

Fifth Grade Science Parent Copy

SCIENCE PROCESSES

Inquiry Processes

- A. Generate scientific questions based on observations, investigations, and research.
- B. Design and conduct scientific investigations.
- C. Use tools and equipment (spring scales, stop watches, meter sticks and tapes, models, hand lenses) appropriate to scientific investigations.
- D. Use metric measurement devices in an investigation.
- E. Construct charts and graphs from data and observations.
- F. Identify patterns in data.

Inquiry Analysis and Communication

- A. Analyze information from data tables and graphs to answer scientific questions.
- B. Evaluate data, claims, and personal knowledge through collaborative science discourse.
- C. Communicate and defend findings of observations and investigations using evidence.
- D. Draw conclusions from sets of data from multiple trials of a scientific investigation.
- E. Use multiple sources of information to evaluate strengths and weaknesses of claims, arguments, or data.

Reflection and Social Implications

- A. Evaluate the strengths and weaknesses of claims, arguments, and data.
- B. Describe the strengths and weaknesses of claims, arguments, and data.
- C. Identify the need for evidence in making scientific decisions.
- D. Demonstrate scientific concepts through various illustrations, performances, models, exhibits, and activities.
- E. Design solutions to problems using technology.
- F. Describe the effect humans and other organisms have on the balance in the natural world.
- G. Describe how science and technology have advanced because of the contributions of many people throughout history and across cultures.

PHYSICAL SCIENCE

Force and Motion

Force Interactions

- A. Distinguish between contact forces and non-contact forces.
- B. Demonstrate contact and non-contact forces to change the motion of an object.

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Force

- A. Describe what happens when two forces act on an object in the same or opposing directions.
- B. Describe how constant motion is the result of balanced (zero net) forces.
- C. Describe how changes in the motion of objects are caused by a non-zero net (unbalanced) force.
- D. Relate the size of change in motion to the strength of unbalanced forces and the mass of the object.

Speed

- A. Explain the size of change in motion to the strength of unbalanced forces and the mass of the object.
- B. Describe the motion of an object in terms of distance, time and direction, as the object moves, and in relationship to other objects.
- C. Illustrate how motion can be measured and represented on a graph.

LIFE SCIENCE

Organization of Living Things

Animal Systems

- A. Identify the general purpose of selected animal systems (digestive, circulatory, respiratory, skeletal, muscular, nervous, excretory, and reproductive).
- B. Explain how animal systems (digestive, circulatory, respiratory, skeletal, muscular, nervous, excretory, and reproductive) work together to perform selected activities.

Heredity

Inherited and Acquired Traits

- A. Explain that the traits of an individual are influenced by both the environment and the genetics of the individual.
- B. Distinguish between inherited and acquired traits.

Evolution

Species Adaptation and Survival

- A. Explain how behavioral characteristics (adaptation, instinct, learning, habit) of animals help them to survive in their environment.
- B. Describe the physical characteristics (traits) of organisms that help them survive in their environment.
- C. Describe how fossils provide evidence about how living things and environmental conditions have changed.

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- D. Analyze the relationship of environmental change and catastrophic events (for example: volcanic eruption, floods, asteroid impacts, tsunami) to species extinction.

Relationships Among Organisms

- A. Relate degree of similarity in anatomical features to the classification of contemporary organisms.

EARTH SCIENCE

Earth in Space and Time

Solar System

- A. Design using a model, seasons as the result of variations in the intensity of sunlight caused by the tilt of the Earth on its axis, and revolution around the sun.

Solar System Motion

- A. Describe the motion of planets and moons in terms of rotation on axis and orbits due to gravity.
- B. Explain moon phases as they relate to the position of the moon in its orbit around the Earth, resulting in the amount of observable reflected light.
- C. Recognize that nighttime objects (stars and constellations) and the sun appear to move because the Earth rotates on its axis and orbits the sun.
- D. Explain lunar and solar eclipses based on the relative positions of the Earth, moon, and sun, and the orbit of the moon.
- E. Explain the tides of the oceans as they relate to the gravitational pull and orbit of the moon.