

4-PS3-1

ENERGY

I CAN USE EVIDENCE TO CONSTRUCT AN EXPLANATION RELATING THE SPEED OF AN OBJECT TO THE ENERGY OF THAT OBJECT.



"The faster an object is moving, the more energy it possesses. In other words, a fast moving object has more energy than a slow moving object, assuming both objects have the same mass."



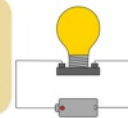
4-PS3-2

ENERGY

I CAN MAKE OBSERVATIONS TO PROVIDE EVIDENCE THAT ENERGY CAN BE TRANSFERRED FROM PLACE TO PLACE BY SOUND, LIGHT, HEAT AND ELECTRIC CURRENTS.



"Energy can move from place to place by moving objects, sound, light or electric currents. For example, energy is transferred between objects during a collision or by electric currents."



4-PS3-3

ENERGY

I CAN ASK QUESTIONS AND PREDICT OUTCOMES ABOUT THE CHANGES IN ENERGY THAT OCCUR WHEN OBJECTS COLLIDE.



"When objects collide, energy can be transferred from one object to another. The transfer of energy changes the objects' motion. Some energy is also transferred to the air and produces heat and sound."



4-PS3-4

ENERGY

I CAN APPLY SCIENTIFIC IDEAS TO DESIGN, TEST AND REFINE A DEVICE THAT CONVERTS ENERGY FROM ONE FORM TO ANOTHER.



"When energy is 'produced,' it is actually converted from stored energy into a desired form for practical use. For example, currents are produced by transforming energy of motion into electrical energy."



4-PS4-1

WAVES & INFORMATION TRANSFER

I CAN DEVELOP A MODEL OF WAVES TO DESCRIBE PATTERNS IN TERMS OF AMPLITUDE AND WAVELENGTH AND THAT WAVES CAN CAUSE OBJECTS TO MOVE.



"Waves are regular patterns of motion and can be made in water by disturbing the surface. When waves move across the surface of deep water, the water moves up and down in place. Waves can differ in amplitude (height) and wavelength (space between wave peaks)."



4-PS4-2

WAVES & INFORMATION TRANSFER

I CAN DEVELOP A MODEL TO DESCRIBE THAT LIGHT REFLECTING FROM OBJECTS AND ENTERING THE EYE ALLOW AN OBJECT TO BE SEEN.



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



4-PS4-3

WAVES & INFORMATION TRANSFER

I CAN GENERATE AND COMPARE MULTIPLE SOLUTIONS THAT USE PATTERNS TO TRANSFER INFORMATION.



"Digitized information can be transmitted over long distances without significant degradation. High-tech devices, such as cellphones and computers, can receive and decode information - convert it from digitized form to voice, and vice versa."



4-LS1-1

ORGANISM STRUCTURE & PROCESSES

I CAN CONSTRUCT AN ARGUMENT THAT PLANTS AND ANIMALS HAVE INTERNAL AND EXTERNAL STRUCTURES THAT FUNCTION TO SUPPORT SURVIVAL, GROWTH, BEHAVIOR AND REPRODUCTION.



"Plants and animals have internal and external structures that serve various functions in growth, survival, behavior and reproduction."



4-LS1-2

ORGANISM STRUCTURE & PROCESSES

I CAN USE A MODEL TO DESCRIBE THAT ANIMALS RECEIVE INFORMATION THROUGH SENSES, PROCESS THE INFORMATION IN THEIR BRAIN AND RESPOND TO THE INFORMATION IN DIFFERENT WAYS.



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



4-ESS1-1

EARTH'S PLACE IN THE UNIVERSE

I CAN IDENTIFY EVIDENCE FROM PATTERNS IN ROCK FORMATIONS AND FOSSILS IN ROCK LAYERS TO SUPPORT AN EXPLANATION FOR CHANGES IN A LANDSCAPE OVER TIME.



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



4-ESS2-1

EARTH'S SYSTEMS

I CAN MAKE OBSERVATIONS AND/OR MEASUREMENTS TO PROVIDE EVIDENCE OF THE EFFECTS OF WEATHER OR THE RATE OF EROSION BY WATER, ICE, WIND OR VEGETATION.



"Rainfall helps to shape the land and affects the types of living things found in a region. Water, ice, wind and gravity break rocks, soils and sediments into smaller pieces and moves them around. Living things also affect the physical characteristics of their regions."



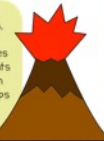
4-ESS2-2

EARTH'S SYSTEMS

I CAN ANALYZE AND INTERPRET DATA FROM MAPS TO DESCRIBE PATTERNS OF EARTH'S FEATURES.



