



TEXAS SCIENCE

ESSENTIAL KNOWLEDGE AND SKILLS



To the Teacher

The *How to Get Better Test Scores* series is designed to prepare your students for assessments of academic readiness for science. Use the following steps to incorporate *How to Get Better Test Scores* into your classroom.

1. Have students take Tryout Test 1 and check their answers. Have them use the reproducible Skills Chart on page 4 of this teacher guide to assess their strengths and weaknesses in the areas covered. (The chart below can also be used and is available in the student book.)
2. Have students work through the lessons, paying close attention to the areas in which they need improvement. Each lesson is followed by a practice test that focuses on the skills covered in the lesson. Have students fill in the Keeping Score chart on page 57 of the student book after they complete each test.
3. After completing all the lessons, have students take Tryout Test 2 to check their progress. They can enter their answers on the Student Information and Answer Sheet on page 56 of the student book. Then have them complete the Skills Chart on page 5 of this teacher guide. They can compare their totals with those from Tryout Test 1.

Standards Covered

The assessments are based on the following eligible Texas Essential Knowledge and Skills (TEKS) Reporting Categories.

Reporting Category 1: Matter and Energy

The student will demonstrate an understanding of the properties of matter and energy and their interactions.

Reporting Category 2: Force, Motion, and Energy

The student will demonstrate an understanding of force, motion, and energy and their relationships.

Reporting Category 3: Earth and Space

The student will demonstrate an understanding of components, cycles, patterns, and natural events of Earth and space systems.

Reporting Category 4: Organisms and Environments

The student will demonstrate an understanding of the structures and functions of living organisms and their interdependence on each other and on their environment

The lessons in the student book are based on assessments of academic readiness for science. The chart on pages 6–9 of this teacher guide correlates the lessons to the assessment for science and TEKS Readiness and Supporting Standards.

Lesson	Tryout Test 1	Tryout Test 2
1 Matter and Energy (Reporting Category 1)	1, *2, *3, 4, 5, 6, 7, *8	*1, 2, *3, *4, 5, *6, 7, *8
2 Force, Motion, and Energy (Reporting Category 2)	9, *10, *11, *12, *13, *14, *15, 16, 17, 18	9, 10, 11, *12, 13, *14, *15, *16, *17, 18
3 Earth and Space I (Reporting Category 3)	*19, 20, *21, 22, 23, 24	*19, 20, *21, *22, *23, *24
4 Earth and Space II (Reporting Category 3)	25, 26, *27, *28, 29, 30	*25, 26, 27, *28, 29, *30
5 Organisms and Environments (Reporting Category 4)	*31, *32, *33, 34, 35, 36, 37, 38, *39, 40, *41, 42, *43, 44	*31, *32, 33, 34, *35, *36, *37, 38, *39, 40, 41, *42, 43, 44

Tryout Test 1 Skills Chart

Question	Lesson 1	Lesson 2	Lesson 3	Lesson 4	Lesson 5
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					
32					
33					
34					
35					
36					
37					
38					
39					
40					
41					
42					
43					
44					
Total	/8	/10	/6	/6	/14



Score your answers on Tryout Test 1. Then use this chart to find your strengths and weaknesses in the skills covered on the science assessment of academic readiness.

1. Place a 1 in each white box to the right of questions 1–44 if you answered them correctly. For each incorrect answer, place a 0 in the white box.
2. Add each column and write the total correct in the box at the bottom of the column.
3. For example, if you answer questions 1, 3, and 5 correctly for Lesson 1, you have 3 out of 8 questions correct. This will tell you that you may want to focus on the skills presented in Lesson 1, Matter and Energy, to prepare for the science assessment of academic readiness.

Tryout Test 2 Skills Chart

Question	Lesson 1	Lesson 2	Lesson 3	Lesson 4	Lesson 5
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					
32					
33					
34					
35					
36					
37					
38					
39					
40					
41					
42					
43					
44					
Total	/8	/10	/6	/6	/14



Score your answers on Tryout Test 2. Then use this chart to find your strengths and weaknesses in the skills covered on the science assessment of academic readiness.

