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A Grades 2–5 Correlation of
Tigtag
to the
2014 Oregon Science Standards

To access videos and activities included in this correlation:

Step 1 Click on the Tigtag logo below.



Step 2 Play any video or view an activity within this correlation by clicking on the "green circle" beside each of the Tigtag titles.

2-PS1-1 Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties.

PS1.A Structure and properties of matter

Different kinds of matter exist and many of them can be either solid or liquid, depending on temperature. Matter can be described and classified by its observable properties.

-  **What is a solid?**
-  **Everyday liquids**
-  **Liquids - Did you know?**

-  **Solids**
-  **What makes things solid?**
-  **Solid structures**
-  **Viscosity and non-newtonian liquids**
-  **Cornstarch gloop**
-  **Materials card game**

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.

PS1.A Structure and properties of matter

Different properties are suited to different purposes.

-  **Chimps choosing materials**
-  **Choosing suitable materials**
-  **Insulation - Odd one out**
-  **Properties of materials**
-  **Minerals**

-  **Viscosity investigations**
-  **Should snowmen wear coats?**

2-PS1-4 Construct an argument with evidence that some changes caused by heating or cooling can be reversed and some cannot.

PS1.B **Structure and properties of matter**

Heating or cooling a substance may cause changes that can be observed. Sometimes these changes are reversible, and sometimes they are not.

-  **Changing state**
-  **Changes of state - Spot the ...**
-  **What is burning?**
-  **Burning - True or false**
-  **Fireworks**

-  **Changes of state**
-  **Investigating icy drinks**

Interdependent Relationships in Ecosystems

2-LS2-1 Plan and conduct an investigation to determine if plants need sunlight and water to grow.

LS2.A Interdependent Relationships in Ecosystems

Plants depend on water and light to grow.

- | | |
|--|--|
|  Life cycle of an oak tree |  Conditions for germination |
|  Plant growth - Clip |  Stages of germination |
|  Germination |  Revive a plant |
|  Plant growth - Odd one out |  Colorful carnations |

2-LS2-2 Develop a simple model that mimics the function of an animal in dispersing seeds or pollinating plants.

LS2.A Interdependent Relationships in Ecosystems

Plants depend on animals for pollination or to move their seeds around.

- | | |
|---|--|
|  Parts of a plant |  Plant growth |
|  Pollination |  Investigating seed dispersal |
|  Parts of a plant - True or false |  Fertilization and dispersal extension activity |
|  The nutcracker | |
|  Fertilization and dispersal - Clip | |
|  Fertilization | |
|  Fertilization and dispersal - True or false | |

Interdependent Relationships in Ecosystems

2-LS4-1 Make observations of plants and animals to compare the diversity of life in different habitats.

LS4.D Biodiversity and Humans

There are many different kinds of living things in any area, and they exist in different places on land and in water.

-  What is a habitat?
-  Life underground
-  Habitats - Clip

-  Habitats
-  What is a habitat?
-  Make a worm house
-  Create a new habitat

2-LS2-2 Develop a simple model that mimics the function of an animal in dispersing seeds or pollinating plants.

ETS1.B Developing Possible Solutions

Designs can be conveyed through sketches, drawings, or physical models. These representations are useful in communicating ideas for a problem's solutions to other people.

-  Habitats extension activity

Earth's Systems: Processes That Shape the Earth

2-ESS1-1 Use information from several sources to provide evidence that Earth events can occur quickly or slowly.

ESS1.C The History of Planet Earth

Some events happen very quickly; others occur very slowly, over a time period much longer than one can observe.

-  **What shapes the coast?**
-  **Coasts - Clip**
-  **Coasts - True or false**
-  **Islands - True or false**

-  **Changing coastline**

2-ESS2-1 Compare multiple solutions designed to slow or prevent wind or water from changing the shape of the land.

ESS2.A Earth Materials and Systems

Wind and water can change the shape of the land.

-  **Erosion on the Ganges**
-  **River processes**
-  **Floods - True or false**
-  **Rivers - True or false**

Earth's Systems: Processes That Shape the Earth

2-ESS2-2 Develop a model to represent the shapes and kinds of land and bodies of water in an area.

ESS2.B Plate Tectonics and Large-Scale System Interactions

Maps show where things are located. One can map the shapes and kinds of land and water in any area.

