

**STATE GOAL 11: Understand the processes of scientific inquiry and technological design to investigate questions, conduct experiments and solve problems.**

**A. KNOW AND APPLY THE CONCEPTS, PRINCIPLES AND PROCESSES OF SCIENTIFIC INQUIRY.**

**EARLY ELEMENTARY**

**11.A.1a Describe an observed event.**

- Grade K Representative Pages: A22-23, 24, 32-33, 48-49, 78-79; B30, 65 (Science Technology and Society), 72-73; C22; D54-55
- Grade 1 Representative Pages: A18-19, 26-27, 39, 43; B84-85; C18-19; D18-19, 26-27, 42-43, 68-69
- Grade 2 Representative Pages: A34-35, 42-43, 50-51; B60-61; C18-19, 84-85; D18-19, 26-27, 68-69, 76-77

**11.A.1b Develop questions on scientific topics.**

- Grade K Representative Pages: A58, 75 (Interview), 83 (Project Link); B46-47, 54-55, 83; C22, 27 (Interview); D35 (Interview), 43 (Interview)
- Grade 1 A22, 26-27; B37 (Science, Technology and Society), 47 (Interview), 47 (Project Link), 84-85; D34-35
- Grade 2 A23 (Interview), 70 (Gifted and Talented); B31 (Interview), 85 (Find out More); C18-19, 81 (Interview)

**11.A.1c Collect data for investigations using measuring instruments and technologies.**

- Grade K A25 (Science and Math), 43, 73 (Science and Math), 81 (Science and Math); B78, 81; D81 (Science and Math); E67, 70
- Grade 1 A37 (Science and Math), 43 (Find out More); B18-19, 78-79, 93; C29 (Science and Math); D47
- Grade 2 A29 (Science and Math), 53 (Science and Math); B29 (Science and Math); B42-43, C21 (Science and Math), 81 (Project Link)

**11.A.1d Record and store data using available technologies.**

- Grade K A25 (Science and Math), 73 (Science and Math), 81 (Science and Math);  
B41 (Science and Math); C69 (Baseline Assessment); D27; E67, 89
- Grade 1 A35, 37 (Science and Math); B23, 53 (Science and Math), 93 (Science  
and Math); C35, 55 (Science and Math)
- Grade 2 A29 (Science and Math); B23, 53 (Science and Math), 93 (Science and  
Math), 42-43; C21 (Science and Math), 81 (Project Link)

**11.A.1e Arrange data into logical patterns and describe the patterns.**

- Grade K A71, 74, 82
- Grade 1 Can be developed from A86-87; C64-65 (Science Center)
- Grade 2 C81 (Project Link), 89 (Project Link); D26-27, 68-69

**11.A.1f Compare observations of individual and group results.**

- Grade K A59, A62-63; B54-55
- Grade 1 B68-69; C18-19, 35, 45 (Find out More)
- Grade 2 B50-51, 85

**LATE ELEMENTARY**

**11.A.2a Formulate questions on a specific science topic and choose the steps needed to answer the questions.**

- Grade 3 Representative Pages: A12-13, 20-21, 56-57; B8-9; C16-17, 40-41, 43;  
D7, 22-23, 34-35
- Grade 4 Representative Pages: A16-17, 18-19, 44-45; B6-7, 8, 9; C16-17, 52-53;  
D8-9, 10
- Grade 5 Representative Pages: A45; C42-43; D12, 26, 31; E8-9; F7, 14-15, 44-  
45, 53

**11.A.2b Collect data for investigations using scientific process skills including observing, estimating and measuring.**

- Grade 3 Representative Pages: A12-13, 20-21, 36-37, 54-55; B8-9, 18-19, 24-25;  
D12-13, 22-23, 54-55
- Grade 4 Representative Pages: A28, 29; B9, 14-15, 36, 54-55; C6-7, 16-17; E16-  
17, 18-19
- Grade 5 Representative Pages: A8-9; B42-43, 58-59; C34-35, 42-43, 52-53; D24-  
25; F20, 30-31, 44-45

**11.A.2c Construct charts and visualizations to display data.**

Grade 3 Representative Pages: A12-13, 20-21, 26-27, 42-43; B8-9, 26; D6, 12-13, 34-35, 49

