



Power Standards: 7th Grade Science



1. I know that science is a way of knowing about the natural world and is characterized by empirical criteria, logical argument and skeptical review.
 - a. *I know that biases can affect our interpretation of investigations.*
 - b. *I understand that when similar investigations give different results, further studies may be required.*

2. I understand that scientific inquiry uses multiple interrelated processes to investigate questions and to propose explanations of the natural world.
 - a. *I can match an appropriate investigation to my question.*
 - b. *I can plan and conduct an experiment.*
 - c. *I can identify variables in an experiment.*
 - d. *I can draw conclusions from my results and support it with evidence.*
 - e. *I can evaluate explanations proposed by others.*

3. I know that technologies have enabled humans to develop, model, and communicate systems work and interact.
 - a. *I can use maps, satellite images and other data sets to describe patterns and make predictions.*
 - b. *I will demonstrate a knowledge and application for safety procedures, equipment use, measurements, graphs and mathematical analyses for use in the field and laboratory use.*

4. I understand that the idea of matter is made up of atoms and molecules.
 - a. *I recognize that all substances are composed of one or more elements.*
 - b. *I can describe the difference between atoms and molecules.*
 - c. *I recognize that chemical equations describe a reaction and how substances change.*



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5. I understand that tissues, organs, and organ systems are composed of cells and that they serve specific functions.

- a. *I recognize that not all cells look alike.*
- b. *I can describe how organs interact between systems.*

6. I know that all living things are composed of one or more cells that carry on the many functions needed to sustain life.

- a. *I know that all cells carry out life functions.*
- b. *I recognize that cells repeatedly divide.*
- c. *I can distinguish between plant and animal cells.*

7. I know that natural systems include a variety of organisms that interact with one another in several ways.

- a. *I can identify/describe relationships between populations and communities in an ecosystem.*
- b. *Compare and contrast the roles between organisms.*
- c. *I can explain how the number in a population depends on the available resources.*

8. I know that the flow of energy and the recycling of matter are essential to a stable ecosystem.

- a. *I recognize that producers use sunlight to make food.*
- b. *I can describe the roles of producers, consumers, and decomposers.*
- c. *I understand that the total amount of matter remains the same.*

9. I know that reproduction is a characteristic of all organisms and is essential for the continuation of a species.

- a. *I recognize that cells contain genes.*
- b. *I recognize the difference between asexual and sexual reproduction.*
- c. *I can distinguish between inherited and environmentally influenced*



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characteristics.

10. I understand that individual organisms with certain traits are more likely to survive in certain environments.

- a. I can explain how fossil records show diversification and extinction.*
- b. I can use anatomical structures to compare and infer relationships.*
- c. I recognize that variation exists in every population.*
- d. I recognize that extinction is a common thing.*

11. I understand that human activity can change living organisms and ecosystems.

- a. I can describe how selective breeding has resulted in new varieties of organisms.*
- b. I can describe how human activities can change populations in an ecosystem.*

12. I understand that humans are constantly interacting with other organisms that cause disease.

- a. I can explain how viruses, bacteria, fungi, and parasites may infect the human body.*
- b. I recognize that microorganisms can cause diseases and there are medicines that can combat them.*
- c. I recognize that vaccines build the body's immune system.*
- d. I recognize that the immune system protects the human body from microscopic organisms*