

# Example Items

## Science 7

**Science 7 Example Items** are a **representative set** of items for the ACP. Teachers may use this set of items along with the test blueprint as guides to prepare students for the ACP. On the last page, the correct answer, content SE and SE justification are listed for each item.

*The specific part of an SE that an Example Item measures is **NOT** necessarily the only part of the SE that is assessed on the ACP.* None of these Example Items will appear on the ACP.

Teachers may provide feedback regarding Example Items.

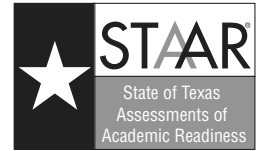
(1) Download the [Example Feedback Form](#) and email it. The form is located on the homepage of the Assessment website ([assessment.dallasisd.org](http://assessment.dallasisd.org)).

OR

(2) To submit directly: Login to the [Assessment website](#). Under “News” in the left-hand column, click on “Sem 2 Example Items Download.” Above the subjects, click on “Example Feedback Form.”

Second Semester  
2017–2018  
Code #: 3071

# STAAR GRADE 8 SCIENCE REFERENCE MATERIALS



## FORMULAS

$$\text{Density} = \frac{\text{mass}}{\text{volume}}$$

$$D = \frac{m}{V}$$

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$$\text{Average speed} = \frac{\text{total distance}}{\text{total time}}$$

$$s = \frac{d}{t}$$

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$$\text{Net force} = (\text{mass})(\text{acceleration})$$

$$F = ma$$

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$$\text{Work} = (\text{force})(\text{distance})$$

$$W = Fd$$

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# STAAR GRADE 8 SCIENCE REFERENCE MATERIALS

