

The Science of Fourth Grade

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We live in a world filled with scientific inquiry. Many branches in the science field require persons that are able to learn, reason, think creatively, make decisions, and problem solve. This necessity has initiated a scientific race between the United States and other global markets. Major changes in science education have occurred through the increased emphasis of the science TEKS. Efforts to achieve high success in science have created the fifth grade elementary science assessment. This test requires that all of the elementary grades accentuate science in their daily teaching. The links below will help incorporate science as a rich and exciting experience for students. The links also have supplemental teacher resources that could help implement the student expectations.

The following information is a condensed version of the Texas Essential Knowledge and Skills for Science in fourth grade. These TEKS will help you when researching the web for science information. The following data was retrieved from the TEA website.

- 1- In fourth grade, the study of science includes planning and implementing field and laboratory investigations using scientific methods, analyzing information, making informed decisions, and using tools such as compasses to collect information. Students also use

computer and information technology tools to support scientific investigations.

- 2- As students learn science skills, they identify components and processes of the natural world including properties of soil, effects of the oceans on land, and the role of the sun as our major source of energy. In addition, students identify the physical properties of matter and observe the addition or reduction of heat as an example of what can cause change in states of matter.
- 3- Students learn the roles of living and nonliving components of simple systems and investigate differences between learned characteristics and inherited traits. They learn that adaptations of organisms that lived in the past may have increased some species' ability to survive.
- 4- Science is a way of learning about the natural world. Students should know how science has built a vast body of changing and increasing knowledge described by physical, mathematical, and conceptual models, and should also know that science may not answer all questions.
- 5- A system is a collection of cycles, structures, and processes that interact. Students should understand a whole in terms of its components and how these components relate to each other and to the whole. All systems have basic properties that can be described in terms of space, time, energy, and matter. Change and constancy occur in

systems and can be observed and measured as patterns. These patterns help predict what will happen next and can change over time.

- 6- Investigations are used to learn about the natural world. Students should understand that certain types of questions can be answered by investigations, and that methods, models, and conclusions built from these investigations change as new observations are made. Models of objects and events are tools for understanding the natural world and can show how systems work.

Web Sites:

1. <http://www.stevespanglerscience.com/>

This is a hands-on science library of experiments. The site also includes science videos and teacher training information.

2. http://www.internet4classrooms.com/skills_4th_science.htm

This link shows you lessons, facts, illustrations, activities and quizzes by TEKS. It covers **Life Science**, which includes cell structure and function, interactions between living things and their environment, food production and energy for life, heredity and reproduction, diversity and adaptations among living things, and biological change. In **Earth Science**, you will find information on earth and its place in the universe, cycles, earth features, and earth resources. In **Physical Science**, you will find data on forces and motions, structures and properties of matter, interactions of matter, and energy.

3. <http://www.iq.poquoson.org/index.html>

In this website you will find science quizzes and questions you could use in your classroom. You could use some of these questions by asking them out loud and having the kids respond with answer cards.

4. http://www.utm.edu/departments/cece/old_site/fourth.shtml

This site has science education concepts. It shows topic, objective, and activity that goes along with the student expectation. The lessons are written in detail, which includes the time required to do the lesson, materials, set questions, instructions, closure and enrichments.

5. <http://www.sfscience.com/index.htm>

This is a Scott Foresman site. It includes units of life science, physical science, earth science, and the human body. The site includes activities, question of the day, kid publishing, teacher resources, other websites, and textbooks to real life research.

6. <http://www.usoe.k12.ut.us/curr/Science/core/4th/4thSciber/4THINTRO/intro.htm>
This is a site from Utah, but it has great illustrations that you could use in your classroom. The site includes facts, informational stories, projects, colorful illustrations, videos, and other web links. The link has information on the water cycle, weather observations, rocks and soils, and fossils.
7. <http://www.salem.k12.va.us/staff/jcox/powerpoints/science.htm>
This site has Powerpoint presentations ready to show. The powerpoints include rocks and minerals; earth, moon, and sun; earth layers; ecosystems; energy and machines' force and motions; electricity and magnetism; and plants.
8. http://www.henry.k12.ga.us/uge/CRCTdocs/SCIENCE4_1.pdf
This is a website full of practice questions.
9. <http://www.geocities.com/EnchantedForest/Tower/1217/>
This site is a virtual library full of science information and many other links that could assist you in greater detail. It also includes many lessons and activities one could do with students.
10. <http://www.harcourtschool.com/menus/science2000/gr4.html>
Harcourt Science includes information, animated games, science links, and activities.
11. <http://justkidsgames.com/>
Educational games to teach science concepts.
12. <http://pbskids.org/zoom/activities/sci/#humanbody>
Zoom Science consist of activities, experiments, games, pintables, and parent connections. It involves chemistry, engineering, the five senses, forces, life science, patterns, sound, and water.
13. <http://www.science.technologyinfusion.org/4thlinks1.html>
This site has over 20 science links that include video clips, games, images, and teacher resources.
14. <http://www.tea.state.tx.us/rules/tac/chapter112/ch112a.html>
This site is the Texas Essential Knowledge and Skills for Science.
15. <http://www.tea.state.tx.us/teks/>
This site is the Texas Education Agency.

Resources

Texas Education Agency (2007). *Texas Essential Knowledge and Skills(TEKS)*. Retrieved on November 14, 2007, from the Texas Education Agency:
<http://www.tea.state.tx.us/rules/tac/chapter112/ch112a.html>

