Websites
5th Grade Physical Science

ACS Periodic Table
http://acswebcontent.acs.org/games/pt.html
5th;6th;7th;8th;9th;10th;11th;12th
Website Type:  Student Background;Student Online Activities;Teacher Background
This Web site from the American Chemical Society features an interactive Periodic Table (using Shockwave). The information presented is divided into three sections. In the first, Periodic Table, students will find attributes such as melting point and molar heat capacity for the elements. The second part illustrates the electron configurations of each of the elements, helping students to better understand the concept. The last section allows users to plot data based on the elements' attributes including atomic radius and electro negativity. Great teacher background and place for students to get deeper into chemistry.

Avogadro's Element Hunt
http://acswebcontent.acs.org/games/home_hunt.html
5th;6th;7th;8th
Website Type:  Student Online Activities
Help Avagadro find chemical elements in his house. Online game matching elements with items in a house.

Chemistry of Fireworks
http://www.pbs.org/wgfh/nova/kaboom/elemental/
5th;6th;7th;8th
Website Type:  Student Background;Student Online Activities
Pyrotechnics: It's Elemental. Anyone who has seen a fireworks display has probably wondered, "How'd they do that?" Well it's actually quite elemental -- The Periodic Table of the Elements, that is. Click on the elements to find out about their role in fireworks displays.

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.

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!!
 Compound Interest - Chemistry Infographics
http://www.compoundchem.com/infographics/
3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Student Background; Teacher Background
This site has fun, clear infographics on a wide range of chemistry topics. From aroma chemistry, to poison chemistry to food chemistry, to Christmas chemistry and also some alcoholic beverage chemistry. So be aware if you have students look at the site on the own.

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. OBSERVEwatch videos of actual engineers and scientists talking to children about the inventions and projects they work on.
2. BUILDget ideas from the videos and create your very own invention.
3. SHAREshare your adventure photos and videos, sketches and thinking.

Cyber-ific Periodic Table of the Elements
https://www.makingsciencemakesense.com/periodic-table/
5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Student Background; Student Online Activities; Teacher Background
Featuring Molecule Man. An online Periodic Table, with common uses for each element.

Determining Soil pH
http://www.forestry-suppliers.com/s01_pages/lessonplan_htmlpages/k4_soilph.asp
2nd;3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Teacher Activities
This is a detailed lesson on how to determine the pH

Elements and the Periodic Table
5th;6th;7th;8th;9th;10th;11th;12th

Website Type: Student Background; Teacher Background
Kid-friendly background reading, including pages on the various families in the periodic table, a brief explanation of periodicity, etc.

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.
How to make pH Indicator
http://www.instructables.com/id/How-to-Make-Ph-Indicator/
K;1st;2nd;3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th
Website Type: Teacher Activities
How to make purple cabbage pH indicator. Step by step

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.

Imagine the Universe
5th;6th;7th;8th;9th;10th;11th;12th
Website Type: Student Background; Teacher Activities; Teacher Background
NASA site exploring “what is your cosmic connection to the elements.” Games, research projects, role-playing activities and more. An accompanying pamphlet and poster can be ordered through the site. NASA site exploring “what is your cosmic connection to the elements.” Games, research projects, role-playing activities and more. An accompanying pamphlet and poster can be ordered through the site.

It’s Elemental! The Periodic Table of Elements
http://education.jlab.org/itselemental/index.html
5th;6th;7th;8th;9th;10th;11th;12th
Website Type: Student Background; Teacher Activities; Teacher Background
Printable and on-line games like elemental bingo (whole class set of sheets!)

List of Elements in Spanish
http://www.allperiodictables.com/aptpages/apt_3_ElementNamesSpanish.htm
5th;6th;7th;8th;9th;10th;11th;12th
Website Type: Student Background; Teacher Background
List of the elements of the periodic table in spanish.

Minute Physics - Interactive Periodic Table
http://table.minutephysics.com/#mag
5th;6th;7th;8th;9th;10th;11th;12th
Website Type: Student Background; Student Online Activities; Teacher Background; Student Videos
An interactive periodic table that allows you to see how temperature affects magnetism and state of matter. Each element also links to http://www.periodicvideos.com/
MinutePhysics
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.

MolCraft | Molecules in Minecraft
http://www.hullcraft.com/molcraft/
5th;6th;7th;8th;9th;10th;11th;12th
Website Type: Student Background; Student Online Activities; Teacher Activities; Teacher Background
Minecraft is a fabulous tool for exploring structures of buildings, landscapes and even anatomy. So why not molecules? The Department of Chemistry at the University of Hull (and supported by the Royal Society of Chemistry) have populated a Minecraft world with structures of proteins, chemicals and even some chemical history. You can download the MolCraft and run it locally on your own machine, explore the world via our server, or use the schematics of the molecules to populate your own worlds with molecules. Whatever you do with it, please share your results with the Minecraft community and let us know what you are getting up to via email or twitter using the hashtag #MolCraft.