## PERIODIC TABLE OF THE ELEMENTS

1 1A	2 2A	3 3B	4 4B	5 5B	6 6B	7 7B	8 8B	9	10	11 1B	12 2B	13 3A	14 4A	15 5A	16 6A	17 7A	18 8A
1 <b>H</b> 1.008 Hydrogen	2 <b>He</b> 4.0026 Helium	3 <b>Li</b> 6.94 Lithium	4 <b>Be</b> 9.0122 Beryllium	5 <b>B</b> 10.81 Boron	6 <b>C</b> 12.011 Carbon	7 <b>N</b> 14.007 Nitrogen	8 <b>O</b> 15.999 Oxygen	9 <b>F</b> 18.998 Fluorine	10 <b>Ne</b> 20.180 Neon	11 <b>Na</b> 22.990 Sodium	12 <b>Mg</b> 24.305 Magnesium	13 <b>Al</b> 26.982 Aluminum	14 <b>Si</b> 28.085 Silicon	15 <b>P</b> 30.974 Phosphorus	16 <b>S</b> 32.06 Sulfur	17 <b>Cl</b> 35.45 Chlorine	18 <b>Ar</b> 39.948 Argon
19 <b>K</b> 39.098 Potassium	20 <b>Ca</b> 40.078 Calcium	21 <b>Sc</b> 44.956 Scandium	22 <b>Ti</b> 47.867 Titanium	23 <b>V</b> 50.942 Vanadium	24 <b>Cr</b> 51.996 Chromium	25 <b>Mn</b> 54.938 Manganese	26 <b>Fe</b> 55.845 Iron	27 <b>Co</b> 58.933 Cobalt	28 <b>Ni</b> 58.693 Nickel	29 <b>Cu</b> 63.546 Copper	30 <b>Zn</b> 65.38 Zinc	31 <b>Ga</b> 69.723 Gallium	32 <b>Ge</b> 72.630 Germanium	33 <b>As</b> 74.922 Arsenic	34 <b>Se</b> 78.971 Selenium	35 <b>Br</b> 79.904 Bromine	36 <b>Kr</b> 83.798 Krypton
37 <b>Rb</b> 85.468 Rubidium	38 <b>Sr</b> 87.62 Strontium	39 <b>Y</b> 88.906 Yttrium	40 <b>Zr</b> 91.224 Zirconium	41 <b>Nb</b> 92.906 Niobium	42 <b>Mo</b> 95.95 Molybdenum	43 <b>Tc</b> 98 Technetium	44 <b>Ru</b> 101.07 Ruthenium	45 <b>Rh</b> 102.91 Rhodium	46 <b>Pd</b> 106.42 Palladium	47 <b>Ag</b> 107.87 Silver	48 <b>Cd</b> 112.41 Cadmium	49 <b>In</b> 114.82 Indium	50 <b>Sn</b> 118.71 Tin	51 <b>Sb</b> 121.76 Antimony	52 <b>Te</b> 127.60 Tellurium	53 <b>I</b> 126.90 Iodine	54 <b>Xe</b> 131.29 Xenon
55 <b>Cs</b> 132.91 Cesium	56 <b>Ba</b> 137.33 Barium	57 <b>La</b> 138.91 Lanthanum	58 <b>Ce</b> 140.12 Cerium	59 <b>Pr</b> 140.91 Praseodymium	60 <b>Nd</b> 144.24 Neodymium	61 <b>Pm</b> 147 Promethium	62 <b>Sm</b> 150.36 Samarium	63 <b>Eu</b> 151.96 Europium	64 <b>Gd</b> 157.25 Gadolinium	65 <b>Tb</b> 158.93 Terbium	66 <b>Dy</b> 162.50 Dysprosium	67 <b>Ho</b> 164.93 Holmium	68 <b>Er</b> 167.26 Erbium	69 <b>Tm</b> 168.93 Thulium	70 <b>Yb</b> 173.05 Ytterbium	71 <b>Lu</b> 174.97 Lutetium	72 <b>Hf</b> 178.49 Hafnium
87 <b>Fr</b> 223 Francium	88 <b>Ra</b> 226 Radium	89 <b>Ac</b> 227 Actinium	90 <b>Th</b> 232.04 Thorium	91 <b>Pa</b> 231.04 Protactinium	92 <b>U</b> 238.03 Uranium	93 <b>Np</b> 237 Neptunium	94 <b>Pu</b> 244 Plutonium	95 <b>Am</b> 243 Americium	96 <b>Cm</b> 247 Curium	97 <b>Bk</b> 247 Berkelium	98 <b>Cf</b> 251 Californium	99 <b>Es</b> 252 Einsteinium	100 <b>Fm</b> 257 Fermium	101 <b>Md</b> 288 Mendelevium	102 <b>No</b> 289 Nobelium	103 <b>Lr</b> 260 Lawrencium	104 <b>Rf</b> 261 Rutherfordium
105 <b>Db</b> 262 Dubnium	106 <b>Sg</b> 263 Seaborgium	107 <b>Bh</b> 264 Bohrium	108 <b>Hs</b> 265 Hassium	109 <b>Mt</b> 268 Meitnerium	110 <b>Ds</b> 271 Darmstadtium	111 <b>Rg</b> 272 Roentgenium	112 <b>Cn</b> 285 Copernicium	113 <b>Nh</b> 284 Nihonium	114 <b>Fl</b> 289 Flerovium	115 <b>Mc</b> 288 Moscovium	116 <b>Lv</b> 293 Livermorium	117 <b>Ts</b> 289 Tennessine	118 <b>Og</b> 294 Oganesson	119 <b>Uu</b> 288 Ununennium	120 <b>Uub</b> 289 Unbibium	121 <b>Uut</b> 288 Untrium	122 <b>Uuq</b> 289 Unquadium

Atomic number 14  
Symbol Si  
Atomic mass 28.085  
Name Silicon

Atomic masses are not listed for elements with no stable or common isotopes.

Lanthanide Series

Actinide Series

## EXAMPLE ITEMS Science 7, Sem 2

1

Erica helped her teacher prepare for class.

