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| **4th Grade Science** |
| **SES Standard** | **State Standard** |
| **Strand**: Plant Structure and Function |  |
| * Describe two groups in which plants can be grouped
* Find out two groups: one that makes seeds; the other which does not make seeds
* Learn four parts of a flower and how flowers with less than four parts produce seeds
* Learn how pollination and fertilization occur
* Explore how seeds and fruits form
* Learn how plants grow from seeds
* Find out about the mature state of a flowering plant’s lifecycle
 | S:LS1:4:1.1 S:LS1:4.2.2 S:LS1:4:2.3 S:LS1:4:2.4 S:LS1:4:3.1 S:LS1:4:3.2 S:LS1:4:3.3 S:LS1:4-3.4  |
| **Strand**: Animal Structure and Function |  |
| * Explore ways animals are similar and different
* Find out how animals without backbones vary
* Discover how insects compare to other animals with jointed legs
* Learn what characteristics of fish and amphibians are the same
* Learn how birds are alike and different
* Learn how characteristics and life cycles of mammals are alike
* Learn how animals are similar and different from their parents
* Discover what behavior animals get from their parents
* Study what animal behaviors are learned
 | S:LS1:4:2.1 S:LS1:4:2.3 S:LS1:4:2.4 S:LS1:4:3.1 S:LS1:4:3.2 S:LS1:4-3.4 S:LS2:4:1.1  |
| **Strand**: Energy in Ecosystems |  |
| * Learn how living and non-living things make up an ecosystem
* Find out what a habitat is
* Find out how plants get sunlight, water, and air
* Find how plants make sugar
* Find how animals get energy
* Explore the role of scavengers and decomposers
* Explore what a food chain is
* Discover what a food web is
* Discover some causes of changes in food webs
 | S:LS1:4:1.2 S:LS2:4:1.2 S:LS2:4:2.1 S:LS2:4:2.2  |
| **Strand**: Surviving in the Environment |  |
| * Learn how plant structures are important for survival
* Explore how camouflage helps animals survive
* Learn how living groups can be important for survival
* Learn how adult animals care for their young
* Learn how migration and hibernation help animals survive
* Learn how animals live together in special ways
* Learn how changes in the air, land, and water can affect plants and animals
* Explore how people can help to protect the environment
* Learn how some living things become endangered and extinct
* Learn how fossils provide evidence of plants and animals that lived long ago
 | S:ESS1:4:3.1 S:LS2:4:1.1 S:LS2:4:3.1 S:LS2:4:3.2 S:LS3:4:1.1 S:LS3:4:1.2 S:LS3:4:1.3 S:LS3:4:2.1 S:LS3:4:3.1 S:LS3:4:3.2 S:LS4:4:1.2  |
| **Strand**: Measuring Matter  |  |
| * Explore how mass and volume are different
* Learn what physical properties of matter are
* Learn what mixture and solutions are
* Learn how to measure length and volume
* Learn to measure mass of an object
* Learn the difference between mass and density
* Learn some physical changes in matter
* Learn how heating and cooling cause physical change in matter
* Learn about chemical changes in matter
* Discover how rusting, tarnishing, and burning are chemical changes
 | S:PS1:4:1.2 S:PS1:4:2.1 S:PS1:4:2.2 S:PS1:4:2.3 S:PS1:4:2.4 S:PS1:4:2.5 S:PS2:4:1.1 S:PS2:4:3.8  |
| **Strand**: Force and Motion |  |
| * Determine what makes an object move
* Learn how gravity affects motion
* Learn how friction affects motion
* Learn what potential kinetic energy is
* Find out about other forms of energy that affect motion
* Learn what work is
* Explore how simple machines affect motion
* Discover what compound and complex machines are
 | S:LS5:4:2.1 S:PS3:4:2.1 S:PS4:4:1.1 S:PS4:4:1.2 S:PS4:4:2.1 S:PS4:4:2.2 S:PS4:4:3.1 S:PS4:4:3.2 S:PS4:4:3.3 S:PS4:4:4.1  |
| **Strand**: Electricity and Magnetism |  |
| * Discover how objects get an electric charge
* Learn how electric currents flow
* Learn about two types of circuits
* Learn how electricity can be used safely
* Investigate how magnets act
* Learn how earth is like a magnet
* Discover how a magnet can make electricity
* Explore how electricity can make a magnet
* Learn how electromagnets are useful
 | S:PS1:4:1.1 S:PS2:4:3.2 S:PS2:4:3.3 S:PS2:4:3.4 S:PS2:4:3.6 S:PS3:4:1.1 S:PS3:4:1.2 S:PS3:4:1.3 S:PS3:4:1.4 S:PS3:4:1.5  |
