

Science
Grade-Level Expectations: Grade 1

Science as Inquiry

The Abilities to Do Scientific Inquiry

1. Ask questions about objects and events in the environment (e.g., plants, rocks, storms) (SI-E-A1)
2. Pose questions that can be answered by using students' own observations and scientific knowledge (SI-E-A1)
3. Predict and anticipate possible outcomes (SI-E-A2)
4. Use a variety of methods and materials and multiple trials to investigate ideas (observe, measure, accurately record data) (SI-E-A2)
5. Use the five senses to describe observations (SI-E-A3)
6. Measure and record length and temperature in both metric system and U.S. system units (SI-E-A4)
7. Select and use developmentally appropriate equipment and tools and units of measurement to observe and collect data (SI-E-A4)
8. Express data in a variety of ways by constructing illustrations, graphs, charts, tables, concept maps, and oral and written explanations as appropriate (SI-E-A5) (SI-E-B4)
9. Use a variety of appropriate formats to describe procedures and to express ideas about demonstrations or experiments (e.g., drawings, journals, reports, presentations, exhibitions, portfolios) (SI-E-A6)
10. Identify and use appropriate safety procedures and equipment when conducting investigations (e.g., gloves, goggles, hair ties) (SI-E-A7)

Understanding Scientific Inquiry

11. Recognize that a variety of tools can be used to examine objects at different degrees of magnification (e.g., hand lens, microscope) (SI-E-B3)
12. Explain and give examples of how scientific discoveries have affected society (SI-E-B6)

Physical Science

Properties of Objects and Materials

13. Sort a group of objects by using multiple characteristics (PS-E-A1)
14. Order objects by weight/mass (PS-E-A1)
15. Measure length and width of a variety of objects and materials by using nonstandard tools, such as a paper clip, cube, shoe, and hands (PS-E-A2)
16. Observe and describe common properties of solids, liquids, and gases (PS-E-A4)
17. Sort and classify objects by their state of matter (PS-E-A4)

Forms of Energy

18. Demonstrate how sound is made in a variety of ways (e.g., singing, whispering, striking an object) (PS-E-C1)
19. Describe and demonstrate the volume of sound (e.g., soft, loud) (PS-E-C1)
20. Use a flashlight and various objects and materials to determine if light is transmitted or reflected (PS-E-C2)
21. Demonstrate that light can be reflected onto another object by using a mirror (PS-E-C2)
22. Identify some examples where heat is released (e.g., burning candles, rubbing hands, running) (PS-E-C3)
23. Identify materials attracted by magnets (PS-E-C5)
24. Determine, through experimentation, which poles of magnets are attracted to each other and which poles repel each other (PS-E-C5)
25. Discuss what type of energy makes objects work (e.g., car/gasoline, waterwheel/water, lamp/electricity) (PS-E-C6) (PS-E-C7)

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Life Science

Characteristics of Organisms

- 26. Describe the differences between plants and animals (LS-E-A1)
- 27. Identify what animals and plants need to grow and develop (LS-E-A1)
- 28. Describe the characteristics of *living (biotic)* and *nonliving (abiotic)* things (LS-E-A2)
- 29. Describe basic functions of parts of the body (e.g., lungs, heart, bones, muscles) (LS-E-A3)

Life Cycles of Organisms

- 30. Record and share observations of changes in developing plants (LS-E-B1)
- 31. Describe how animals and their offspring are similar and how they are different (LS-E-B3)

Organisms and Their Environments

- 32. Describe features of some animals that benefit them in their environments (LS-E-C1)
- 33. Explain how pets' needs are met in their habitats (LS-E-C1)
- 34. Record evidence of plants and animals in the schoolyard or other environments (LS-E-C2)

Earth and Space Science

Properties of Earth Materials

- 35. Examine soils to determine that they are often found in layers (ESS-E-A1)
- 36. Locate and compare the relative proportions of land and water found on Earth (ESS-E-A2)
- 37. Illustrate how water changes from one form to another (e.g., freezing, melting, evaporating) (ESS-E-A3)
- 38. Compare weather patterns as they relate to seasonal changes in students' immediate environment (ESS-E-A4)
- 39. Identify the characteristics of soil, according to color, texture, and components, including *living (biotic)* and *nonliving (abiotic)* substances (ESS-E-A6)