 What is a map?

 3D Landscape maps

 Oxbow lakes

2-ESS2-3 Obtain information to identify where water is found on Earth and that it can be solid or liquid.

ESS2.C The Roles of Water in Earth's Surface Processes

Water is found in the ocean, rivers, lakes, and ponds. Water exists as solid ice and in liquid form.

 The wonder of water

 Glaciers

 Journey of a river

 Make a globe

2-ESS2-1 Compare multiple solutions designed to slow or prevent wind or water from changing the shape of the land.

ETS1.C Optimizing the Design Solution

Because there is always more than one possible solution to a problem, it is useful to compare and test designs.

 The drowning city

 Floods - Clip

 Floods

 Floods - Spot the ...

 Sandcastle defences



3-PS2-1 Plan and conduct an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object.

PS2.A Forces and Motions

Each force acts on one particular object and has both strength and a direction. An object at rest typically has multiple forces acting on it, but they add to give zero net force on the object. Forces that do not sum to zero can cause changes in the object's speed or direction of motion.

-  **What is a force?**
-  **What is a force? Odd one out**
-  **Velodrome**
-  **What is a force? Did you know?**
-  **Space rockets**
-  **Action and reaction - Spot the ...**
-  **Spot the similar characteristics**
-  **Pushes and pulls in sport**
-  **Everyday forces**
-  **Bouncing balls**
-  **What is force? Extension activity**
-  **What is force? Review activity**
-  **Stretching candy**
-  **Exploring balanced forces**
-  **Opposing forces**
-  **Balancing butterflies**
-  **Action and reaction extension activity**
-  **Action and reaction review activity**

Forces and Interactions

3-PS2-2 Make observations and/or measurements of an object's motion to provide evidence that a pattern can be used to predict future motion.

PS2.A Forces and Motions

Plan and conduct an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object.



Opposing forces



Action and reaction - True or false



Balloon rockets

3-PS2-1 Plan and conduct an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object.

PS2.B Types of Interactions

Objects in contact exert forces on each other.



What is friction?



Action and reaction - Clip



Skydiving



Streamlining



Film canister rockets



Video



Activity



Interactive quiz

3-PS2-3 Ask questions to determine cause and effect relationships of electric or magnetic interactions between two objects not in contact with each other.

PS2.B Types of Interactions

Electric and magnetic forces between a pair of objects do not require that the objects be in contact. The sizes of the forces in each situation depend on the properties of the objects and their distances apart and, for forces between two magnets, on their orientation relative to each other.

-  **Compass**
-  **Magnetism**
-  **Magnetism - Did you know?**
-  **Maglev train**
-  **Lightning**
-  **Uses for magnets**
-  **Magnetic and nonmagnetic material**
-  **Which materials are magnetic?**
-  **Magnetism extension activity**
-  **Magnetism**
-  **Magnetic maze**
-  **Which is the strongest magnet?**

3-PS2-4 Define a simple design problem that can be solved by applying scientific ideas about magnets.

PS2.B Types of Interactions

Types of Interactions Electric and magnetic forces between a pair of objects do not require that the objects be in contact. The sizes of the forces in each situation depend on the properties of the objects and their distances apart and, for forces between two magnets, on their orientation relative to each other.

-  **Using magnets**
-  **Make a compass**
-  **Make an electromagnet**

Interdependent Relationships in Ecosystems

3-LS4-4 Make a claim about the merit of a solution to a problem caused when the environment changes and the types of plants and animals that live there may change.*

**LS2.C
Ecosystem Dynamics, Functioning, and Resilience**

Functioning, and Resilience When the environment changes in ways that affect a place's physical characteristics, temperature, or availability of resources, some organisms survive and reproduce, others move to new locations, yet others move into the transformed environment, and some die.

-  **Great flood of the Kalahari**
-  **Evolution - Clip**

3-LS2-1 Construct an argument that some animals form groups that help members survive.

**LS2.D
Social Interactions and Group Behavior**

Being part of a group helps animals obtain food, defend themselves, and cope with changes. Groups may serve different functions and vary dramatically in size.

-  **Farming food**
-  **Obtaining food - True or false**

Interdependent Relationships in Ecosystems

3-LS4-1 Analyze and interpret data from fossils to provide evidence of the organisms and the environments in which they lived long ago.

