

Science
Grade-Level Expectations: Grade 3

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, scientific knowledge, and testable scientific investigations (SI-E-A1)
3. Use observations to design and conduct simple investigations or experiments to answer testable questions (SI-E-A2)
4. Predict and anticipate possible outcomes (SI-E-A2)
5. Use a variety of methods and materials and multiple trials to investigate ideas (observe, measure, accurately record data) (SI-E-A2)
6. Use the five senses to describe observations (SI-E-A3)
7. Measure and record length, temperature, mass, volume, and area in both metric system and U.S. system units (SI-E-A4)
8. Select and use developmentally appropriate equipment and tools (e.g., magnifying lenses, microscopes, graduated cylinders) and units of measurement to observe and collect data (SI-E-A4)
9. 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)
10. Combine information, data, and knowledge from one or more of the science content areas to reach a conclusion or make a prediction (SI-E-A5)
11. 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)
12. Identify and use appropriate safety procedures and equipment when conducting investigations (e.g., gloves, goggles, hair ties) (SI-E-A7)

Understanding Scientific Inquiry

13. Identify questions that need to be explained through further inquiry (SI-E-B1)
14. Distinguish between what is known and what is unknown in scientific investigations (SI-E-B1)
15. 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)
16. Describe procedures and communicate data in a manner that allows others to understand and repeat an investigation or experiment (SI-E-B5)
17. Explain and give examples of how scientific discoveries have affected society (SI-E-B6)

Physical Science

Properties of Objects and Materials

18. Compare and classify objects on properties determined through experimentation (e.g., ability to conduct electricity, tendency to float or sink in water) (PS-E-A1)
19. Select the appropriate metric system and U.S. system tools for measuring length, width, temperature, volume, and mass (PS-E-A2)
20. Measure temperature by using Fahrenheit and Celsius thermometers and compare results (PS-E-A2)
21. Compare common objects and identify the original material from which they are made (e.g., paper, pencil, comb) (PS-E-A3)
22. Investigate and explain conditions under which matter changes physical states: heating, freezing, evaporating, condensing, boiling (PS-E-A4)

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Position and Motion of Objects

23. Demonstrate how force is a *push* or a *pull* by using students' bodies, toy cars, or balls (PS-E-B2)
24. Explain how the amount and direction of force exerted on an object (e.g., push, pull, friction, gravity) determine how much the object will move (PS-E-B2)
25. Observe and analyze motion and position of objects over time (e.g., shadows, apparent path of the Sun across the sky) (PS-E-B3)
26. Explain the effect of varying amounts of force on the motion of an object (PS-E-B4)

Forms of Energy

27. Use the words *high/low* to compare the pitch of sound and the words *loud/soft* to compare the volume (amplitude) of sound (PS-E-C1)
28. Describe the reflection/absorption properties of various colored objects (PS-E-C2)
29. Determine which materials insulate best by using experimental data (PS-E-C3)
30. Demonstrate and explain the movement of electricity in closed and open circuits (PS-E-C4)
31. Compare and describe the common forms of energy and explain how they are used in everyday life (e.g., light, electricity, heat, mechanical) (PS-E-C6)
32. Give examples of how energy can be used to move or lift objects (PS-E-C6)
33. Identify simple machines and the tasks they make possible (PS-E-C6)

Life Science

Characteristics of Organisms

34. Describe what the human body needs to grow and be healthy (LS-E-A1)
35. Compare structures (parts of the body) in a variety of animals (e.g., fish, mammals, reptiles, amphibians, birds, insects) (LS-E-A3)
36. Compare structures (e.g., roots, leaves, stems, flowers, seeds) and their functions in a variety of plants (LS-E-A3)
37. Describe how plant structures enable the plant to meet its basic needs (LS-E-A3)
38. Classify groups of organisms based on common characteristics (LS-E-A4)
39. Compare organisms from different groups (e.g., birds with mammals, terrestrial plants with aquatic plants) (LS-E-A4)
40. Explain how the organs of the digestive system function (LS-E-A5)
41. Describe how the components of the skeletal system function (LS-E-A5)
42. Describe the relationship between eating habits and maintaining a healthy body (LS-E-A6)
43. Identify a meal that includes representatives from each group of the food pyramid (LS-E-A6)

Life Cycles of Organisms

44. Graph, analyze, and interpret personal and class data (LS-E-B4)

Earth and Space Science

Properties of Earth Materials

45. Recognize and describe that rock is composed of different combinations of minerals (ESS-E-A1) (ESS-E-A5)
46. Describe earth processes that have affected selected physical features in students' neighborhoods (e.g., rusting, weathering, erosion) (ESS-E-A1)
47. Describe the difference between weather and climate (ESS-E-A2)
48. Identify examples of the processes of a water cycle (e.g., evaporation, condensation, precipitation, collection of runoff) (ESS-E-A3)

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49. Describe climate patterns from recorded weather conditions over a period of time (ESS-E-A4)
50. Compare and group common rocks according to their characteristics (i.e., igneous, metamorphic, sedimentary) (ESS-E-A5)
51. Identify and compare the components found in soil (ESS-E-A6) (ESS-E-A1)
52. Identify characteristics of selected fossils and explain how fossil records are used to learn about the past (ESS-E-A7)

Objects in the Sky

53. Identify, in order, the planets of the solar system (ESS-E-B1)
54. Describe the patterns of apparent change in the position of the Sun (ESS-E-B2)
55. Explain the results of the rotation and revolution of Earth (e.g., day and night, year) (ESS-E-B4)
56. Compare shadow direction and length at different times of day and year (ESS-E-B4)

Science and the Environment

57. Describe the interrelationships of *living (biotic)* and *nonliving (abiotic)* components within various ecosystems (e.g., terrarium, swamp, backyard) (SE-E-A1)
58. Describe how humans have had negative and positive effects on organisms and their environments (SE-E-A3) (SE-E-A5)
59. Classify manufactured products according to the natural resources from which they are made (e.g., copper wire from copper ore, plastic from petroleum) (SE-E-A4)
60. Explain how renewable and nonrenewable resources can be replenished or depleted (SE-E-A4)
61. Explain how selected animals once classified as endangered have recovered (SE-E-A5)
62. Identify animals in Louisiana that have recovered and that are no longer considered endangered (SE-E-A5)