Grade 4 Representative Pages: B36; C6-7, 16-17, 42-43, 52-53; D10, 46-47; E16-17, 28-29, 34-35

Grade 5 Representative Pages: A8-9, 26-27, 36-37, 61, 70-71; B55, 58-59, 76-77; C44-45, 52-53

**11.A.2d Use data to produce reasonable explanations.**

Grade 3 Representative Pages: A36-37, 42-43, 48-49, 54-55, 56-57; B6-7, 8-9, 42-43; D48-49, 54-55

Grade 4 Representative Pages: A16-17, 34-35; B26-27, 54-55; C16-17, 24-25; E18-19, 26-27, 34-35

Grade 5 Representative Pages: A36-37, 44, 45, 55, 70-71, 80-81; B42-43, 54, 58-59, 76-77

**11.A.2e Report and display the results of individual and group investigations.**

Grade 3 Representative Pages: A42-43, 48-49, 56-57; B72-73; C8-9, 16-17, 28-29, 40-41; D12-13, 22-23

Grade 4 Representative Pages: A18-19; B28, 37; C32-33, 42-43, 50-51, 52-53; E26-27, 36-37, 42-43

Grade 5 Representative Pages: A60, 61; B32-33, 42-43, 58-59, 76-77; C52-53; D13

**MIDDLE/JUNIOR HIGH SCHOOL**

**11.A.3a Formulate hypotheses that can be tested by collecting data.**

Grade 6 A54-55; B18, B70-71; C8, 9

**11.A.3b Conduct scientific experiments that control all but one variable.**

Grade 6 A54-55; C9, 52-53

**11.A.3c Collect and record data accurately using consistent measuring and recording techniques and media.**

Grade 6 B23; B69; C8-9

**11.A.3d Explain the existence of unexpected results in a data set.**

Grade 6 Can be developed from C52-53; F12-13

**11.A.3e Use data manipulation tools and quantitative (e.g., mean, mode, simple equations) and representational methods (e.g., simulations, image processing) to analyze measurements.**

Grade 6 D36-37; F12-13, 30-31

**11.A.3f Interpret and represent results of analysis to produce findings.**

Grade 6 B23, 34-35, 42, 66-67; C18, 33, 44-45; F12-13, 30-31, 44-45

**11.A.3g Report and display the process and results of a scientific investigation.**

Grade 6 Representative Pages: A31; B23; C22-23, 52-53; F12-13, 30-31

**B. KNOW AND APPLY THE CONCEPTS, PRINCIPLES AND PROCESSES OF TECHNOLOGICAL DESIGN.**

**EARLY ELEMENTARY**

**11.B.1a Given a simple design problem, formulate possible solutions.**

Grade K Can be developed from D46-47

Grade 1 Can be developed from B42-43; C68-69

Grade 2 Can be developed from B26-27

**11.B.1b Design a device that will be useful in solving the problem.**

Grade K Can be developed from D46-47

Grade 1 Can be developed from B42-43; C68-69

Grade 2 Can be developed from B26-27

**11.B.1c Build the device using the materials and tools provided.**

Grade K Can be developed from D46-47

Grade 1 Can be developed from B42-43; C63-69

Grade 2 Can be developed from B26-27

**11.B.1d Test the device and record results using given instruments, techniques and measurement methods.**

- Grade K Can be developed from D46-47
- Grade 1 Can be developed from B42-43; C68-69
- Grade 2 Can be developed from B26-27

**11.B.1e Report the design of the device, the test process and the results in solving a given problem.**

- Grade K Can be developed from D46-47
- Grade 1 Can be developed from B42-43; C68-69
- Grade 2 Can be developed from B26-27

**LATE ELEMENTARY**

**11.B.2a Identify a design problem and propose possible solutions.**

- Grade 3 Can be developed from Unit Project Link C11, 49
- Grade 4 Can be developed from Unit Project Link D9, 39; E17
- Grade 5 Can be developed from Unit Project Link B33, 69

**11.B.2b Develop a plan, design and procedure to address the problem identifying constraints (e.g., time, materials, technology).**

- Grade 3 Can be developed from Unit Project Link C11, 49
- Grade 4 Can be developed from Unit Project Link D9, 39; E17
- Grade 5 Can be developed from Unit Project Link B33, 69