LS4.A Evidence of Common Ancestry and Diversity

Some kinds of plants and animals that once lived on Earth are no longer found anywhere.



What killed the dinosaurs?



Allosaurus



Fossil dig

3-LS4-1 Analyze and interpret data from fossils to provide evidence of the organisms and the environments in which they lived long ago.

LS4.A Evidence of Common Ancestry and Diversity

Fossils provide evidence about the types of organisms that lived long ago and also about the nature of their environments.



Fossils



Rocks - Clip



Seashells on a mountain



Plant habitats



Video



Activity



Interactive quiz

Interdependent Relationships in Ecosystems

3-LS4-3 Construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all.

**LS4.C
Adaptation**

For any particular environment, some kinds of organisms survive well, some survive less well, and some cannot survive at all.

-  **Adaptation**
-  **Plant adaptations**
-  **Snub-nosed monkey**
-  **Plant adaptations**

 **Animal habitats**

3-LS4-4 Make a claim about the merit of a solution to a problem caused when the environment changes and the types of plants and animals that live there may change.

**LS4.D
Biodiversity and Humans**

Populations live in a variety of habitats, and change in those habitats affects the organisms living there.

-  **Evolution**
-  **Polluting our water - Clip**
-  **Kingdoms**

3-LS1-1 Develop models to describe that organisms have unique and diverse life cycles but all have in common birth, growth, reproduction, and death.

LS1.B Growth and Development of Organisms

Reproduction is essential to the continued existence of every kind of organism. Plants and animals have very diverse life cycles.

- | | |
|---|---|
|  Poison arrow frogs |  Life cycles |
|  Vertebrates - Clip |  Observing life cycles |
|  What is a life cycle? |  Life cycles extension activity |
|  Life cycles - Odd one out |  Stages of germination |
|  Fairy wasp |  Conditions for germination |
|  Life cycles - Clip | |
|  Life cycle of an oak tree | |
|  Plant growth - Clip | |
|  Plant growth - True of False | |

Inheritance and Variation of Traits: Life Cycles and Traits

3-LS3-1 Analyze and interpret data to provide evidence that plants and animals have traits inherited from parents and that variation of these traits exists in a group of similar organisms.

**LS3.A
Inheritance of Traits**

Many characteristics of organisms are inherited from their parents.

-  **Breeding silver foxes**
-  **Reproduction**

-  **Reproduction**
-  **Spot the similar characteristics**

3-LS3-2 Use evidence to support the explanation that traits can be influenced by the environment.

**LS3.A
Inheritance of Traits**

Other characteristics result from individuals' interactions with the environment, which can range from diet to learning. Many characteristics involve both inheritance and environment.

-  **Acquired characteristics**

3-LS3-1 Analyze and interpret data to provide evidence that plants and animals have traits inherited from parents and that variation of these traits exists in a group of similar organisms.

**LS3.B
Variation of traits**

Different organisms vary in how they look and function because they have different inherited information.

-  **Reproduction - Spot the ...**

3-LS3-2 Use evidence to support the explanation that traits can be influenced by the environment.

LS3.B Variation of traits

The environment also affects the traits that an organism develops.

 **Reproduction extension activity**

3-LS4-2 Use evidence to construct an explanation for how the variations in characteristics among individuals of the same species may provide advantages in surviving, finding mates, and reproducing.

LS4.B Natural selection

Sometimes the differences in characteristics between individuals of the same species provide advantages in surviving, finding mates, and reproducing.

 **Natural selection**
 **Evolution - Clip**

 **Natural selection**
 **Modeling evolution**
 **Evolution extension activity**

3-ESS2-1 Represent data in tables and graphical displays to describe typical weather conditions expected during a particular season.

ESS2.D Weather and Climate

Scientists record patterns of the weather across different times and areas so that they can make predictions about what kind of weather might happen next.

 **Meteorologists**

 **Weekly weather log**
 **Weather vane**
 **Does rain fall evenly?**

3-ESS2-2 Obtain and combine information to describe climates in different regions of the world.

ESS2.D Weather and Climate

Climate describes a range of an area's typical weather conditions and the extent to which those conditions vary over years.

