Seventh Grade Science

Course Description

Students will study cells and heredity, human body systems and disease, ecology, and chemistry.

Unit of Study: Inquiry Skills
  7-1.1 Use appropriate tools and instruments
  7-1.2 Answer questions through scientific investigation
  7-1.3 Identify and use variables appropriately
  7-1.4 Determine the validity of a controlled scientific investigation
  7-1.5 Graph and chart variables correctly
  7-1.6 Critique conclusions from scientific investigation
  7-1.7 Use appropriate safety procedures

Unit of Study: Cells and Heredity
  7-2.1 Structures and functions of cells
  7-2.2 Components of plant and animal cells
  7-2.3 Body shapes of protists
  7-2.4 Cellular processes
  7-2.5 Genetic information
  7-2.6 Punnett Squares
  7-2.7 Inherited and acquired traits

Unit of Study: Human Body Systems and Disease
  7-3.1 Cellular structure and organization
  7-3.2 Human body organs
  7-3.3 Human body systems
  7-7.4 Human diseases

Unit of Study: Ecology
  7-4.1 Ecosystem organization
  7-4.2 Energy flow
  7-4.3 Changes in environment
  7-4.4 Soil
  7-4.5 Earth’s water
  7-4.6 Renewable and nonrenewable resources
Unit of Study: Chemistry

7-5.1 Atoms
7-5.2 Elements, compounds, and mixtures
7-5.3 Metals and nonmetals
7-5.4 Periodic Table
7-5.5 Chemical formulas and symbols
7-5.6 Acids and bases
7-5.7 Reactants and products
7-5.8 Balancing equations
7-5.9 Physical and chemical properties of matter
7-5.10 Physical and chemical changes

Parent Resources

Glencoe South Carolina Science Grade 7
http://glencoe.mcgraw-hill.com/sites/0078786789/
Online link to Glencoe South Carolina Science Grade 7
User Name: SCSG707 Password: Yuvach7P

South Carolina Seventh Grade Science Standards (see page 48)

South Carolina Seventh Grade Science Support Documents

Teacher Resources

Suggested Science Websites

The following information is a general order and timeframe for teaching the units; it is not a pacing guide.

Inquiry 2 weeks
Cells and Heredity 7 weeks
Human Body Systems 10 weeks
Ecology 5 weeks
Chemistry 6 weeks
General Resources

Glencoe South Carolina Science Grade 7
http://glencoe.mcgraw-hill.com/sites/0078786789/
Online link to Glencoe South Carolina Science Grade 7
User Name: SCSG707 Password: Yuvach7P

South Carolina Seventh Grade Science Standards (see page 48)
rdsNov182005_001.doc

South Carolina Seventh Grade Science Support Documents
https://www.ed.sc.gov/apps/cso/standards/supdocs_k8.cfm?#area_7

Excellent lesson plans
http://www.middleschoolscience.com/

BrainPop link videos
http://glencoe.mcgraw-hill.com/sites/0078786770/student_view0/brainpop_movies.html#

Great PowerPoints
http://www.graves.k12.ky.us/powerpoints/

Energy and Science Lesson Plans
http://www.energyquest.ca.gov/teachers_resources/lesson_plans.html

Science Lesson Plans
http://www.cloudnet.com/~edrbsass/edsci.htm

Education Zone
http://tlc.ousd.k12.ca.us/~acody/lessons.html

Inquiry Skills

SpongeBob activities on safety and variables (excellent for beginning of school year) http://sciencespot.net/Pages/classgen.html
Cells and Heredity

7-2.1 Structures and functions of cells
http://www.tvdsb.on.ca/westmin/science/sbi3a1/Cells/cells.htm

Virtual Tour
http://www.classzone.com/books/ml_science_share/vis_sim/chm05_pg7_cell/chm05_pg7_cell.html

7-2.2 Components of plant and animal cells
http://www.cellsalive.com/cells/cell_model.htm

7-2.3 Protist Internet Lab
http://www.sciencespot.net/Media/protistinternetlab.pdf

7-2.4 Cell Explorer
http://www.exploratorium.edu/traits/cell_explorer.html

7-2.5 Genetic information
http://www.science-class.net/Biology/Genetics.htm

Reproduction and Heredity
http://www.usoe.k12.ut.us/curr/science/sciber00/7th/genetics/sciber/intro.htm

7-2.6 Punnett Squares
http://www.usoe.k12.ut.us/curr/science/sciber00/7th/genetics/sciber/punnett1.htm

Pea Experiment
http://www.sonic.net/~nbs/projects/anthro201/exper/

7-2.7 Inherited and Acquired Traits
http://www.usoe.k12.ut.us/curr/science/sciber00/7th/genetics/sciber/genetic2.htm
Human Body Systems and Disease

7-3.1 Cellular structure and organization
http://www.science-class.net/PowerPoints/Levels%20of%20Organization_files/frame.htm

7-3.2 Human Anatomy Online
http://www.innerbody.com/htmy/body.html

7-3.3 Human body systems
http://www.bbc.co.uk/science/humanbody/index.shtml

7-7.4 Allergies versus viral infections

Ecology

General ecology lessons plans

7-4.1 Construct an aquatic ecosystem
http://www.eduref.org/cgi-bin/printlessons.cgi/Virtual/Lessons/Science/Ecology/ECL0014.html

“Building biomes”
http://www.iit.edu/~smile/bi9439.html

7-4.2 “What’s for dinner?”
http://www.enchantedlearning.com/subjects/foodchain/

Grouping Biological Niches
http://www.laep.org/UCLASP/urban_science/food_chains/intro_chains.html

Food webs in the Bay

Food webs and energy flow
http://users.rcn.com/jkimball.ma.ultranet/BiologyPages/F/FoodChains.html

7-4.3 River Venture Population Study Game
7-4.4 Soil Analysis
http://www.mysciencebox.org/soilanalysis

7-4.5 Healthy Ecosystems
http://www.mysciencebox.org/soilanalysis

7-4.6 Earth Day Birthday Party

Renewable Energy Sources

Wolf Man’s Ghostly Graveyard

Chemistry

7-5.1 How atoms work with videos
http://science.howstuffworks.com/atom.htm

Atom Models
http://www.ndt-ed.org/EducationResources/HighSchool/Electricity/atommodels.htm

The Phantom’s portrait parlor

7-5.2 Elements, compounds, and mixtures interactive practice

Classification of matter
http://www.physics.upenn.edu/courses/gladney/mathphys/subsubsection1_1_3_1.html

7-5.3-4 Periodic Table
http://sciencespot.net/Media/chemprdrtable.pdf

7-5.5 Chemical formulas and symbols interactive site
http://www.quia.com/cm/67715.html?AP_rand=1775634959

7-5.6 Acid base indicators
http://www.iit.edu/~smile/ch8622.html

7-5.7 Reactants and products
http://www.middleschoolscience.com/balance.html

7-5.8 Balancing equations

Balancing equations with Law of Conservation of Matter
http://nobel.scas.bcit.ca/chemed2005/tradingPost/WEPM-S3-4-09_Introduction_to_POGIL.pdf

7-5.9 Physical and chemical properties of matter
http://www.iun.edu/~cpanhd/C101webnotes/matter-and-energy/properties.html

7-5.10 Physical and chemical changes
http://www.mcwdn.org/chemist/pcchange.html

Physical and chemical changes quiz
http://www.quia.com/quiz/303980.html?AP_rand=1158099698