**11.B.2c Build a prototype of the design using available tools and materials.**

- Grade 3 Can be developed from Unit Project Link C11, 49
- Grade 4 Can be developed from Unit Project Link D9, 39; E17
- Grade 5 Can be developed from Unit Project Link B33, 69

**11.B.2d Test the prototype using suitable instruments, techniques, and quantitative measurements to record data.**

- Grade 3 Can be developed from Unit Project Link C11, 49
- Grade 4 Can be developed from Unit Project Link D9, 39; E17
- Grade 5 Can be developed from Unit Project Link B33, 69

**11.B.2e Assess test results and the effectiveness of the design using given criteria and noting possible sources of error.**

- Grade 3 Can be developed from Unit Project Link C11, 49
- Grade 4 Can be developed from Unit Project Link D9, 39; E17
- Grade 5 Can be developed from Unit Project Link B33, 69

**11.B.2f Report test design, test process and test results.**

- Grade 3 Can be developed from Unit Project Link C11, 49
- Grade 4 Can be developed from Unit Project Link D9, 39; E17
- Grade 5 Can be developed from Unit Project Link B33, 69

**MIDDLE/JUNIOR HIGH SCHOOL**

**11.B.3a Identify an actual design problem and establish criteria for determining the success of a solution.**

- Grade 6 Can be developed from B72-73; F106-108, 114-117, 120-121 and Unit Project F19, 41, 75, 83, 121, 128, TE: F1K-F1L

**11.B.3b Sketch, propose and compare design solutions to the problem considering available materials, tools, cost effectiveness and safety.**

- Grade 6 Can be developed from B70-71; F56-57

**11.B.3c Select the most appropriate design and build a prototype or simulation.**

- Grade 6 Can be developed from B70-71; F56-57

**11.B.3d Test the prototype using available materials, instruments and technology and record the data.**

- Grade 6 Can be developed from B70-71; F56-57

**11.B.3e Evaluate the test results based on established criteria, note sources of error and recommend improvements.**

- Grade 6 Can be developed from B70-71; F56-57

**11.B.3f Using available technology, report the relative success of the design based on the test results and criteria.**

- Grade 6 Can be developed from B70-71; F56-57

**STATE GOAL 12: Understand the fundamental concepts, principles and interconnections of the life, physical and earth/space sciences.**

**A. KNOW AND APPLY CONCEPTS THAT EXPLAIN HOW LIVING THINGS FUNCTION, ADAPT AND CHANGE.**

**EARLY ELEMENTARY**

**12.A.1a Identify and describe the component parts of living things (e.g., birds have feathers; people have bones, blood, hair, skin) and their major functions.**

Grade K A22-27, 36-62

Grade 1 A24-56, 68-72

Grade 2 A32-39, 56-63

**12.A.1b Categorize living organisms using a variety of observable features (e.g., size, color, shape, backbone).**

Grade K A22-34

Grade 1 A34-41, 42-47, 76-80

Grade 2 Can be developed from A18-30

**LATE ELEMENTARY**

**12.A.2a Describe simple life cycles of plants and animals and the similarities and differences in their offspring.**

Grade 3 A6-9, 12-25, 38-53

Grade 4 Can be developed from C8-10, C14-38

Grade 5 A68-93

**12.A.2b Categorize features as either inherited or learned (e.g., flower color or eye color is inherited; language is learned).**

Grade 3 A10-11

Grade 4 Can be developed from C54-57

Grade 5 Can be developed from A84-85

**MIDDLE/JUNIOR HIGH SCHOOL**

**12.A.3a Explain how cells function as “building blocks” of organisms and describe the requirements for cells to live.**

Grade 6 A6-26

**12.A.3b Compare characteristics of organisms produced from a single parent with those of organisms produced by two parents.**

Grade 6 D4-24, 28-44

**12.A.3c Compare and contrast how different forms and structures reflect different functions (e.g., similarities and differences among animals that fly, walk or swim; structures of plant cells and animal cells).**