-  Climate
-  What is weather?

-  Climate zones and biomes
-  Make a simple barometer

3-ESS3-1 Make a claim about the merit of a design solution that reduces the impacts of a weather-related hazard.

ESS3.B Natural Hazards

A variety of natural hazards result from natural processes. Humans cannot eliminate natural hazards but can take steps to reduce their impacts.

-  Floods
-  Floods - Clip
-  The drowning city
-  Floods - Spot the ...
-  Weather - True or false

-  Class discussion: Floods
-  Pakistan flood 2010
-  Floods extension activity
-  Role-play: Meteorologists
-  Preparing for a flood
-  Role-play: Floods
-  Role-play: Meteorologists

4-PS3-1 Use evidence to construct an explanation relating the speed of an object to the energy of that object.

PS3.A Definitions of Energy

The faster a given object is moving, the more energy it possesses.

 **What is energy?**

 **Types of energy**

4-PS3-2 Make observations to provide evidence that energy can be transferred from place to place by sound, light, heat, and electric currents.

PS3.B Conservation of Energy and Energy Transfer

Energy is present whenever there are moving objects, sound, light, or heat. When objects collide, energy can be transferred from one object to another, thereby changing their motion. In such collisions, some energy is typically also transferred to the surrounding air; as a result, the air gets heated and sound is produced.

 **Asteroid**

 **Energy transformation - True or false**

4-PS3-3 Ask questions and predict outcomes about the changes in energy that occur when objects collide.

PS3.B Conservation of Energy and Energy Transfer

Light also transfers energy from place to place.

 **Solar power**

4-PS3-3 Ask questions and predict outcomes about the changes in energy that occur when objects collide.

PS3.B Conservation of Energy and Energy Transfer

Energy can also be transferred from place to place by electric currents, which can then be used locally to produce motion, sound, heat, or light. The currents may have been produced to begin with by transforming the energy of motion into electrical energy.

 **What is electricity?**

4-PS3-4 Apply scientific ideas to design, test, and refine a device that converts energy from one form to another.

PS3.B Conservation of Energy and Energy Transfer

Energy can also be transferred from place to place by electric currents, which can then be used locally to produce motion, sound, heat, or light. The currents may have been produced to begin with by transforming the energy of motion into electrical energy.

 **Heat transfer**

4-PS3-3 Ask questions and predict outcomes about the changes in energy that occur when objects collide.

PS3.C Relationship Between Energy and Forces

When objects collide, the contact forces transfer energy so as to change the objects' motions

 **Race cars**

-  **Energy transfer**
-  **Swinging cans**
-  **Energy snap!**
-  **Energy transfer balls**

4-PS3-4 Apply scientific ideas to design, test, and refine a device that converts energy from one form to another.

PS3.D Energy in Chemical Processes and Everyday Life

The expression "produce energy" typically refers to the conversion of stored energy into a desired form for practical use.

-  **Windup radio**
-  **Energy transformation - Clip**
-  **Sloth vs cheetah**
-  **Energy transformation - Spot the ...**

-  **Rubber band boats**
-  **Energy transformation**
-  **Cotton bobbin challenge**
-  **Balloon cars**
-  **Waterwheel**

4-ESS3-1 Obtain and combine information to describe that energy and fuels are derived from natural resources and their uses affect the environment.

ESS3.A Relationship Between Energy and Forces

Natural Resources Energy and fuels that humans use are derived from natural sources, and their use affects the environment in multiple ways. Some resources are renewable over time, and others are not.

-  Fuels
-  Nuclear energy
-  Wind turbines
-  The energy debate

-  Types of energy
-  Uses of energy
-  Water turbine
-  Energy sources extension activity
-  Energy sources review activity
-  Exploring the energy debate
-  Ghostly writing

4-PS3-4 Apply scientific ideas to design, test, and refine a device that converts energy from one form to another.

ETS1.A Defining Engineering Problems

Possible solutions to a problem are limited by available materials and resources (constraints). The success of a designed solution is determined by considering the desired features of a solution (criteria). Different proposals for solutions can be compared on the basis of how well each one meets the specified criteria for success or how well each takes the constraints into account.

-  The future of energy

4-PS4-1 Develop a model of waves describe patterns in terms of amplitude and wavelength and that waves can cause objects to move.

