

READINESS STANDARDS - Grade 5 Science

(5.5) **Matter and energy.** The student knows that matter has measurable physical properties and those properties determine how matter is classified, changed, and used. The student is expected to

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| (A) classify matter based on physical properties, including mass, magnetism, physical state (solid, liquid, and gas), relative density (sinking and floating), solubility in water, and the ability to conduct or insulate thermal energy or electric energy | Matter, Properties, Solution, Relative Density |
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(5.6) **Force, motion, and energy.** The student knows that energy occurs in many forms and can be observed in cycles, patterns, and systems. The student is expected to

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| (A) explore the uses of energy, including mechanical, light, thermal, electrical, and sound energy | Energy, Mechanical energy, Light energy, Sound energy, Heat/thermal energy |
| (B) demonstrate that the flow of electricity in circuits requires a complete path through which an electric current can pass and can produce light, heat, and sound | Energy, Flow, Circuit, Closed circuit, Open circuit, Current |
| (C) demonstrate that light travels in a straight line until it strikes an object or travels through one medium to another and demonstrate that light can be reflected such as the use of mirrors or other shiny surfaces and refracted such as the appearance of an object when observed through water | Reflection, Refraction, Concave, Convex |

(5.7) **Earth and space.** The student knows Earth's surface is constantly changing and consists of useful resources. The student is expected to

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| (A) explore the processes that led to the formation of sedimentary rocks and fossil fuels | Sedimentary, Fossil fuel, Weathering, Erosion, Compaction, Cementation, Decomposition |
| (B) recognize how landforms such as deltas, canyons, and sand dunes are the result of changes to Earth's surface by wind, water, and ice | Delta, Canyon, Sand dune, Wind, Water, Ice, Erosion, Weathering, Deposition |
| (C) identify alternative energy resources such as wind, solar, hydroelectric, geothermal, and biofuels | Alternative energy, Hydroelectric, Geothermal, Biofuel |

(5.8) **Earth and space.** The student knows that there are recognizable patterns in the natural world and among the Sun, Earth, and Moon system. The student is expected to

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| (C) demonstrate that Earth rotates on its axis once approximately every 24 hours causing the day/night cycle and the apparent movement of the Sun across the sky | Rotate, Axis |
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(5.9) **Organisms and environments.** The student knows that there are relationships, systems, and cycles within environments. The student is expected to

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| (A) observe the way organisms live and survive in their ecosystem by interacting with the living and non-living elements | Ecosystem, Living, Non-living |
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READINESS STANDARDS - Grade 5 Science

(5.9) **Organisms and environments.** The student knows that there are relationships, systems, and cycles within environments. The student is expected to

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| (B) describe how the flow of energy derived from the Sun, used by producers to create their own food, is transferred through a food chain and food web to consumers and decomposers | Energy, Food chain, Food web, Consumer, Producer, Decomposer |
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(5.10) **Organisms and environments.** The student knows that organisms undergo similar life processes and have structures that help them survive within their environments. The student is expected to

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| (A) compare the structures and functions of different species that help them live and survive such as hooves on prairie animals or webbed feet in aquatic animals | Structure, Function |
| (B) differentiate between inherited traits of plants and animals such as spines on a cactus or shape of a beak and learned behaviors such as an animal learning tricks or a child riding a bicycle | Inherited trait, Learned behavior |

SUPPORTING STANDARDS - Grade 5 Science

(5.5) **Matter and energy.** The student knows that matter has measurable physical properties and those properties determine how matter is classified, changed, and used. The student is expected to

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| (B) identify the boiling and freezing/melting points of water on the Celsius scale | Boiling point, Melting point, Celsius Scale |
| (C) demonstrate that some mixtures maintain physical properties of their ingredients such as iron filings and sand | Physical property, Mixture |
| (D) identify changes that can occur in the physical properties of the ingredients of solutions such as dissolving salt in water or adding lemon juice to water | Physical property, Solution, Dissolve |

(5.6) **Force, motion, and energy.** The student knows that energy occurs in many forms and can be observed in cycles, patterns, and systems. The student is expected to

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| (D) design an experiment that tests the effect of force on an object | Experiment, Force |
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(5.7) **Earth and space.** The student knows Earth's surface is constantly changing and consists of useful resources. The student is expected to

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| (D) identify fossils as evidence of past living organisms and the nature of the environments at the time using models | Fossil, Model |
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(5.8) **Earth and space.** The student knows that there are recognizable patterns in the natural world and among the Sun, Earth, and Moon system. The student is expected to