Grade 6 A9-11; D64-67

**B. KNOW AND APPLY CONCEPTS THAT DESCRIBE HOW LIVING THINGS INTERACT WITH EACH OTHER AND WITH THEIR ENVIRONMENT.**

**EARLY ELEMENTARY**

**12.B.1a Describe and compare characteristics of living things in relationship to their environments.**

Grade K A46-51, 60-67

Grade 1 A16-23, 58-65

Grade 2 A24-31, 40-47, 56-63, 82-95

**12.B.1b Describe how living things depend on one another for survival.**

Grade K Can be developed from A40-51, 60-67

Grade 1 Can be developed from A16-23 (Lesson Overview), A70 (Background)

Grade 2 Can be developed from A24-31

**LATE ELEMENTARY**

**12.B.2a Describe relationships among various organisms in their environments (e.g., predator/prey, parasite/host, food chains and food webs).**

Grade 3 E6-34

Grade 4 Can be developed from C44-49

Grade 5 D12-20

**12.B.2b Identify physical features of plants and animals that help them live in different environments (e.g., specialized teeth for eating certain foods, thorns for protection, insulation for cold temperature).**

Grade 3 E36-55, 70-76

Grade 4 C54-57

Grade 5 D8-9

**MIDDLE/JUNIOR HIGH SCHOOL**

**12.B.3a Identify and classify biotic and abiotic factors in an environment that affect population density, habitat and placement of organisms in an energy pyramid.**

Grade 5 D6-42

**12.B.3b Compare and assess features of organisms for adaptive, competitive and survival potential (e.g., appendages, reproductive rates, camouflage, defensive structures).**

Grade 6 D64-76

**C. KNOW AND APPLY CONCEPTS THAT DESCRIBE PROPERTIES OF MATTER AND ENERGY AND THE INTERACTIONS BETWEEN THEM.**

**EARLY ELEMENTARY**

**12.C.1a Identify and compare sources of energy (e.g., batteries, the sun).**

Grade K A64 (Background Info); C44-51  
Grade 2 B16-23, 74-89

**12.C.1b Compare large-scale physical properties of matter (e.g., size, shape, color, texture, odor).**

Grade K B20-27, 36-67, 76-83  
Grade 2 D16-55, 90-97

**LATE ELEMENTARY**

**12.C.2a Describe and compare types of energy including light, heat, sound, electrical and mechanical.**

Grade 3 C26-56  
Grade 4 D28-34, 58-64  
Grade 5 C32-55

**12.C.2b Describe and explain the properties of solids, liquids and gases.**

Grade 3 C16-24  
Grade 4 B26-31, 36-42  
Grade 5 C56-60

**MIDDLE/JUNIOR HIGH SCHOOL**

**12.C.3a Explain interactions of energy with matter including changes of state and conservation of mass and energy.**

Grade 6 C20-22; C75

**12.C.3b Model and describe the chemical and physical characteristics of matter (e.g., atoms, molecules, elements, compounds, mixtures).**

Grade 6 C6-15, 34-57, 71-74

**D. KNOW AND APPLY CONCEPTS THAT DESCRIBE FORCE AND MOTION AND THE PRINCIPLES THAT EXPLAIN THEM.**

**EARLY ELEMENTARY**

**12.D.1a Identify examples of motion (e.g., moving in a straight line, vibrating, rotating).**

Grade K D20-35, 60-75  
Grade 1 Can be developed from D40-47  
Grade 2 B16-65

**12.D.1b Identify observable forces in nature (e.g., pushes, pulls, gravity, magnetism).**

Grade K D36-43, 52-59, 76-91  
Grade 1 C24-31  
Grade 2 B48-55

**LATE ELEMENTARY**

**12.D.2a Explain constant, variable and periodic motions.**

Grade 3 Can be developed from C58-76  
Grade 5 Can be developed from F14-25, F50-60

**12.D.2b Demonstrate and explain ways that forces cause actions and reactions (e.g., magnets attracting and repelling; objects falling, rolling and bouncing).**

Grade 3 C58-76  
Grade 4 D4-24  
Grade 5 Can be developed from C32-49

**MIDDLE/JUNIOR HIGH SCHOOL**

**12.D.3a Explain and demonstrate how forces affect motion (e.g., action/reaction, equilibrium conditions, free-falling objects).**