PS4.A
Wave properties

Waves, which are regular patterns of motion, can be made in water by disturbing the surface. When waves move across the surface of deep water, the water goes up and down in place; there is no net motion in the direction of the wave except when the water meets the beach.

Waves of the same type can differ in amplitude (height of the wave) and wavelength (spacing between wave peaks.)

-  **What shapes the coast?**
-  **Why is there no sound in space?**
-  **How do sounds travel?**
-  **How does sound travel?**
-  **Quacking duck cup**
-  **How does sound travel? Extension activity**
-  **How does sound travel? Review activity**
-  **How does sound travel?**
-  **Changing pitch**
-  **How sound energy travels**
-  **Sound levels**
-  **Modeling a sound source**
-  **Vibrations and volume**
-  **Observing volume**

4-PS4-3 Generate and compare multiple solutions that use patterns to transfer information.

ETS1.C Optimizing the design solution

Different solutions need to be tested in order to determine which of them best solves the problem, given the criteria and the constraints.

 **What is GPS?**

 **Testing ear protectors**

Structure, Function, and Information Processing

4-PS4-2 Develop a model to describe that light reflecting from objects and entering the eye allows objects to be seen.

PS4.B Electromagnetic Radiation

An object can be seen when light reflected from its surface enters the eyes.

-  What is light?
-  Cat's eyes
-  What is a reflection?

-  Make a camera obscura

4-LS1-2 Use a model to describe that animals receive different types of information through their senses, process the information in their brain, and respond to the information in different ways.

LS1.D Information Processing

Different sense receptors are specialized for particular kinds of information, which may be then processed by the animal's brain. Animals are able to use their perceptions and memories to guide their actions.

-  Star-nosed mole
-  Why don't some animals have ears?
-  The brain and body - Spot the

-  Human and animal features

4-ESS1-1 Identify evidence from patterns in rock formations and fossils in rock layers to support an explanation for changes in a landscape over time.

**ESS1.C
The History of Planet Earth**

Local, regional, and global patterns of rock formations reveal changes over time due to earth forces, such as earthquakes. The presence and location of certain fossil types indicate the order in which rock layers were formed.

-  **Rock types**
-  **The Earth's layers - Clip**
-  **How diamonds are formed?**
-  **Rocks - True or false**
-  **The Earth's layers - True or false**

4-ESS2-1 Make observations and/or measurements to provide evidence of the effects of weathering or the rate of erosion by water, ice, wind, or vegetation.

**ESS2.A
Earth Materials and Systems**

Rainfall helps to shape the land and affects the types of living things found in a region. Water, ice, wind, living organisms, and gravity break rocks, soils, and sediments into smaller particles and move them around.

- | | |
|---|--|
| <ul style="list-style-type: none">  Erosion and weathering  Erosion on the Ganges  What is soil? | <ul style="list-style-type: none">  Weathering from rain  The power of ice |
|---|--|

Earth's Systems: Processes That Shape the Earth

4-ESS2-2 Analyze and interpret data from maps to describe patterns of Earth's features.

ESS2.B Plate Tectonics and Large-Scale System Interactions

The locations of mountain ranges, deep ocean trenches, ocean floor structures, earthquakes, and volcanoes occur in patterns. Most earthquakes and volcanoes occur in bands that are often along the boundaries between continents and oceans. Major mountain chains form inside continents or near their edges. Maps can help locate the different land and water features areas of Earth.

-  Galapagos volcanoes
-  Exploding mountains
-  Mapping the seas - Clip

-  What is lava?
-  Where does lava come from?
-  Volcanic eruptions
-  The Earth's layers extension activity
-  The Earth's layers review activity
-  Class discussion: Mountains
-  Make a globe
-  Mountains review activity

4-ESS2-1 Make observations and/or measurements to provide evidence of the effects of weathering or the rate of erosion by water, ice, wind, or vegetation.

ESS2.E Biogeology

Living things affect the physical characteristics of their regions.

-  What is land used for?

4-ESS3-2 Generate and compare multiple solutions to reduce the impacts of natural Earth processes on humans.

ESS3.B Natural Hazards

A variety of hazards result from natural processes (e.g., earthquakes, tsunamis, volcanic eruptions). Humans cannot eliminate the hazards but can take steps to reduce their impacts.