### Lab



Erica lifts a box of lab supplies.

### Hall



Erica carries her backpack.

### Auditorium



Erica tries to lift a chair but it is too heavy to move.

### Classroom



Erica pushes a book across a table.

Which statement is correct?

- A Erica did work in all the places.
- B Erica did work in the classroom.
- C Erica did work in the hall and auditorium.
- D Erica did the most work in the auditorium.

2

What reduces soil erosion?

- A Blowing wind
- B Heavy rainfall
- C High-sloped hills
- D Trees and plants

## EXAMPLE ITEMS Science 7, Sem 2

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**3** A plant uses radiant energy from the Sun to produce sugar. The radiant energy is transformed through the process of —

- A** digestion
- B** osmosis
- C** photosynthesis
- D** tropism

**4** Scientists think that life may have existed on Mars. Which discovery on Mars supports this theory?

- A** Polar ice caps
- B** Presence of wind
- C** Rocks on the surface
- D** Carbon-rich atmosphere

**5** A farmer's garden burned down and was left unattended for ten years. The garden is currently undergoing secondary succession which is shown by a(n) —

- A** absence of insects
- B** absence of topsoil
- C** presence of a pioneer species
- D** presence of a previously colonized habitat

**6** Which factor will help maintain stability in an ecosystem?

- A** Availability of various gases in the atmosphere
- B** A diversity in the niches of the animals
- C** Sudden changes in the climate
- D** Fewer animal populations

**7** Tornadoes cause —

- A** coastal erosion
- B** climate change
- C** ecological damage
- D** plate faults

## EXAMPLE ITEMS Science 7, Sem 2

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8

In a compost bin, bacteria and other decomposers —

- A break down plants into smaller parts which makes them easier to throw away
- B break down matter which helps cycle nutrients back into the environment
- C create fertile soil which grows new plant species
- D create fertile soil which allows plants to grow

9

Which statement describes how the organisms in a playground near a rainforest in Brazil compare to the organisms in a playground in Dallas, Texas?

- A The organisms in Brazil are bigger than those in Texas, because the size of Brazil is bigger.
- B There is more rain in Brazil, so there are fewer organisms in that playground than in the Texas playground.
- C The playgrounds in both areas have different species of plants and animals based on the environment and weather.
- D The playgrounds have similar organisms since Texas and Brazil have similar environments and weather.

10

Groundwater and surface water are both sources of water for communities. A community prevents contamination of surface water by —

- A pouring small amounts of sewage into a river
- B recycling motor oil in designated containers
- C disposing of used batteries in landfills
- D fertilizing lawns prior to heavy rains

11

Besides oxygen to breathe, what essential component must an astronaut's equipment provide for survival in space?