Grade 6 F6-11, 54-76, 80-100, 104-126

**12.D.3b Explain the factors that affect the gravitational forces on objects (e.g., changes in mass, distance).**

Grade 6 F28-50

**E. KNOW AND APPLY CONCEPTS THAT DESCRIBE THE FEATURES AND PROCESSES OF THE EARTH AND ITS RESOURCES.**

**EARLY ELEMENTARY**

**12.E.1a Identify components and describe diverse features of the Earth's land, water and atmospheric systems.**

Grade K C20-35, 44-59

Grade 1 B40-55; D16-31, 40-55, 58-65

Grade 2 Can be developed from A24-31; C74-89

**12.E.1b Identify and describe patterns of weather and seasonal change.**

Grade K C52-59

Grade 1 B16-23, 58-65

Grade 2 C74-89

**12.E.1c Identify renewable and nonrenewable natural resources.**

Grade K B61-65; C25

Grade 1 Can be developed from D82-89

Grade 2 Can be developed from A74-80

**LATE ELEMENTARY**

**12.E.2a Identify and explain natural cycles of the Earth's land, water and atmospheric systems (e.g., rock, cycle, water cycle, weather patterns).**

Grade 3 D10-31, 50-53

Grade 4 E10-15, 46-47, 55-57

Grade 5 D22-41; E6-63

**12.E.2b Describe and explain short-term and long-term interactions of the Earth's**

**components (e.g., earthquakes, types of erosion).**

Grade 3 D50-53, 59-60

Grade 4 A6-24, 28-33

Grade 5 E78-79, 82-85, 91-92

**12.E.2c Identify and classify recyclable materials.**

Grade 3 Can be developed from D10-11

Grade 4 A54-76

Grade 5 B85; D36-38; E32

**MIDDLE/JUNIOR HIGH SCHOOL**

**12.E.3a Analyze and explain large-scale dynamic forces, events and processes that affect the Earth's land, water and atmospheric systems (e.g., jetstream, hurricanes, plate tectonics).**

Grade 6 B4-30, 32-48, 50-78, 80-112

**12.E.3b Describe interactions between solid earth, oceans, atmosphere and organisms that have resulted in ongoing changes of Earth (e.g., erosion, El Niño).**

Grade 6 B92-97; E50-70

**12.E.3c Evaluate the biodegradability of renewable and nonrenewable natural resources.**

Grade 6 Can be developed from A28-61; E76-92

**F. KNOW AND APPLY CONCEPTS THAT EXPLAIN THE COMPOSITION AND STRUCTURE OF THE UNIVERSE AND EARTH'S PLACE IN IT.**

**EARLY ELEMENTARY**

**12.F.1a Identify and describe characteristics of the sun, Earth and moon as familiar objects in the solar system.**

Grade K C20-43, 60-75

Grade 1 Can be developed from B24-31

Grade 2 C58-73

**12.F.1b Identify daily, seasonal and annual patterns related to the Earth's rotation and revolution.**

Grade K C52-59  
Grade 1 B16-23, 58-65  
Grade 2 C74-89

**LATE ELEMENTARY**

**12.F.2a Identify and explain natural cycles and patterns in the solar system (e.g., order of the planets; moon phases; seasons as related to Earth's tilt, one's latitude, and where Earth is in its yearly orbit around the sun).**

Grade 3 B34-35, 38-43, 46-56, 60-76  
Grade 4 E78-83  
Grade 5 B34-37, 44-50

**12.F.2b Explain the apparent motion of the sun and stars.**

Grade 3 Can be developed from B38-43  
Grade 5 B12-17

**12.F.2c Identify easily recognizable star patterns (e.g., the Big Dipper, constellations).**

Grade 3 B36-37, 44-45  
Grade 5 B10-11, 62-63, 68-71

**MIDDLE/JUNIOR HIGH SCHOOL**

**12.F.3a Simulate, analyze and explain the effects of gravitational force in the solar system (e.g., orbital shape and speed, tides, spherical shape of the planets and moons).**

Grade 6 Can be developed from F28-31; E68-70

**12.F.3b Describe the organization and physical characteristics of the solar system (e.g., sun, planets, satellites, asteroids, comets).**

Grade 5 B16-17, 34-50

**12.F.3c Compare and contrast the sun as a star with other objects in the Milky Way Galaxy (e.g., nebulae, dust clouds, stars, black holes).**

Grade 5 B16-17, 62-63, 70-72

**STATE GOAL 13: Understand the relationships among science, technology and society in historical and contemporary contexts.**

