

Websites

3rd Grade Physical Science

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.

Art Integration: Easy Ideas Combining Science and Art

<https://www.scholastic.com/teachers/collections/teaching-content/strategies-arts-integration/>

K;1st;2nd;3rd;4th;5th

Website Type: Teacher Activities

Site gives 4 great ideas for tying art to your science curriculum.

BBC Science Clip Force and Movement

http://www.bbc.co.uk/schools/scienceclips/ages/6_7/forces_movement.shtml

K;1st;2nd;3rd;4th;5th

Website Type: Student Background;Student Online Activities

Interactive Video on Force and Movement. Don't forget to check out other clips on the site.

BrainPop: Electricity

<http://www.brainpop.com/science/energy/electricity>

3rd;4th;5th;6th;7th;8th

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

SUBSCRIPTION ONLY - Cool animated movies, quizzes, facts about electricity; site features subjects that correspond to National Science Standards. Parents: See Family Access.

Car and Vehicle Science Experiments

<https://www.titleproloans.com/articles/car-science-experiments/>

1st;2nd;3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Student Background;Teacher Activities;Teacher Background

Nice wide ranging collection of science experiments based on force and motion.

CERNLand

www.cernland.net

3rd;8th;9th;10th;11th;12th

Website Type: Student Background;Student Online Activities

CERNLand is a virtual theme park that uses multimedia, interactive games, and fun lessons to bring the excitement of physics to children starting from the age of 7. No prior or in-depth knowledge of physics is required, only enthusiasm.

City Technology

<http://www.citytechnology.org/>

K;1st;2nd;3rd;4th;5th

Website Type: Student Background;Student Online Activities;Teacher Activities;Teacher Background
A collaboration of college faculty in Engineering and Education, public elementary teachers and children.

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.

Curiosity Machine

<http://www.curiositymachine.org/>

K;1st;2nd;3rd;4th;5th;6th;7th;8th

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

Log in is required, but is free. Students can earn "badges." The Curiosity Machine hosts collection of exciting (and sometimes very challenging) experiments and projects designed for children, along with their parents, to encourage curiosity, creativity and persistence!

1. OBSERVE watch videos of actual engineers and scientists talking to children about the inventions and projects they work on.
2. BUILD get ideas from the videos and create your very own invention.
3. SHARE share your adventure photos and videos, sketches and thinking.

Engineering Adventures

<http://eie.org/engineering-adventures/curriculum-units>

K;1st;2nd;3rd;4th;5th;PK

Website Type: Student Background;Student Online Activities;Teacher Activities;Teacher Background;Student Videos;
Engineering Everywhere is a FREE engineering curriculum for elementary level students. Choose from seven units with fun, hands-on engineering design challenges based on real events around the world

Engineering is Elementary Resource Page on Bridges

http://eie.org/sites/default/files/resource/file/lit_br.pdf

K;1st;2nd;3rd;4th;5th

Website Type: Teacher Background

This is a simple page with resources for doing a unit on Bridges

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.

Forces Can Push or Pull - Song by Jack Hartmann

https://www.youtube.com/watch?v=E-SnC_WKsCg

K;1st;2nd;3rd;4th;5th

Website Type: Student Videos

Forces Can Push or Pull. Your children will learn the most important science fundamentals about forces in this super catchy science song. This song for kids about forces teaches children that a force either pushes or pulls and forces make things move. The video shows many kid-friendly examples of forces and how they push or pull things in the environment. Children push in their chairs in a classroom, pull in a game of tug-of-war, a kite is pushed by the wind to make it fly, children push and pull playground toys. All of these examples are clearly shown on this video with both audio and video telling the children if the force is a push or pull. Forces Can Push or Pull will help children clearly see how forces move things all around them. After seeing this song and video in force, teachers and parents can extend learning about science by observing all different movements in their home and school environment and decide it's a push and pull.

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.

Funderstanding Roller Coaster

<http://www.funderstanding.com/k12/coaster/>

3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th

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

Build your own roller coaster while learning about all the different forces that go into creating a roller coaster

Gamequarium: Force and Motion

http://www.gamequarium.org/dir/SqoolTube_Videos/Science/Forces_and_Motion/

1st;2nd;3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Teacher Background;Student Videos;Teacher Videos

This site has video links (to Youtube) for lots of different science topics. It also has lots of advertisements in the pages. Good reference for finding videos. Then we suggest you bookmark the YouTube url so that you can find it again with fewer ads to look at while students are present.

How to Build and Launch a Foam Rocket

<https://www.jpl.nasa.gov/edu/teach/activity/foam-rocket/>

3rd;4th;5th;6th;7th;8th

Website Type: Teacher Activities;Teacher Background

In NASA's "Foam Rocket" activity, students build rubber-band-powered rockets and launch them at various angles to learn about rocket stability and trajectory. This lesson provides students with an excellent hands-on perspective on key mathematical concepts as well as data analysis and reasoning.

How to Make a Battery - MonkeySee

<http://www.monkeysee.com/play/6352-how-to-make-a-battery>

3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Student Videos;Teacher Videos

This website has a great series of videos on how batteries work and how to make several different ones in the classroom (potato, lemon, using coins and using a film canister). The site plays a short commercial before the video, but the video is worth it.

