

3rd Grade Science Standards and Benchmarks

Standard 1: Understands and applies principles of scientific inquiry				
<i>Concepts: Scientific Reasoning</i>				
Grade Level Benchmarks	Vocabulary	Knowledge	Skills	Classroom Resources
A. Understands how scientific knowledge changes with new evidence	<ul style="list-style-type: none"> scientific knowledge evidence influence research 	<ul style="list-style-type: none"> Knows examples of scientific knowledge that changed when new evidence was presented Knows that science is an ongoing process and is always open to new ideas 	<ul style="list-style-type: none"> Describes how science concepts have evolved with the discovery of new evidence Hypothesizes how current science concepts and practices will influence future societies 	3 rd Curriculum Guide Emphasized throughout entire curriculum
B. Uses the scientific method to gather, analyze, and interpret data	<ul style="list-style-type: none"> observe predict sort graph compare classify question 	<ul style="list-style-type: none"> Knows scientific method Knows how to gather, analyze, and interpret data 	<ul style="list-style-type: none"> Reads and interprets scientific information Makes predictions based on scientific information Works in cooperative teams and shares finding with others 	
C. Uses appropriate tools for scientific investigations	<ul style="list-style-type: none"> ruler thermometer magnifying glass balance 	<ul style="list-style-type: none"> Knows how to use scientific equipment 	<ul style="list-style-type: none"> Uses a ruler to measure length Uses a thermometer to measure temperature Uses a balance to measure mass 	
D. Demonstrates safe handling procedures	<ul style="list-style-type: none"> safety procedures 	<ul style="list-style-type: none"> Knows appropriate safety procedures for a given situation 	<ul style="list-style-type: none"> Follows required safety procedures Recognizes, reports, and corrects safety problems 	

3rd Grade Science Standards and Benchmarks

Standard 2: Understands and applies the basic concepts of life science

Concepts: Health, Systems

Grade Level Benchmarks	Vocabulary	Knowledge	Skills	Classroom Resources
<p>A. Understands that nutrition is essential to health</p>	<ul style="list-style-type: none"> • digestion • energy • saliva • esophagus • stomach • small intestine • large intestine • water • carbohydrates • vitamins • minerals • nutrients • essential • eliminated 	<ul style="list-style-type: none"> • Knows the human body needs nutrients in food for energy and for building and repairing body parts • Knows a healthy diet and food choices should be chosen from the USDA food pyramid, considering nutritional value • Knows digestion begins in the mouth where food is mixed with saliva, chewed by teeth, and then swallowed • Knows after food is swallowed, it passes through the esophagus, stomach, small intestine, large intestine, and is eliminated • Knows water, proteins, fat, carbohydrates, vitamins, and minerals are essential nutrients to your body and good health 	<ul style="list-style-type: none"> • Completes a food pyramid • Uses the USDA food pyramid to create a healthy meal • Describes the process of digestion 	<p>3rd Grade Curriculum Guide</p> <p><u>What's for Lunch?</u></p> <p><u>Blood and Guts</u></p> <p><u>What's Cooking?</u></p> <p>Non-fiction science books</p> <p><u>Community Resources:</u> Interview food service person Nutritionist</p>

3rd Grade Science Standards and Benchmarks

Standard 2: Understands and applies the basic concepts of life science (con't)

Concepts: Health, Systems

Grade Level Benchmarks	Vocabulary	Knowledge	Skills	Classroom Resources
B. Individuals have responsibility for their own health	<ul style="list-style-type: none"> • energy • hygiene • cleanliness • rest • brushing • flossing 	<ul style="list-style-type: none"> • Knows proper care of teeth and gums (including brushing, flossing, and regular dentist visits) contributes to long-term health • Knows a healthful diet is made up of the kinds and number of servings listed in the USDA Food Pyramid Guide 	<ul style="list-style-type: none"> • Describes the proper care of teeth and gums • Analyzes labels to determine number of calories, fats, salts, cholesterol • Explains how food labels can help make wise food choices 	3 rd Grade Curriculum Guide <u>What's for Lunch?</u> <u>Blood and Guts</u> <u>What's Cooking?</u> <u>The Magic School Bus: Inside the Bus Body</u> <u>Jaw Breakers and Heart Thumpers</u> <u>Inside Your Busy Body</u> <u>Outside and Inside You</u> Non-fiction science books <u>Community Resources:</u> Dental Hygienist Iowa State University Extension Office

3rd Grade Science Standards and Benchmarks

Standard 3: Understands and applies the basic concepts of Earth science				
<i>Concepts: Properties Change</i>				
Grade Level Benchmarks	Vocabulary	Knowledge	Skills	Classroom Resources
A. Water has identifiable properties	<ul style="list-style-type: none"> • quality • absorb • drops • surface • dome • surface tension • downhill • fibers • solid • liquid • gas 	<ul style="list-style-type: none"> • Knows water is the only material on Earth that occurs naturally in all three states of matter: liquid, solid, and gas • Knows water forms drops when placed on a surface that does not absorb • Knows each drop of water tends to form a dome. Surface tension causes water to stick together and form into a dome • Knows soap changes the surface tension of water • Knows materials with large spaces between the fibers allow water to be absorbed 	<ul style="list-style-type: none"> • Lists the three states of water • Describes the properties of water • Compares water surface tension and ways to alter it 	<p>3rd Grade Curriculum Guide</p> <p>FOSS Kit: <u>Water</u></p> <p>AIMS: <u>Water</u> and <u>A Drop of Water</u></p> <p>Non-fiction science books</p>

3rd Grade Science Standards and Benchmarks

Standard 3: Understands and applies the basic concepts of Earth science (cont')