**A. KNOW AND APPLY THE ACCEPTED PRACTICES OF SCIENCE.**

**EARLY ELEMENTARY**

**13.A.1a Use basic safety practices (e.g., not tasting materials without permission, “stop/drop/roll”).**

Grade K A46, 54; B22-23; C70-71; D54-55, 62-63, 70-71

Grade 1 A42; B26; C26; D26, 34

Grade 2 A26-27, 42-43, 59, 69; B68-69

**13.A.1b Explain why similar results are expected when procedures are done the same way.**

Grade K Can be developed from A47 (Find out More), A54-55

Grade 1 C34-35, 44-45

Grade 2 Can be developed from A77; B76-77 (Extend the Activity)

**13.A.1c Explain how knowledge can be gained by careful observation.**

Grade K A22, 78-79; B22-23; C32-33

Grade 1 B34-35; D60-61

Grade 2 A34-35, 42-43; B26-27

**LATE ELEMENTARY**

**13.A.2a Demonstrate ways to avoid injury when conducting science activities (e.g., wearing goggles, fire extinguisher use).**

Grade 3 Representative Pages: A12-13, 20-21, 42-43; B8-9, 34-35, 44-45, 50-51; C18, 40-41, 43

Grade 4 Representative Pages: A16-17, 28-29, 34-35, 44-45, 54-56; B9, 28, 54-55; C50-51; D6-7

Grade 5 Representative Pages: A8-9, 14-15, 26-27, 34-35, 36-37; C8, 16-17, 18-19; E8-9, 22-23

**13.A.2b Explain why similar investigations may not produce similar results.**

Grade 3 Representative Pages: A20-21; B6-7, 8-9, 26, 34-35, 44-45, 50-51, 62-63; C18, 40-41

Grade 4 Representative Pages: A34-35, 44-45; B46, 47, 54-55; C52-53; D6-7; E6-7, 28-29, 36-37

Grade 5 Representative Pages: A8-9, 36-37, 80-81; C8, 42-43; D6-7, 44-45; E6-7, 8-9; F6-7

**13.A.2c Explain why keeping accurate and detailed records is important.**

Grade 3 Representative Pages: A20-21; B6-7, 8-9, 24-25, 34-35, 36-37, 50-51, 72-73; C40-41, 53

Grade 4 Can be developed from A34-35, 54-55; B8, 9, 14-15; C50-51, 52-53; D6-7; E16-17, 18-19

Grade 5 Representative Pages: A61; B32-33; C42-43, 52-53; D6-7, 44-45; E6-7, 8-9, 17-19, 38-39

**MIDDLE/JUNIOR HIGH SCHOOL**

**13.A.3a Identify and reduce potential hazards in science activities (e.g., ventilation, handling chemicals).**

Grade 6 Representative Pages: A6-7, 14-15, 38-39, 54-55; B66-67; C18, 33; D8-9; F12-13, 18-19

**13.A.3b Analyze historical and contemporary cases in which the work of science has been affected by both valid and biased scientific practices.**

Grade 6 Can be developed from A12-13, A52-53; B8-9; C72, 75

**13.A.3c Explain what is similar and different about observational and experimental investigations.**

Grade 6 Representative Pages: Can be developed from A8, 14-15, 20-21, 30-31, 38-39, 54-55; B6-7, 18, 34-35, 40-41

**B. KNOW AND APPLY CONCEPTS THAT DESCRIBE THE INTERACTION BETWEEN SCIENCE, TECHNOLOGY AND SOCIETY.**

**EARLY ELEMENTARY**

**13.B.1a Explain the uses of common scientific instruments (e.g., ruler, thermometer, balance, probe, computer).**

Grade K B78-79

Grade 1 A37 (Science and Math), 43 (Find out More); B18-19, 23, 45 (Science and Math), 53 (Science and Math), 68-69

Grade 2 A26-27, 73, 84-85, 103, 104, 105; B84-85

**13.B.1b Explain how using measuring tools improves the accuracy of estimates.**

Grade K Can be developed from B78-79

Grade 1 Can be developed from A43 (Find out More); B18-19, 53 (Science and Math), 93; C55 (Science and Math)

Grade 2 A26-27, 84-85; B42-43, 84-85

**13.B.1c Describe contributions men and women have made to science and technology.**

Grade K C73 (Science and Social Studies); D21 (Science Background); D57 (Science, Technology, and Society)