"The location of mountain ranges, deep ocean trenches, ocean floor structures, earthquakes and volcanoes occur in patterns. Most earthquakes and volcanoes occur along boundaries between continents and oceans. Major mountain chains form inside continents or near their edges. Maps help locate different land and water features."



4-ESS3-1

EARTH & HUMAN ACTIVITY

I CAN OBTAIN AND COMBINE INFORMATION TO DESCRIBE THAT ENERGY AND FUELS ARE DERIVED FROM NATURAL RESOURCES AND THEIR USES AFFECT THE ENVIRONMENT.



"Energy and fuels that human use are derived from natural resources and their use affects the environment in multiple ways. Some resources are renewable and others are not."



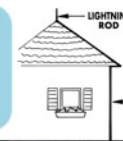
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EARTH & HUMAN ACTIVITY

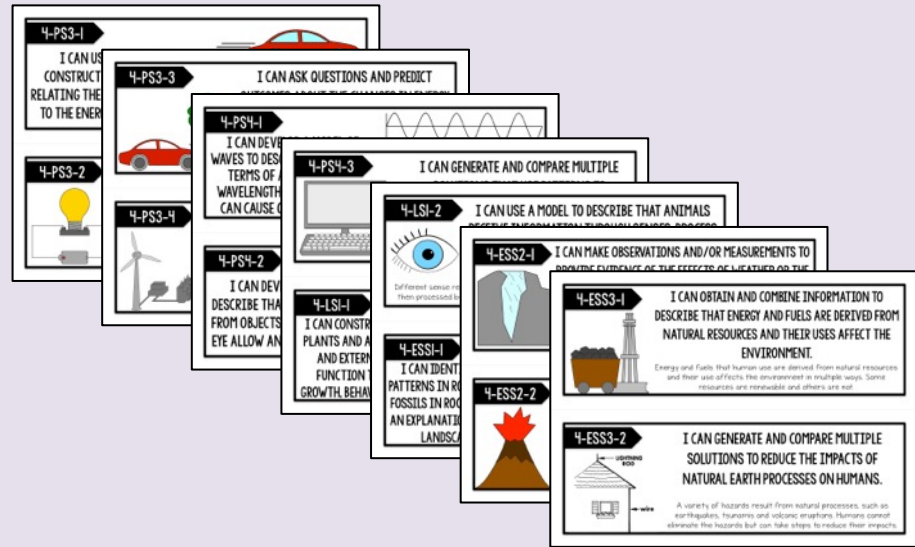
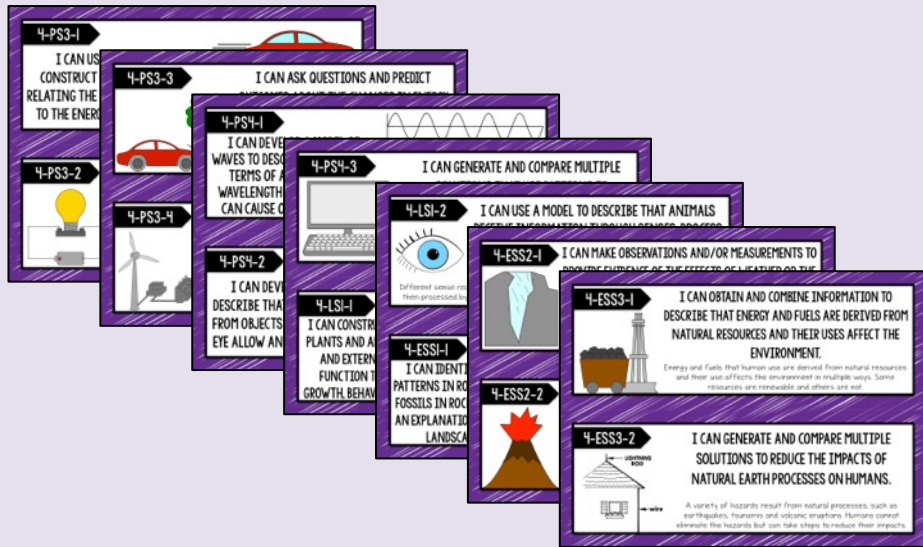
I CAN GENERATE AND COMPARE MULTIPLE SOLUTIONS TO REDUCE THE IMPACTS OF NATURAL EARTH PROCESSES ON HUMANS.



"A variety of hazards result from natural processes, such as earthquakes, tsunamis and volcanic eruptions. Humans cannot eliminate the hazards but can take steps to reduce their impacts."



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STUDENT MINIS IN COLOR & B/W WITH & WITHOUT KEYHOLE PLACEHOLDER