Concepts: Properties Change

Grade Level Benchmarks	Vocabulary	Knowledge	Skills	Classroom Resources
<p>B. Properties of water can be altered and changed</p>	<ul style="list-style-type: none"> • temperature • interact • properties • contracts • expands • boil • vapor • floats • solid • liquid • gas • ruler • balance • thermometer • flow • quality • natural • artificial • evaporation • condensation 	<ul style="list-style-type: none"> • Knows warm water floats on top of cooler water • Knows water can exist in different states: solid, liquid, and gas • Knows heating or cooling can change water from one state to another • Knows changes in water can be measured using tools, such as rulers, balances, and thermometers • Knows water changes as it flows over earth materials • Knows the quality of water is influenced by a number of factors, both natural and artificial 	<ul style="list-style-type: none"> • Reads a thermometer • Places in order water bottles on the basis of temperature • Compares rates of evaporation and condensation under different conditions 	<p>3rd Grade Curriculum Guide</p> <p>FOSS Kit: <u>Water</u></p> <p>AIMS: <u>Primarily Earth</u> and <u>Water Precious Water</u></p> <p>Non-fiction science books</p>

3rd Grade Science Standards and Benchmarks

Standard 3: Understands and applies the basic concepts of Earth science (cont')				
<i>Concepts: Properties Change</i>				
Grade Level Benchmarks	Vocabulary	Knowledge	Skills	Classroom Resources
C. Understands the Earth has properties, locations, and movements that can be observed and described	<ul style="list-style-type: none"> • rotation • axis • daylight • nighttime • dawn • dusk • midnight • midday 	<ul style="list-style-type: none"> • Knows the Earth rotates on its axis every 24 hours • Knows the rotation of the Earth gives us daylight and nighttime 	<ul style="list-style-type: none"> • Describes the causes of the day and night 	3 rd Grade Curriculum Guide AIMS: <u>Out of This World</u> Storytellers DVD and Resource Guide Non-fiction science books <u>www.thursdaysclassroom.com</u>
D. Understands the moon has properties, locations, and movements that can be observed and described	<ul style="list-style-type: none"> • reflects • orbit • phases • full moon • crescent moon • half moon • quarter moon 	<ul style="list-style-type: none"> • Knows the moon reflects the light given off the sun (It does not produce its own light) • Knows the moon can be seen sometimes at night and sometimes during the day • Knows the moon looks the same about every four weeks 	<ul style="list-style-type: none"> • Describes the phases of the moon • Describes the properties of the moon (i.e., temperature, weather, land formations) 	3 rd Grade Curriculum Guide AIMS: <u>Out of This World</u> Storytellers DVD and Resource Guide Non-fiction science books <u>www.thursdaysclassroom.com</u>

3rd Grade Science Standards and Benchmarks

Standard 3: Understands and applies the basic concepts of Earth science (cont')

Concepts: Properties Change

Grade Level Benchmarks	Vocabulary	Knowledge	Skills	Classroom Resources
E. Understands the properties of gravity on the Earth and other planets	<ul style="list-style-type: none"> • gravity • force of attractions • air resistance • atmosphere • mass 	<ul style="list-style-type: none"> • Knows if you drop two things (hanger and penny) they will hit the ground at the same time • Knows all planets have gravity 	<ul style="list-style-type: none"> • Explains why objects fall at the same rate 	3 rd Grade Curriculum Guide Non-fiction science books www.astrosociety.org/education www.tsgc.utexas.edu www.thursdaysclassroom.com

3rd Grade Science Standards and Benchmarks

Standard 4: Understands and applies the basic concepts of physical science				
<i>Concepts: Patterns, Structure, Interaction, Motion</i>				
Grade Level Benchmarks	Vocabulary	Knowledge	Skills	Classroom Resources
A. Sounds have identifiable properties	<ul style="list-style-type: none"> • different • travel • sound source • sound receiver • properties • position • motion 	<ul style="list-style-type: none"> • Knows sounds are a form of communication • Knows objects can be identified by the sounds they make when dropped • Knows the sounds are determined by the objects' properties • Knows a sound source is where sound begins • Knows sound receivers, such as ears, detect sounds • Knows sounds can travel through solid, water, and air 	<ul style="list-style-type: none"> • Labels parts of the ear • Lists sounds that can travel through air, solids, and water • Lists sounds sources and sound receivers 	3 rd Grade Curriculum Guide FOSS Kit: Physics of Sound AIMS: Primarily Physics Beethoven's Symphony No. 9 in D Minor Beethoven Lives Upstairs The Super Science Book of Sound What about Hearing Non-fiction science books

3rd Grade Science Standards and Benchmarks

Standard 4: Understands and applies the basic concepts of physical science (con't)

Concepts: Patterns, Structure, Interaction, Motion

Grade Level Benchmarks	Vocabulary	Knowledge	Skills	Classroom Resources
B. The vibrations of objects produce sounds	<ul style="list-style-type: none"> • pitch • change • rate • vibration • frequency • length • tension • amplified 	<ul style="list-style-type: none"> • Know vibrating objects produce sounds • Knows changing the rate of vibration can vary the pitch of the sound • Knows sounds begin at sources that are vibrating • Knows pitch is determined by the frequency of vibrations • Knows the pitch of a vibrating object is related to the length of the object • Knows the pitch of a sound made by a vibrating string is related to the tension on the string • Knows sounds can be amplified whether at the sound source or at the sound receiver 	<ul style="list-style-type: none"> • Makes a musical instrument • Describes the properties of sound 	3 rd Grade Curriculum Guide FOSS Kit: Physics of Sound AIMS: Primarily Physics Beethoven's Symphony No. 9 in D Minor Beethoven Lives Upstairs The Super Science Book of Sound What about Hearing Non-fiction science books Community Resources: Visit from Deaf person/hearing aid users Dr. E.N.T.