with pictures, information, links, etc. Rainforest, Tundra, Taiga, Desert, Temperate, and Grasslands. Also describes Freshwater and Marine Ecosystems.

When Greenville Turned Brown

https://www.slideshare.net/bennettprimaria/when-greenville-turned-brown-12325134
K;1st;2nd;3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Student Background
A small town called Greenville was a nice place to live, with forests and ponds, it had lots to give. The people were happy in this little town, until something happened and Greenville turned brown. A poem with accompanying illustrations that recounts a tale of how important clean natural resources are.

Wind Map of the United States

http://hint.fm/wind/index.html
5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Student Background;Teacher Background
Visualization of the current wind patterns across the US. Great for when wind events like hurricanes are happening. They also have a gallery of snap shots from past wind events

Windows to the Universe

http://www.windows2universe.org/
2nd;3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Student Background;Student Online Activities;Teacher Activities;Teacher Background
Extensive website of all areas of earth science. Lots of nice images. Games, worksheets and puzzles. Some real data on atmospheric science. You can use the free version with advertizements scrolling at top or sgn up for membership with no advertizements

Worldwide Telescope

http://www.worldwidetelescope.org/Home.aspx
K;1st;2nd;3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Student Online Activities
This free service from Microsoft lets students and lifelong learners tour the night sky using high-resolution images from the world’s best land- and space-based telescopes.

Wyland Ocean Challenge

http://www.wylandfoundation.org/education.php?subsection=clean_oceans
K;1st;2nd;3rd;4th;5th;6th

Website Type: Student Background;Teacher Activities;Teacher Background
An interdisciplinary art-science curriculum promoting conservation and stewardship through understanding adaptation and water cycle concepts. Downloadable activities and other interesting background information. Lesson resources are found in the right hand column of the main page.

Your Sky on the Web

http://www.fourmilab.ch/yoursky/
3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Student Background;Teacher Activities;Teacher Background
An online interactive planetarium. Users can produce sky maps for any time, date, and viewing location and check out a virtual telescope. If you enter the orbital elements of an asteroid or comet, Your Sky will compute its current position and plot it on the map. Each map is accompanied by an ephemeris for the Sun, Moon, planets, and any tracked asteroid or comet.

YouTube Video - Matter Wrap by Edutainer123

http://www.youtube.com/watch?v=oAqompxk7fY
K;1st;2nd;3rd;4th;5th

Website Type: Student Videos;Teacher Videos
0:46 of 1st and 2nd graders doing a wrap about the states of matter

YouTube Video - States of Matter by columbusmuseum

http://www.youtube.com/watch?v=HAPc6JH85pM
K;1st;2nd;3rd;4th;5th

Website Type: Student Videos;Teacher Videos
4:39 - Shows the states of matter through glass. video has music, but no spoken words. Sound can be turned off and teacher can read prompts on the screen.

YouTube Video - States of Matter by sciencetheater

http://www.youtube.com/watch?v=j2KZmRIKea8
1st;2nd;3rd;4th;5th

Website Type: Student Videos;Teacher Videos
7:17 - video discusses states of matter using water and nitrogen as examples. A little slow for younger students, but uses real world examples in a scientific atmosphere.

YouTube Video - States of Matter by Veritasium

http://www.youtube.com/watch?v=KCL8zqjXbME
1st;2nd;3rd;4th;5th

Website Type: Student Videos;Teacher Videos
4:53 - Man on the street interviews asking people about what water is and what is going on when water is solid, liquid and gas. More appropriate for grade 3 and higher. Good for basic background information.