-  **Earthquakes**
-  **Islands - True or false**
-  **Exploding mountains**

-  **Design an earthquake-proof building**
-  **Weathering from rain**

Structure and Properties of Matter

5-PS1-1 Develop a model to describe that matter is made of particles too small to be seen.

PS1.A Structure and properties of matter

Matter of any type can be subdivided into particles that are too small to see, but even then the matter still exists and can be detected by other means. A model that shows gases are made from matter particles that are too small to see and that are moving freely around in space can explain many observations, including the inflation and shape of a balloon and the effects of air on larger particles or objects.

-  Properties of materials
-  Separation by evaporation - Spot the ...
-  Characteristics of water - Did you know?
-  Characteristics of air - Spot the ...

-  Dissolving sugar in water
-  Separation by evaporation quiz
-  Investigating dissolving
-  What can water dissolve?
-  Separation by evaporation

Structure and Properties of Matter

5-PS1-3 make observations and measurements to identify materials based on their properties.

PS1.A Structure and properties of matter

Measurements of a variety of properties can be used to identify materials.

-  Why do hot air balloons float?
-  What is a gas?
-  Sea salt
-  Separation by evaporation

-  Mystery powder

PS1.B Chemical reactions When two or more different substances are mixed, a new substance with different properties may be formed.

PS1.B Chemical reactions

When two or more different substances are mixed, a new substance with different properties may be formed.

-  What is gas made of?
-  Chemical reactions - Spot the ...
-  Changing properties
-  Chemical reactions - Did you know?
-  Mixtures and compounds
-  More chemical reactions - What happens next?

-  Making new substances
-  Investigating rusty nails
-  Chemical reactions extension activity
-  Chemical reactions quiz
-  Fairy cakes
-  Mixtures and compounds
-  Elephant's toothpaste
-  Mini lava lamps



Video



Activity



Interactive quiz

5-PS1-2 Measure and graph quantities to provide evidence that regardless of the type of change that occurs when heating, cooling or mixing substances, the total weight of matter is conserved.

**PS1.B
Chemical reactions**

No matter what reaction or change in properties occurs, the total weight of the substance does not change.

 **Chemical reactions - What happens next?**

-  **Self-inflating balloon**
-  **Exploding bags**
-  **Foaming lemon juice**
-  **Invisible ink**

5-PS3-1 Use models to describe that energy in animals' food (used for body repair, growth, motion, and to maintain body warmth) was once energy from the sun.

PS3.D

Energy in chemical processes and everyday life

The energy released from food was once energy from the sun that was captured by plants in the chemical process that forms plant matter

-  **Pancakes**
-  **The Sun as our main source of energy - Odd one out**
-  **The Sun's energy**
-  **The Sun's energy and food**
-  **The Sun as our main source of energy extension activity**
-  **The Sun as our main source of energy quiz**

5-PS3-1 Use models to describe that energy in animals' food (used for body repair, growth, motion, and to maintain body warmth) was once energy from the sun.

LS1.C

Organization for matter and energy flow in organisms

Food provides animals with the materials they need for body repair and growth and the energy they need to maintain body warmth and for motion.

-  **Living things**
-  **What is a cell?**
-  **The human cell**
-  **Mudskippers**
-  **Balanced diet**
-  **Diet and exercise - Clip**
-  **You are one big chemical reaction**

Matter and Energy in Organisms and Ecosystems

5-LS1-1 Support an argument that plants get the materials they need for growth chiefly from air and water.

LS1.C Organization for matter and energy flow in organisms

Plants acquire their material for growth chiefly from air and water.



Photosynthesis



Giant redwoods



Food chains word search



Revive a plant

5-PS3-1 Use models to describe that energy in animals' food (used for body repair, growth, motion, and to maintain body warmth) was once energy from the sun.

LS1.C Organization for matter and energy flow in organisms

Food provides animals with the materials they need for body repair and growth and the energy they need to maintain body warmth and for motion.



Living things



What is a cell?



The human cell



Mudskippers



Balanced diet



Diet and exercise - Clip



You are one big chemical reaction



Video



Activity



Interactive quiz

Matter and Energy in Organisms and Ecosystems

5-LS2-1 Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.

