Wyoming Department of Education Required Virtual Education Course Syllabus

2201001 - Washakie County School District No. 1

Program Name	Washakie #1 Online	Content Area	SC
Course ID	WOL-SC2F1	Grade Level	2
Course Name	WOL-Science 2	# of Credits	NA
SCED Code	NA	Curriculum Type	K-12 Fuel Education

COURSE DESCRIPTION

SCIENCE 2

Students perform experiments to develop skills of observation and analysis and learn how scientists understand our world. They demonstrate how pulleys lift heavy objects, make a temporary magnet and test its strength, and analyze the parts of a flower. Students will explore topics such as the metric system (liters and kilograms), force (motion and simple machines, physicist Isaac Newton), magnetism (magnetic poles and fields, how a compass works), sound (how sounds are made, inventor Alexander Graham Bell), the human body (cells, the digestive system), and geology (layers of the earth, kinds of rocks, weathering).

WYOMING CONTENT AND PERFORMANCE STANDARDS	
STANDARD#	BENCHMARK (Standard/Indicator) Use the Standards and Benchmarks as Spreadsheets
2-PS1-1	Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties.
2-PS1-2	Analyze data obtained from testing different materials to determine which materials have the properties that are best suited for an intended purpose.
2-PS1-3	Make observations to construct an evidence-based account of how an object made of a small set of pieces can be disassembled and made into a new object.
2-PS1-4	Construct an argument with evidence that some changes caused by heating or cooling can be reversed and some cannot.
2-LS2-1	Plan and conduct an investigation to determine if plants need sunlight and water to grow.
2-LS2-2	Develop a simple model that mimics the function of an animal in dispersing seeds or pollinating plants.
2-LS4-1	Make observations of plants and animals to compare the diversity of life in different habitats.
2-ESS1-1	Use information from several sources to provide evidence that Earth events can occur quickly or slowly.
2-ESS2-1	Compare multiple solutions designed to slow or prevent wind or water from changing the shape of the land.
2-ESS2-2	Develop a model to represent the shapes and kinds of land and bodies of water in an area.
2-ESS2-3	Obtain information to identify where water is found on Earth and that it can be solid, liquid, or gas.
K-2-ETS1-1	Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.
K-2-ETS1-2	Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.
K-2-ETS1-3	Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs.

SCOPE AND SEQUENCE		
LESSON TITLE	**STANDARD**	**OUTCOMES OBJECTIVES/ STUDENT CENTERED GOALS**
Metrics and Measurements	2-PS1-4 K-2-ETS1-1 K-2-ETS1-2 K-2-ETS1-3	Unit 1: Metrics and Measurements Summary Learn the tools and methods for measuring length, mass, weight, temperature, and volume in standard metric units. Discover the difference between mass and weight. Find out the boiling and freezing points of water. Finally, become a scientist and use the scientific process to conduct investigations.
Forces and Motion	2-PS1-1 2-PS1-2	Unit 2: Forces and Motion Summary Find out how the forces of gravity and friction affect everything in our universe: Gravity causes all things to fall at the same rate. Friction works opposite motion direction. Heavy objects require more force to move than light objects.
Simple Machines	2-PS1-3 K-2-ETS1-1 K-2-ETS1-2 K-2-ETS1-3	Unit 3: Simple Machines Summary Find out how machines make work easier. Learn about six types of simple machines--wheels and axles, pulleys, levers, inclined planes, wedges, and screws. Discover how they apply a smaller force over a greater distance than could be done by hand.
Magnetism	K-PS2-1 K-PS2-2	Unit 4: Magnetism Summary Explore the invisible force of magnetism. Show that similar poles repel and opposite poles attract. Examine the magnetic fields and strengths of different magnets. Construct a temporary magnet and show that the north-seeking pole of a magnet turns toward the Earth's magnetic north pole.
Sounds Around Us	1-PS4-1 K-2-ETS1-1 K-2-ETS1-2 K-2-ETS1-3	Unit 5: Sounds Around Us Summary Sound waves and vibrations are all around us. Find out how our ears hear natural and man-made sounds, how our vocal cords produce sounds, and how sounds take on the characteristics of pitch and volume. Discover how Alexander Graham Bell studied the mechanics of sound and changed the world with his inventions.
The Human Body	1-LS1-2 2-LS4-1	Unit 6: The Human Body Summary Take a journey through that fascinating machine--the human body. Discover that cells make up all living things, and identify the parts of a cell. Track the processes of digestion and excretion, and identify proper nutrient requirements on a food pyramid.
Rock Hounds	2-ESS1-1	Unit 7: Rock Hounds Summary Take a trip inside the Earth, discover the processes that create rocks, and solve the mystery of fossils. Explore some of the methods geologists use to classify rocks and minerals, and then become a geologist yourself, gathering and inspecting your own rock samples. Finally, meet the famous Florence Bascom, the "first woman" of geology.
Weathering, Erosion, and Soil	2-ESS1-2 2-ESS2-1 2-ESS2-3 2-ESS2-2 K-2-ETS1-1 K-2-ETS1-2 K-2-ETS1-3	Unit 8: Weathering, Erosion, and Soil Summary Soil is all around us--in our gardens and even in the dirt stains on our knees! But what is soil? Find out what soil is made of and how it forms. Examine different types of soils and determine which is best for growing bean plants. Then, experiment to see how rocks wear down, how soils erode, and how we can prevent erosion.

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LESSON TITLE	**STANDARD**	**OUTCOMES OBJECTIVES/ STUDENT CENTERED GOALS**
Circle of Life, Plants	2-LS2-1 2-LS2-2 2-LS4-1	Unit 9: Circle of Life, Plants Summary Examine the different stages in the life cycle of a plant. Germinate beans to find out how light and gravity affect plant growth. Dissect a flower and identify its parts. Learn about the process of pollination, fruit and seed production, and seed dispersal.
Circle of Life, Animals	2-LS2-1 2-LS2-2 2-LS4-1	Unit 10: Circle of Life, Animals Summary Find out how the life cycles of plants and animals compare. Identify the stages in the life cycles of insects, amphibians, fish, birds, reptiles, and mammals (including humans). Discover how butterflies, mealworms, and frogs go through a fascinating transformation called metamorphosis.