1. Place a 1 in each white box to the right of questions 1–44 if you answered them correctly. For each incorrect answer, place a 0 in the white box.
2. Add each column and write the total correct in the box at the bottom of the column.
3. See how much you have improved by comparing your scores on Tryout Test 1 to your scores on Tryout Test 2.

Readiness and Supporting Standards

This chart matches the Readiness and Supporting Standards for assessments of academic readiness for science to the lessons in *How to Get Better Test Scores*, Grade 5 Science.

Lessons	Readiness and Supporting Standards
	Reporting Category 1: Matter and Energy
Lesson 1 Matter and Energy	<p>Grade 5</p> <p>(5.5) Matter and energy. The student knows that matter has measurable physical properties and those properties determine how matter is classified, changed, and used. The student is expected to</p> <ul style="list-style-type: none"> (A) classify matter based on physical properties, including mass, magnetism, physical state (solid, liquid, and gas), relative density (sinking and floating), solubility in water, and the ability to conduct or insulate thermal energy or electric energy; Readiness Standard (B) identify the boiling and freezing/melting points of water on the Celsius scale; Supporting Standard (C) demonstrate that some mixtures maintain physical properties of their ingredients such as iron filings and sand; and Supporting Standard (D) identify changes that can occur in the physical properties of the ingredients of solutions such as dissolving salt in water or adding lemon juice to water. Supporting Standard
	<p>Grade 3</p> <p>(3.5) Matter and energy. The student knows that matter has measurable physical properties and those properties determine how matter is classified, changed, and used. The student is expected to</p> <ul style="list-style-type: none"> (C) predict, observe, and record changes in the state of matter caused by heating or cooling. Supporting Standard
	Reporting Category 2: Force, Motion, and Energy
Lesson 2 Force, Motion, and Energy	<p>Grade 5</p> <p>(5.6) Force, motion, and energy. The student knows that energy occurs in many forms and can be observed in cycles, patterns, and systems. The student is expected to</p> <ul style="list-style-type: none"> (A) explore the uses of energy, including mechanical, light, thermal, electrical, and sound energy; Readiness Standard (B) demonstrate that the flow of electricity in circuits requires a complete path through which an electric current can pass and can produce light, heat, and sound; Readiness Standard (C) demonstrate that light travels in a straight line until it strikes an object or travels through one medium to another and demonstrate that light can be reflected such as the use of mirrors or other shiny surfaces and refracted such as the appearance of an object when observed through water; and Readiness Standard (D) design an experiment that tests the effect of force on an object. Supporting Standard

Lessons	Readiness and Supporting Standards
Lesson 2 Force, Motion, and Energy (continued)	Grade 3 (3.6) Force, motion, and energy. The student knows that forces cause change and that energy exists in many forms. The student is expected to (B) demonstrate and observe how position and motion can be changed by pushing and pulling objects to show work being done such as swings, balls, pulleys, and wagons. Supporting Standard
Reporting Category 3: Earth and Space	
Lesson 3 Earth and Space I	Grade 5 (5.7) Earth and space. The student knows Earth’s surface is constantly changing and consists of useful resources. The student is expected to (A) explore the processes that led to the formation of sedimentary rocks and fossil fuels; Readiness Standard (B) recognize how landforms such as deltas, canyons, and sand dunes are the result of changes to Earth’s surface by wind, water, and ice; Readiness Standard (C) identify alternative energy resources such as wind, solar, hydroelectric, geothermal, and biofuels; and Readiness Standard (D) identify fossils as evidence of past living organisms and the nature of the environments at the time using models. Supporting Standard
	Grade 4 (4.7) Earth and space. The student knows that Earth consists of useful resources and its surface is constantly changing. The student is expected to (A) examine properties of soils, including color and texture, capacity to retain water, and ability to support the growth of plants; and Supporting Standard (C) identify and classify Earth’s renewable resources, including air, plants, water, and animals; and nonrenewable resources, including coal, oil, and natural gas; and the importance of conservation. Supporting Standard
	Grade 3 (3.7) Earth and space. The student knows that Earth consists of natural resources and its surface is constantly changing. The student is expected to (B) investigate rapid changes in Earth’s surface such as volcanic eruptions, earthquakes, and landslides. Supporting Standard
	Grade 5 (5.8) Earth and space. The student knows that there are recognizable patterns in the natural world and among the Sun, Earth, and Moon system. The student is expected to (A) differentiate between weather and climate; Supporting Standard (B) explain how the Sun and the ocean interact in the water cycle; Supporting Standard