LS2.A Interdependent relationships in ecosystems

The food of almost any kind of animal can be traced back to plants.

 **Food chain**

-  **Modeling food chains**
-  **Food chain models**
-  **Food chains review activity**
-  **Chicken dinner food chains**
-  **Food chains quiz**

5-LS2-1 Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.

LS2.A Interdependent relationships in ecosystems

Organisms are related in food webs in which some animals eat plants for food and other animals eat the animals that eat plants.

-  **Sharks and fur seals**
-  **Food chains - What happens next?**
-  **Butterfly's breakfast**
-  **Food chains - Odd one out**

-  **Food chains and food webs**
-  **Modeling a food web**

Matter and Energy in Organisms and Ecosystems

5-LS2-1 Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.

LS2.A Interdependent relationships in ecosystems

Some organism, such as fungi and bacteria, break down dead organisms and therefore operate as decomposers.



Food chains - Did you know?



Living things - Clip

5-LS2-1 Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.

LS2.A Interdependent relationships in ecosystems

Organisms can survive only in environments in which their particular needs are met. A healthy ecosystem is one in which multiple species of different types are each able to meet their needs.



Sea otters

5-LS2-1 Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.

LS2.A Interdependent relationships in ecosystems

Newly introduced species can damage the balance of an ecosystem.



Cane toads



Video



Activity



Interactive quiz

5-LS2-1 Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.

LS2.B
Cycles of matter and energy transfer in Ecosystems

Matter cycles ...

-  **What is soil?**
-  **Cells - Clip**

5-ESS2-2 Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.

ESS2.A Earth Materials and Systems

Earth's major systems are the geosphere (solid and molten rock, soil, and sediments), the hydrosphere (water and ice), the atmosphere (air), and the biosphere (living things, including humans). These systems interact in multiple ways to affect Earth's surface materials and processes. The ocean supports a variety of ecosystems and organisms, shapes landforms, and influences climate. Winds and clouds in the atmosphere interact with the landforms to determine patterns of weather.

-  **What is a biome?**
 -  **Climate - Clip**
 -  **The Earth's layers**
 -  **The Earth's layers - Odd one out**
 -  **Where does wind come from?**
 -  **Climate**
 -  **The Amazon Rainforest**
-  **Biome in a bottle**
 -  **Weather and its effects**

5-ESS2-2 Describe and graph the amounts and percentages of water and fresh water in various reservoirs to provide evidence about the distribution of water on Earth.

ESS2.C The Roles of Water in Earth's Surface Processes

Nearly all of Earth's available water is in the ocean. Most fresh water is in glaciers or underground; only a tiny fraction is in streams, lakes, wetlands, and the atmosphere.

-  **Water as a resource**

5-ESS3-1 Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.

ESS3.C Human Impacts on Earth Systems

Human activities in agriculture, industry, and everyday life have had major effects on the land, vegetation, streams, ocean, air, and even outer space. But individuals and communities are doing things to help protect Earth's resources and environments.

-  **Water pollution**
-  **Polluting our water - Clip**
-  **Oil spills**
-  **Humans on Earth - Did you know?**
-  **Air pollution**
-  **Smog**
-  **Land pollution**
-  **Environmental awareness**
-  **Polluting the air - Did you know?**
-  **Humans on Earth**



Video



Activity



Interactive quiz

5-PS2-1 Support an argument that the gravitational force exerted by Earth on objects is directed down.

PSB.B

Types of interaction

The gravitational force of Earth acting on an object near Earth's surface pulls that object toward the planet's centre.

-  What is gravity?
-  Gravity - Spot the ...
-  What is gravity?
-  Gravity - True or false

-  Investigating gravity
-  What is mass?
-  Spring scales
-  Gravity extension activity
-  Gravity review activity

5-ESS1-2 Represent data in graphical displays to reveal patterns of daily changes in length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky.

ESS1.B

Earth and the Solar System

The orbits of Earth around the sun and of the moon around Earth, together with the rotation of Earth about an axis between its north and south poles, cause observable patterns. These include day and night; daily changes in the length and direction of shadows; and different positions of the sun, moon, and stars at a different times of the day, month, and year.

-  Night and day
-  Phases of the Moon
-  Constellations



Video



Activity



Interactive quiz