Mr. Buc's Science Website
http://guest.portaportal.com/mrbuccscience
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/mrbuc/home

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.

Periodic Table of Comic Books
http://www.uky.edu/Projects/Chemcomics/
5th
Website Type: Student Background
See how comic book heroes use elements to save the day! This humorous site makes learning about the elements fun.

Periodic Table of Videos - Youtube
http://www.periodicvideos.com/
5th;6th;7th;8th;9th;10th;11th;12th
Website Type: Student Background; Student Online Activities; Teacher Background; Student Videos
A collection of videos produced in the UK. Each video is of a different element. Could be useful for demonstration/whole class viewing and discussion.
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

Powers of Ten Animation
5th;6th;7th;8th;9th;10th;11th;12th

Website Type:  Student Background;Student Online Activities;Teacher Background
This website exploring microscopy and optics features an on-screen animation of a "powers of ten" image series! If you explore around the website, you'll also find other fascinating digital microscopy images as well as background and activities about light and lenses.

Reciprocal Net Images of Common Molecules
http://www.reciprocalnet.org/edumodules/commonmolecules/index.html
5th;6th;7th;8th;9th;10th;11th;12th

Website Type:  Student Background;Teacher Background
This website has images of common molecules and more.

Science Bilingual and ESL Glossaries
K;1st;2nd;3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th

Website Type:  Teacher Background
Links to Science Bilingual and ESL Glossaries.

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 Chemistry Lesson Plans
http://mypages.iit.edu/~smile/cheminde.html
K;1st;2nd;3rd;4th;5th;6th;7th;8th

Website Type:  Teacher Activities;Teacher Background
This webpage has over 200 chemistry lesson plans. All are single concept lesson plans

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
Solids, Liquids, and Gases
http://www.iit.edu/~smile/physinde.html
K;1st;2nd;3rd;4th;5th
Website Type: Teacher Activities
A list of classroom activities, including lots of different teachers' ideas about how to teach solid-liquid-gas concepts.

Sorting and Using Materials
http://www.bbc.co.uk/schools/scienceclips/ages/5_6/sorting_using_mate.shtml
K;1st;2nd;3rd;4th;5th;6th;7th;8th
Website Type: Student Online Activities
This site has an online activity that allows students to sort common items by different properties such as "waterproof" or "bendy". There are also different levels of easy or harder.

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;Teacher Background
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.

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 Accidental Scientist - The Science of Food
http://www.exploratorium.edu/cooking/
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 Exploratorium website has a little bit about everything about food. Find sections on Eggs, Candy, Meat, Bread, Spices and more. Visit organic farms, try out experiments and recipes.

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 Periodic Table of the Elements, in Pictures and Words
http://elements.wlonk.com/ElementsTable.htm
K;1st;2nd;3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th
Website Type: Student Background;Student Online Activities;Teacher Background
Interactive periodic table that not only lists out every discovered element to date, but also shows a specific usage for each element.

The Science of Glass
http://www.museumofglass.org/
K;1st;2nd;3rd;4th;5th;6th;7th;8th;9th;10th;11th;12th
Website Type: Student Background;Teacher Background
The Museum of Glass in Tacoma, Washington offers this website on the various aspects, artistic and scientific on glass. Website has live camera of glass artists at work

The Wooden Periodic Table Table
http://www.theodoregray.com/PeriodicTable/index.html
5th;6th;7th;8th;9th;10th;11th;12th
Website Type: Student Background;Student Online Activities;Teacher Background
This site is about the wooden periodic table (yes a real table) built by Theodore W. Gray. It also has pictures of the samples of the elements contained in the table.

Tom Leher's Song of Elements
http://www.privatehand.com/flash/elements.html
5th;6th;7th;8th;9th;10th;11th;12th
Website Type: Student Online Activities
Animated Version of the Tom Leher song of the Elements.

Visualizing Common Molecules
http://www.reciprocalnet.org/edumodules/commonmolecules/index.html
5th;6th;7th;8th;9th;10th;11th;12th
Website Type: Student Background;Student Online Activities;Teacher Background
shows ordered arrays of various elements and compounds that can be rotated by student in space. Good research site.

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.
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.

Water: Properties and Behavior
5th;6th;7th;8th;9th;10th;11th;12th
Website Type:  Student Online Activities; Teacher Background
Straight forward description of the unique properties of water.

What’s That Stuff?
http://pubs.acs.org/cen/whatstuff/stuff.html
5th;6th;7th;8th;9th;10th;11th;12th
Website Type:  Student Background; Teacher Background
Ever wanted to know what something was made of? This site from Chemical and Engineering News gives in-depth explanations of what’s in everything from kitty litter to silly putty to asphalt.