| **Strand**: Light and Sound |  |
| * Learn what visible light is and what some of its sources are
* Discover how light waves act
* Find out how light acts when it hits different materials
* Find out how flat and curved mirrors reflect light
* Discover how light bends
* Find out how sound is made
* Learn some properties of sound
* Discover how sound waves travel
* Learn how your ears work
* Determine how sounds can be made louder
 | S:LS5:4:2.2 S:PS2:4:3.1 S:PS2:4:3.5 S:PS2:4:3.7  |
| **Strand**: Measuring Weather |  |
| * Learn what causes change in temperature
* Determine how different surfaces on earth affect air temperature
* Find out how to measure air temperature
* Learn how air temperature causes change in air pressure and wind
* Find out how air pressure is measured
* Learn how to measure wind direction and speed
* Learn how clouds form and how clouds are different
* Learn how there is different forms of precipitation and humidity
* Explain how water moves through a cycle
* Learn what air masses and weather fronts are
* Learn how meteorologist track and predict weather
* Learn how the national weather service helps to keep people safe
 | S:ESS1:4:1.1 S:ESS1:4:1.2 S:ESS1:4:1.4 S:ESS4:4:2.1 S:ESS1:8:1.1 S:ESS1:8:1.2  |
| **Strand**: The Makeup of Earth |  |
| * Learn what landforms are found on earth
* Discover how volcanoes change earth
* Find how earthquakes change earth
* Learn how weathering affects earth’s features
* Explore ways people can control erosion
* Learn what some properties of minerals are
* Discover how rocks form
* Learn what makes up soil
* Learn what natural resources are found on earth
* Learn how to conserve natural resources
 | S:ESS1:4:2.1 S:ESS1:4:2.2 S:ESS1:4:2.4 S:ESS1:4:5.1 S:ESS1:4:5.2 S:ESS1:4:6.1 S:ESS1:4:6.2 S:ESS1:4:6.3 S:ESS1:4:6.4 S:ESS1:4:7.1 S:ESS1:4:7.2 S:ESS4:4:3.1 S:ESS4:4:3.2 S:ESS4:4:3.3 S:ESS4:4:3.3 S:ESS4:4:3.4 S:ESS4:4:4.1  |
| **Strand**: Exploring the Oceans |  |
| * Learn how mapping technology has changed
* Discover what the ocean floor looks like
* Discover who some ocean explorers are
* Find out how vessels of ocean explorations have changed
* Learn about some ocean exploration projects
* Investigate motions of current and waves in water
* Discover how ocean currents affect earth
* Learn what causes tides
* Explain how waves affect shorelines
* Learn what salt water habitats are
* Learn how coral reefs can be affected by human activity
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| **Strand**: Movement in the Solar System |  |
| * Learn effects of earth’s rotation and revolution
* Learn the effects of earth’s tilt
* Learn what causes the phases of the moon
* Discover how eclipses of the moon and sun occur
* Learn how earth is similar and different than the other planets
* Discover what orbits of the planets are like
* Discover what scientists have learned about earth’s neighboring planets
* Learn about Jupiter, Saturn, Uranus, Neptune, and Pluto
* Learn about asteroids and meteors
* Explore why orbits of comets differ from plant’s orbits
* Explore how stars are like the sun
 | S:ESS1:4:4.1 S:ESS2:4:1.1 S:ESS2:4:1.2 S:ESS2:4:2.1 S:ESS2:4:3.1 S:ESS2:4:4.1 S:ESS2:4:4.2 S:ESS3:4:1.1 S:ESS3:4:1.2 S:ESS3:4:2.1 S:ESS3:4:2.2 S:ESS4:4:1.1  |
| **Strand**: Digestive, Circulatory, Nervous Systems |  |
| * Learn about the job of the digestive system
* Learn the steps in the digestive system
* Find out the parts of blood and what they do
* Learn three kinds of blood vessels
* Determine what path blood takes through the heart
* Learn about the nervous system
* Discover the role nerve endings in your skin play
* Find out how eyes work
* Find out how the tongue and nose gather information
 | S:LS4:4:3.1 S:LS4:4:3.2 S:LS5:4:3.1  |
| **Strand**: Keeping your body systems healthy |  |
| * Learn about some problems of the digestive system
* Explore some ways to prevent digestive system problems
* Explore how to prevent head and spinal cord injuries
* Discover how to prevent injuries to your eyes and ears
* Explain how to avoid being harmed by drugs
 | S:LS4:4:1.3 S:LS4:4:2.1 S:LS4:4:2.2 S:LS4:4:2.3  |