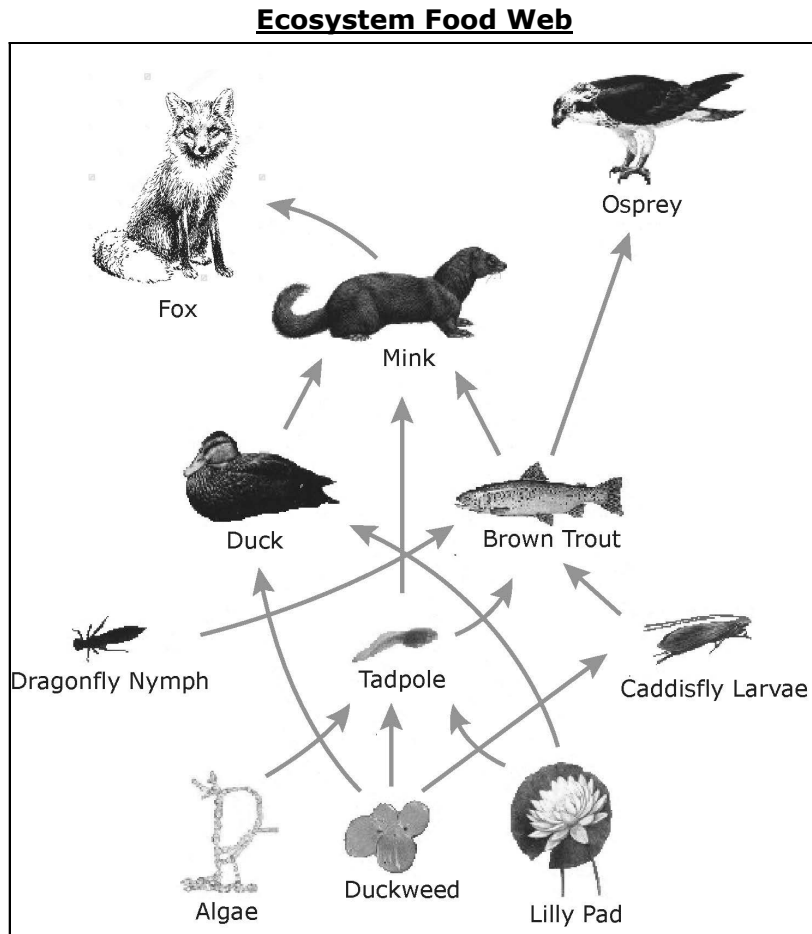
- A Communication device
- B Jet packs
- C Sun visor
- D Temperature control

## EXAMPLE ITEMS Science 7, Sem 2

12 Which diagram illustrates an organism's transformation of energy during digestion?

- A Chemical → sound
- B Chemical → thermal
- C Mechanical → chemical
- D Mechanical → thermal

13 Fishing has removed many brown trout fish from an ecosystem.



Source: ed101.bu.edu

How are the other organisms in this food web affected when the brown trout population decreases?

- A The caddisfly larvae population will increase, and the osprey population will decrease.
- B The mink population will increase, and the caddisfly larvae population will decrease.
- C The tadpole population will decrease, and the duckweed population will increase.
- D The duck population will increase and the duckweed population will decrease.

**EXAMPLE ITEMS Science 7 Key, Sem 2**

<b>Item#</b>	<b>Key</b>	<b>SE</b>	<b>Process Skills</b>	<b>SE Justification</b>
<b>1</b>	B	7.7A	7.2E	Contrast situations where work is done with different amounts of force to situations where no work is done such as moving a box.
<b>2</b>	D	7.8B	--	Analyze the effects of weathering, erosion, and deposition on the environment in ecoregions of Texas.
<b>3</b>	C	7.5A	--	Recognize that radiant energy from the Sun is transformed through the process of photosynthesis.
<b>4</b>	A	7.9A	--	Analyze the characteristics of objects in our solar system that allow life to exist such as the proximity of the Sun, presence of water, and composition of the atmosphere.
<b>5</b>	D	7.10C	--	Describe the role of ecological succession such as in a microhabitat of a garden with weeds.
<b>6</b>	B	7.10B	--	Describe how biodiversity contributes to the sustainability of an ecosystem.
<b>7</b>	C	7.8A	--	Predict and describe how different types of catastrophic events impact ecosystems such as tornadoes.
<b>8</b>	B	7.5B	--	Explain the cycling of matter within living systems such as in the decay of biomass in a compost bin.
<b>9</b>	C	7.10A	--	Describe how different environments, including microhabitats in schoolyards, support different organisms.
<b>10</b>	B	7.8C	7.2E	Model the effects of human activity on groundwater and surface water in a watershed.
<b>11</b>	D	7.9B	--	Identify the accommodations, considering the characteristics of our solar system, that enabled manned space exploration.
<b>12</b>	B	7.7B	--	Illustrate the transformation of energy within an organism such as the transfer from chemical energy to heat and thermal energy in digestion.
<b>13</b>	A	7.5C	7.2E	Diagram the flow of energy through living systems, including food webs.