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

Lab4Physics

<http://lab4u.co/lab4physics/>

3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Teacher Activities;app

Lab4Physics is a mobile APP especially created for Physics teachers and students that allows them to use smartphones and tablets as lab instruments.

This tool will help students experiment and develop new skills. Speedometer, Accelerometer, Sound. FREE

Lawrence Hall of Science Kid's Corner

<http://www.lawrencehallofscience.org/kidsite/>

K;1st;2nd;3rd;4th;5th

Website Type: Student Online Activities;Teacher Activities

Has the following on the Kid's page: Bat Quiz, Tower of Hanoi, Feline Facts Quiz, Virtual Cat Show, Chem Mystery, Star Clock, Mr. Bones, Kids' Web Pages, Mapping Fish Habitats, Juice Bottle Jingles, Tree Homes, TEAMS, Meet the Surf City Kids!, Biology Lab, Shongo Networks, Whale Songs, What is Your Foot Doing? Parents can visit "Home Activities!" for at-home lesson ideas.

Magnet Lesson Plans

<http://www.atozteacherstuff.com/Themes/Magnets/>

2nd;3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Teacher Activities

A list of lesson plans for teaching about magnets.

Magnet Man

<http://my.execpc.com/~rhoadley/magindex.htm>

3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Student Background;Teacher Activities;Teacher Background

Lots of facts, activity and experiment ideas, and links to fascinating information about magnets.

MinutePhycis

<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

MinutePhycis: 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?

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 specifically devoted to K-12 teachers.

Outdoor Pendulum Activities

<http://www.scholastic.com/teachers/lesson-plan/outdoor-activitiesgames-pendulum-play>

K;1st;2nd;3rd;4th;5th;PK

Website Type: Teacher Activities

Nice description of how to make a large pendulum with every day materials. Lesson ideas for younger and older students.

Parachute Drop

<http://www.lawrencehallofscience.org/kidsite/portfolio/parachute-drop/>

K;1st;2nd;3rd;4th;5th

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

Skydivers rely on parachutes to carry them safely to Earth. Test materials like wax paper, a thin plastic bag, and a coffee filter to make and drop mini-parachutes. Which material makes the slowest drop? Enter results online and find out what other experimenters discovered.

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.

Pendulum Painting

<http://oneinchworld.com/blog/index.php/2011/08/pendulum-painting/>

K;1st;2nd;3rd;4th;5th;PK

Website Type: Teacher Activities

Here's a fun way to integrate art and science. Turn your pendulums into "paint brushes" and make some beautiful art work that can be sent home as presents to the family.

PhET simulations: Electricity and Magnetism

<http://phet.colorado.edu/en/simulations/category/physics/electricity-magnets-and-circuits>

3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th

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

This site has lots of different simulations for many aspects of electricity and magnetism and circuits.

PhET simulations: Interactive Simulations for Science and Math

<https://phet.colorado.edu/en/simulations/category/html>

3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th

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

This site has lots of different simulations for many different science and math topics

Pinterest: Force and Motion Board

<http://www.pinterest.com/darlamyers/force-and-motion-study/>
1st;2nd;3rd;4th;5th;6th;7th;8th

Website Type: Teacher Activities;Teacher Background

This Pinterest Board has a wide assortment of lesson ideas for a force and motion unit.

Pushing and Pulling - Force, Work and Energy

<https://www.youtube.com/watch?v=vAThucMwp9I>
K;1st;2nd;3rd

Website Type: Student Videos

This is a small video for kids explaining all about Pushing and Pulling - Force,Work and Energy.

Science for Kids - Physics

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

Website Type: Student Background;Student Online Activities;Teacher Activities;Teacher Background;Student Videos;
The Physics page on Science for Kids has games, experiments, images, videos, facts, lessons and activities on subjects such as electricity, magnetism, force and motion

Science Made Simple - Static Electricity/Everything is Made of Atoms

<http://www.sciencemadesimple.com/static.html>
3rd;4th;5th;6th

Website Type: Student Background;Teacher Activities;Teacher Background

Activities and background on static electricity and atoms. Includes age-appropriate language and vocabulary, sections for early and advanced readers.

Science off the Sphere

<http://www.physicscentral.com/explore/sots/index.cfm>
3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Teacher Background;Student Videos

While aboard the International Space Station, astronaut and chemist Dr. Don Pettit conducted physics demos that are out of this world. From electric didgeridoos to microgravity goo, Don showed us what's possible when you're over 200 miles above the Earth. You can watch 14 episodes of the Science off the Sphere videos — just click the individual photo for each episode. You can also watch them all back-to-back on our Youtube playlist. The rest of the website (Physics Central) has resources of all kinds on the topic of physics (photos, scientists...)

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?

SlideShare: Force and Motion

<http://www.slideshare.net/crautry/force-and-motion-review-ppt-18860522>
3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th

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

This power point like presentation is a review of a Force and Motion Lesson. Embedded in the slide deck are links to short videos

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

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.

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.

YouTube for Teachers

<https://www.youtube.com/user/teachers>

K;1st;2nd;3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Teacher Background;Student Videos;Teacher Videos

YouTube for teachers is designed with playlists for your classroom or search for specific topics.

Zoom: Pendulums

<http://pbskids.org/zoom/games/pendulum/>

2nd;3rd;4th;5th

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

This website has several online games and some do at home/school activities about pendulums.