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| (A) differentiate between weather and climate | Weather, Climate |
| (B) explain how the Sun and the ocean interact in the water cycle | Water cycle, Evaporation, Condensation, Precipitation, Collection |
| (D) identify and compare the physical characteristics of the Sun, Earth, and Moon | Physical characteristic, Axial tilt, Atmosphere, Layers, Craters, Mountains, Plains, Soil, Rock |

SUPPORTING STANDARDS - Grade 5 Science

(5.9) **Organisms and environments.** The student knows that there are relationships, systems, and cycles within environments. The student is expected to

(C) predict the effects of changes in ecosystems caused by living organisms, including humans, such as the overpopulation of grazers or the building of highways

Ecosystem, Consumer, Producer, Predator, Prey, Overpopulation, Competition

(D) identify the significance of the carbon dioxide-oxygen cycle to the survival of plants and animals

Respiration, Carbon dioxide, Oxygen, Photosynthesis

(5.10) **Organisms and environments.** The student knows that organisms undergo similar life processes and have structures that help them survive within their environments. The student is expected to

(C) describe the differences between complete and incomplete metamorphosis of insects

Egg, Larva, Pupa, Adult, Nymph

(3.5) **Matter and energy.** The student knows that matter has measurable physical properties and those properties determine how matter is classified, changed, and used. The student is expected to

(C) predict, observe, and record changes in the state of matter caused by heating or cooling

Solid, Liquid, Gas, Melting, Freezing

(3.6) **Force, motion, and energy.** The student knows that forces cause change and that energy exists in many forms. The student is expected to

(B) demonstrate and observe how position and motion can be changed by pushing and pulling objects to show work being done such as swings, balls, pulleys, and wagons

Position, Motion, Work

(3.7) **Earth and space.** The student knows that Earth consists of natural resources and its surface is constantly changing. The student is expected to

(B) investigate rapid changes in Earth's surface such as volcanic eruptions, earthquakes, and landslides

Volcanic eruption, Earthquake, Tsunami, Landslide, Hurricane, Tornado

(3.8) **Earth and space.** The student knows there are recognizable patterns in the natural world and among objects in the sky. The student is expected to

(D) identify the planets in Earth's solar system and their position in relation to the Sun

Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune

(3.9) **Organisms and environments.** The student knows that organisms have characteristics that help them survive and can describe patterns, cycles, systems, and relationships within the environments. The student is expected to

(A) observe and describe the physical characteristics of environments and how they support populations and communities within an ecosystem

Species, Populations, Communities, Food webs, Disturbance, Ecosystem, Diversity

(3.10) **Organisms and environments.** The student knows that organisms undergo similar life processes and have structures that help them survive within their environments. The student is expected to

(C) investigate and compare how animals and plants undergo a series of orderly changes in their diverse life cycles such as tomato plants, frogs, and lady bugs

Life cycle, Seed, Seedling, Plant, Fruit, Egg, Embryo, Tadpole, Frog, Larva, Pupa, Adult

SUPPORTING STANDARDS - Grade 5 Science

(4.7) **Earth and space.** The student knows that Earth consists of useful resources and its surface is constantly changing. The student is expected to

(A) examine properties of soils, including color and texture, capacity to retain water, and ability to support the growth of plants

Soil, Color, Texture

(C) identify and classify Earth's renewable resources, including air, plants, water, and animals; and nonrenewable resources, including coal, oil, and natural gas; and the importance of conservation

Renewable, Non-renewable, Conservation

(4.8) **Earth and space.** The student knows that there are recognizable patterns in the natural world and among the Sun, Earth, and Moon system. The student is expected to

(A) measure and record changes in weather and make predictions using weather maps, weather symbols, and a map key

Low pressure, High pressure, Warm front, Cold front, Thunderstorm, Hurricane, Tornado, Haze, Fog, Rain, Freezing rain, Wind

(B) describe and illustrate the continuous movement of water above and on the surface of Earth through the water cycle and explain the role of the Sun as a major source of energy in this process

Precipitation, Condensation, Collection, Absorbed, Evaporation

(C) collect and analyze data to identify sequences and predict patterns of change in shadows, tides, seasons, and the observable appearance of the Moon over time

Waxing, Waning, Gibbous, Crescent, Full moon, New moon, Quarter moon, Ebb, Flow, Gravity, Fall, Spring, Summer, Winter