Grade 1 C47 (Science Around the World); D70 (Background)

Grade 2 B78 (Background); E37 (Science and Social Studies)

**13.B.1d Identify and describe ways that science and technology affect people's everyday lives (e.g., transportation, medicine, agriculture, sanitation, communication occupations).**

Grade K B61-65; D57 (Science, Technology and Society); E65 (Science, Technology and Society)

Grade 1 B36 (Gifted and Talented), 57

Grade 2 A37 (Science, Technology and Society); B37 (Science and Social Studies), E51 (Science Background)

**13.B.1e Demonstrate ways to reduce, reuse and recycle materials.**

Grade K B61-65

Grade 1 D82-89

Grade 2 Can be developed from B82-89

**LATE ELEMENTARY**

**13.B.2a Explain how technology is used in science for a variety of purposes (e.g., sample collection, storage and treatment; measurement; data collection, storage and retrieval; communication of information).**

Grade 3 A23 (Internet Field Trip); B25 (Technology Link); C7 (Technology Link), 75 (Internet Field Trip)

Grade 4 C17 (Technology Link), 41 (Technology Link); D24 (Internet Field Trip); E13 (Internet Field Trip)

Grade 5 A37 (Technology Link), A52-53, A55 (Technology Link), A77 (Internet Field Trip); B4-5, 22-23, 79 (Internet Field Trip), 84-85

**13.B.2b Describe the effects on society of scientific and technological innovations (e.g., antibiotics, steam engine, digital computer).**

Grade 3 A17; B21; C36, 58-59, 66-67; D33, 38-39, 40-41, 60; E54-55

Grade 4 A38-39, 47-50; B52-53; D48-49, 64-65, 68-69, 73; E30, 40-41, 54

Grade 5 (Science, Technology and Society) A20, 42; B22; C22

**13.B.2c Identify and explain ways that science and technology influences the lives and careers of people.**

Grade 3 A4-5; B4-5; C26-27; D4-5, 46-47; E4-5, 36-37, 58-59

Grade 4 Representative Pages: A4-5, 26-27, 52-53; B4-5, 24-25, 44-45; C4-5, 40-41; D4-5, 26-27

Grade 5 A52-53, 68-69; B4-5, 28-29, 74-75; C32-33; D4-5, 22-23, 23-42; E34-35

**13.B.2d Compare the relative effectiveness of reducing, reusing and recycling in actual situations.**

Grade 3 Can be developed from D9-11

Grade 4 A54-76

Grade 5 Can be developed from C37-38, 46-48, 50-51; D59-60

**13.B.2e Identify and explain ways that technology changes ecosystems (e.g., dams, highways, buildings, communication networks, power plants).**

Grade 3 D6-19, 34-42, 59-60

Grade 4 Can be developed from D62-63

Grade 5 D56-60

**13.B.2f Analyze how specific personal and societal choices that humans make affect local, regional and global ecosystems (e.g., lawn and garden care, mass transit).**

Grade 3 Can be developed from D17-18, 59-60

Grade 4 Can be developed from D62-65

Grade 5 D56-60

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**13.B.3a Identify and explain ways that scientific knowledge and economics drive technological development.**

Grade 6 Can be developed from A40, 58; D14-15, 45, 77-79, 82-85

**13.B.3b Identify important contributions to science and technology that have been made by individuals and groups from various cultures.**

Grade 6 A12-13; B8-9; C37-38, 42-43, 75; D42-43, 66-67; E44-45

**13.B.3c Describe how occupations use scientific and technological knowledge and skills.**

Grade 6 Representative Pages: A4-5; B4-5, 50-51, 80-81; C4-5, 30-31, 62-63, 91; D4-5, 28-29

**13.B.3d Analyze the interaction of resource acquisition, technological development and ecosystem impact (e.g., diamond, coal or gold mining; deforestation).**

Grade 5 Can be developed from D56-60

**13.B.3e Identify advantages and disadvantages of natural resource conservation and management programs.**

Grade 5 Can be developed from D56-60

**13.B.3f Apply classroom-developed criteria to determine the effects of policies on local science and technology issues (e.g., energy consumption, landfills, water quality).**

Grade 5 Can be developed from D56-60