(continued)

Lessons	Readiness and Supporting Standards
Lesson 4 Earth and Space II (continued)	<p>(C) demonstrate that Earth rotates on its axis once approximately every 24 hours causing the day/night cycle and the apparent movement of the Sun across the sky; and Readiness Standard</p> <p>(D) identify and compare the physical characteristics of the Sun, Earth, and Moon. Supporting Standard</p>
	<p>Grade 4</p> <p>(4.8) Earth and space. The student knows that there are recognizable patterns in the natural world and among the Sun, Earth, and Moon system. The student is expected to</p> <p>(A) measure and record changes in weather and make predictions using weather maps, weather symbols, and a map key; Supporting Standard</p> <p>(B) describe and illustrate the continuous movement of water above and on the surface of Earth through the water cycle and explain the role of the Sun as a major source of energy in this process; and Supporting Standard</p> <p>(C) collect and analyze data to identify sequences and predict patterns of change in shadows, tides, seasons, and the observable appearance of the Moon over time. Supporting Standard</p> <hr/> <p>Grade 3</p> <p>(3.8) Earth and space. The student knows there are recognizable patterns in the natural world and among objects in the sky. The student is expected to</p> <p>(D) identify the planets in Earth’s solar system and their position in relation to the Sun. Supporting Standard</p>
Reporting Category 4: Organisms and Environments	
Lesson 5 Organisms and Environments	<p>Grade 5</p> <p>(5.9) Organisms and environments. The student knows that there are relationships, systems, and cycles within environments. The student is expected to</p> <p>(A) observe the way organisms live and survive in their ecosystem by interacting with the living and non-living elements; Readiness Standard</p> <p>(B) describe how the flow of energy derived from the Sun, used by producers to create their own food, is transferred through a food chain and food web to consumers and decomposers; Readiness Standard</p> <p>(C) predict the effects of changes in ecosystems caused by living organisms, including humans, such as the overpopulation of grazers or the building of highways; and Supporting Standard</p> <p>(D) identify the significance of the carbon dioxide-oxygen cycle to the survival of plants and animals. Supporting Standard</p> <p>(5.10) Organisms and environments. The student knows that organisms undergo similar life processes and have structures that help them survive within their environments. The student is expected to</p>

Lessons	Readiness and Supporting Standards
<p>Lesson 5 Organisms and Environments (continued)</p>	<p>(A) compare the structures and functions of different species that help them live and survive such as hooves on prairie animals or webbed feet in aquatic animals; Readiness Standard</p> <p>(B) differentiate between inherited traits of plants and animals such as spines on a cactus or shape of a beak and learned behaviors such as an animal learning tricks or a child riding a bicycle; and Readiness Standard</p> <p>(C) describe the differences between complete and incomplete metamorphosis of insects. Supporting Standard</p>
	<p>Grade 3</p> <p>(3.9) Organisms and environments. The student knows that organisms have characteristics that help them survive and can describe patterns, cycles, systems, and relationships within the environments. The student is expected to</p> <p>(A) observe and describe the physical characteristics of environments and how they support populations and communities within an ecosystem. Supporting Standard</p> <p>(3.10) Organisms and environments. The student knows that organisms undergo similar life processes and have structures that help them survive within their environments. The student is expected to</p> <p>(C) investigate and compare how animals and plants undergo a series of orderly changes in their diverse life cycles such as tomato plants, frogs, and ladybugs. Supporting Standard</p>