Websites

4th Grade - Physical Sciences

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.

Bird Songs
http://www.math.sunysb.edu/~tony/birds/
K;1st;2nd;3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th
Website Type: Student Background;Student Online Activities;Teacher Background
Click on the pictures of the birds to hear Songs and calls of some New York State birds. Some of the birds (and their families) are also in California. Also has links to other bird song sites.

Chocolate and Ice Cream Across the Curriculum
http://www.yale.edu/ynhti/curriculum/units/1999/4/99.04.05.x.html
1st;2nd;3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th
Website Type: Teacher Activities;Teacher Background
This is a curriculum about the history and science of ice cream and chocolate

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

Fear of Physics
http://www.fearofphysics.com
2nd;3rd;4th;5th;6th;7th;8th
Website Type: Student Background;Student Online Activities
Neat on-line demonstrations of basic physical principles with a fun spin - from collisions to "things that spin." Fun to play, challenging to understand!

From Windmills to Whirligigs
http://www.smm.org/sln/vollis/
K;1st;2nd;3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th
Website Type: Student Background;Teacher Activities
Books, photographs, activity ideas and lots of stuff related to Vollis. Wheeling and Whirling Around, Mirandy and Brother Wind, bearings, wind power, pinwheels, shoebox, pop bottle whirler, photo album, Constructions for Kids, Signs and Wonders, pneumatic motion machines, From Windmills to Whirligigs.
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.

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 Educational

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?

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.

PBS Design Squad
http://pbskids.org/designsquad/
K;1st;2nd;3rd;4th;5th;6th;7th;8th

**Website Type:** Student Background; Student Online Activities; Teacher Activities; Student Videos

This website has activities for kids to do. Design Challenges, videos and more.

PBS Design Squad Nation
http://www.pbslearningmedia.org/collection/design-squad/?topic_id=1450
1st;2nd;3rd;4th;5th;6th;7th;8th

**Website Type:** Teacher Activities; Teacher Background; Teacher Videos

The goal of Design Squad is to give students a stronger understanding of the design process, and the connection between engineering and the things we all use in everyday life. The results of engineering are all around us: from cars to cameras and everything in between. Design Squad Nation equips kids with science and math skills, inspires them, and lays the foundation they need to participate in engineering activities later in life. Use these Design Squad Nation resources to explore the world of science and engineering.
Physical Sciences K-8: Wave Energy Units
http://www.compadre.org/precollege/static/unit.cfm?sb=8&course=1
K;1st;2nd;3rd;4th;5th;6th;7th;8th
Website Type: Teacher Activities;Teacher Background
Examples of all types of waves are found in nature. Our understanding of the physical world is not complete until we understand the properties and behaviors of waves. Mechanical waves require a material "medium" through which to travel, electromagnetic waves do not.

Physics.org
http://www.physics.org/
K;1st;2nd;3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th
Website Type: Student Background;Student Online Activities;Teacher Activities;Teacher Background
The feature "Physics Life" lets you explore and home and a school and more to see what the physical concepts are behind everyday objects. Click on the dialog box that pops up and you will be sent to a list of links with more activities and background for that particular topic. You are supposed to register for this free site, but I was able to use many of the features without doing that.

Pizza Box Solar Oven
http://www.hometrainingtools.com/build-a-solar-oven-project/a/1237/
K;1st;2nd;3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th
Website Type: Student Background;Teacher Activities;Teacher Background
Instructions on how to make a pizza box solar oven.

Project NEED
http://www.need.org
K;1st;2nd;3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th
Website Type: Teacher Activities;Teacher Background
The National Energy Education Department (NEED) provides curriculum guides and activities online and helpful energy saving information. Look for the curriculum guide for teaching Greek Mythology and the Forms of Energy and an energy songbook. Kids information on energy and links to other energy websites.

Save on Energy Kids Room
https://www.saveonenergy.com/kids-learning-center/
K;1st;2nd;3rd;4th;5th;TK
Website Type: Student Background;Student Online Activities;Teacher Activities
information on how kids can save energy and go green at home and school.

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?

SMILE Program Physics Lesson Plans
http://mypages.iit.edu/~smile/physinde.html#p1
K;1st;2nd;3rd;4th;5th;6th;7th;8th
Website Type: Teacher Activities;Teacher Background
This webpage has over 200 physics lesson plans. All are single concept lesson plans.

7/2/2019 Websites are an excellent place for finding activity ideas.
Solar Cooking
http://solarcooking.org/plans/
K;1st;2nd;3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th
Website Type: Student Background;Student Online Activities;Teacher Activities;Teacher Background
Anything and everything you could ever want to know about solar cooking. Lots of different kinds of plans. Try to few to see which works best.

Solar Energy International
http://www.solarenergy.org/
K;1st;2nd;3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th
Website Type: Student Background;Teacher Background
This site provides nice information and a background to solar energy. Many links to other sites that specialize in different aspects of energy production or use.

Star Fall
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.

SunWise
http://www.epa.gov/sunwise
K;1st;2nd;3rd;4th;5th;6th;7th;8th
Website Type: Teacher Activities;Teacher Background
To help educators raise sun safety awareness, the U.S. Environmental Protection Agency (EPA) has developed the SunWise School Program for grades K-8. SunWise Partner Schools sponsor classroom and school-wide activities that raise children's awareness of stratospheric ozone depletion, UV radiation, and simple sun safety practices. When you sign up to be a Sunwise school, you can share data online with other individuals. Your kit will include lessons, a UV-sensitive Frisbee, and the On the Trail of the Missing Ozone comic book. Registered SunWise Partner Schools can enter daily UV forecast and intensity data, map and graph data online!

The Catapult Project
http://www.pbslearningmedia.org/resource/tch12.sci.phys.stem.catapult/the-catapult-project/
1st;2nd;3rd;4th;5th;6th;7th;8th
Website Type: Teacher Activities;Teacher Background;Teacher Videos
Join 7th grade integrated science and math teacher Zara Acosta as she leads her students through a 6-week catapult design project. Students learn about the laws of motion and forces, probability, and engineering design, and then apply these principles to design their own catapult. Multiple firings of the catapult the project give students practice with data analysis, with the goal of improving the catapult's accuracy.

The Infrared Zoo
http://coolcosmos.ipac.caltech.edu/image_galleries/ir_zoo/
1st;2nd;3rd;4th;5th
Website Type: Student Background;Student Online Activities;Teacher Background
Infrared light shows us the heat radiated by the world around us. By viewing animals with a thermal infrared camera, we can actually "see" the differences between warm and cold-blooded animals. Infrared also allows us to study how well feathers, fur and blubber insulate animals. As you tour this "Infrared Zoo", see what new information you can gather about the animals here that you would not get from a visible light picture.
The Science of Music
http://www.exploratorium.edu/music/index.html
2nd;3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th
Website Type:  Student Background;Student Online Activities;Teacher Background
This site features on-line exhibits, movies and answers many questions about what makes music.

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.

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.