Example Items
Science 6

Science 6 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 Assessment.dallasisd.org.

OR

(2) To submit directly, click "Example Feedback" **after** you login to the Assessment website.

First Semester
2017–2018
Code #: 3061

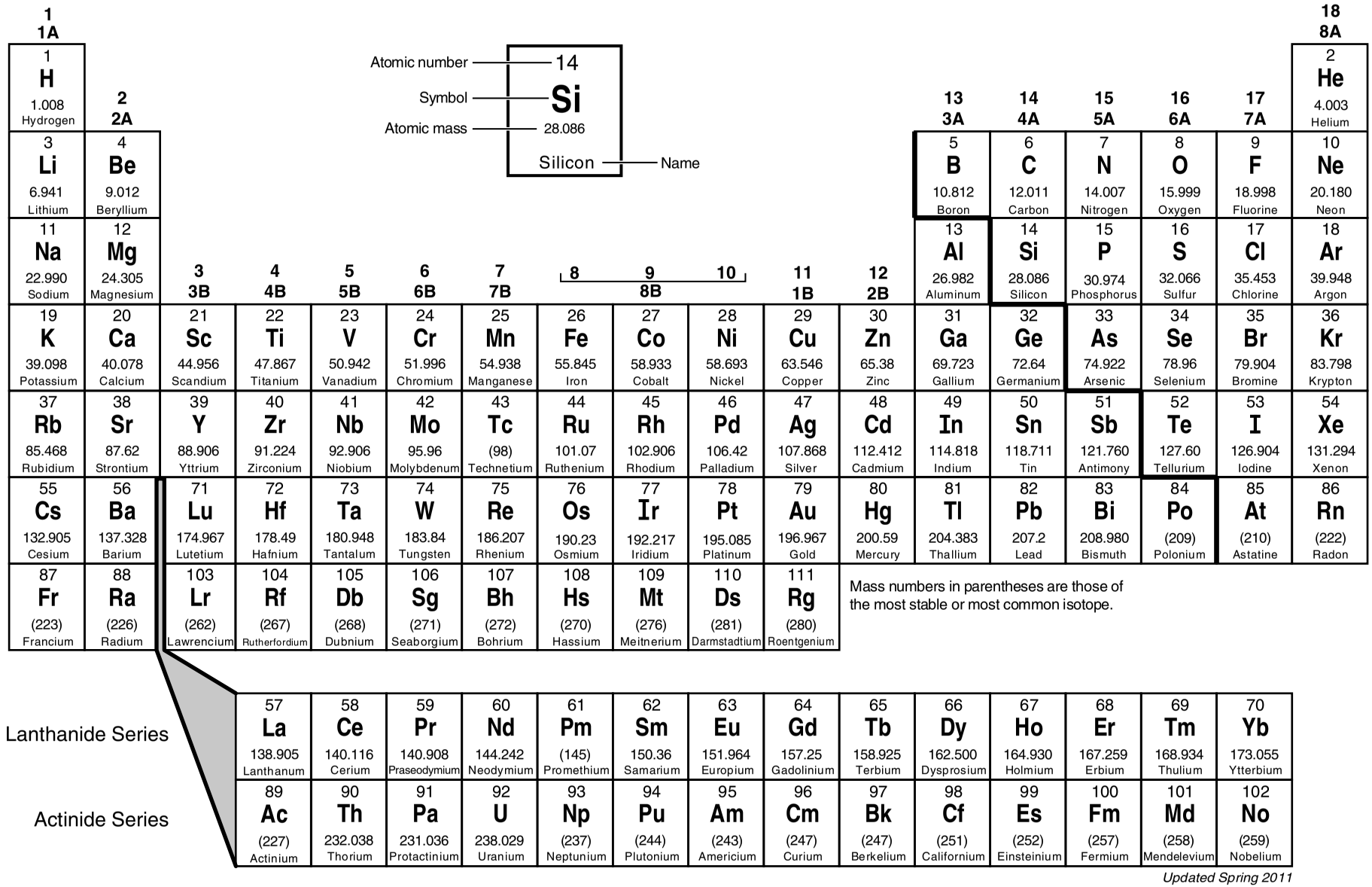
STAAR GRADE 8 SCIENCE REFERENCE MATERIALS

FORMULAS

Density = $\frac{\text{mass}}{\text{volume}}$	$D = \frac{m}{V}$
Average speed = $\frac{\text{total distance}}{\text{total time}}$	$s = \frac{d}{t}$
Net force = (mass)(acceleration)	$F = ma$
Work = (force)(distance)	$W = Fd$

STAAR GRADE 8 SCIENCE REFERENCE MATERIALS

PERIODIC TABLE OF THE ELEMENTS



Updated Spring 2011

EXAMPLE ITEMS Science 6, Sem 1

1 As a student holds a glass of iced tea, the temperature of the tea increases and the temperature of his hand decreases. Will the temperature of his hand continue to change?

A No, because all the heat will flow from his hand to the tea.

B Yes, because the ice will cause the temperature of the tea to decrease.

C Yes, because heat will continue to flow back and forth between both objects.

D No, because heat will stop flowing when both objects reach the same temperature.

⇨ **Use the table to answer the next question.**

Properties of Unknown Substances

Substance	Malleability	Electrical Conductivity	Luster
A	High	High	Yes
B	High	Medium	Yes
C	Low	Medium	Yes
D	Low	Low	No

2 Which substance is a metalloid?

A A

B B

C C

D D

3 Which statement is **true**?

A The Earth's crust is made almost entirely of just a few elements.

B The Earth's crust is made almost entirely of a single element.

C The Earth's crust is made of approximately equal parts of all the elements.

D The Earth's crust is made of approximately equal parts of about half the elements.

EXAMPLE ITEMS Science 6, Sem 1

4 Wind energy is harnessed by using a wind turbine.

What type of energy transformation takes place in a wind turbine?

A Wind → Chemical

B Chemical → Electrical

C Mechanical → Electrical

D Electrical → Mechanical

5 Which statement is correct?

A A symbol represents a compound and a formula represents an element.

B The Periodic Table has exactly 108 known compounds.

C An element contains atoms of different compounds.

D A compound contains atoms of different elements.

6 A teacher mixed baking soda and vinegar in a plastic bottle. Then she quickly stretched a balloon over the mouth of the bottle. The balloon inflated, which indicated a chemical change because —

A a gas was produced to inflate the balloon

B a liquid was produced to inflate the balloon

C a precipitate was produced to inflate the balloon

D an explosion occurred to inflate the balloon

EXAMPLE ITEMS Science 6, Sem 1

7 Students were given the Mohs scale during a lab.

Mohs Scale

Mineral	Hardness
Talc	1 (softest)
Gypsum	2
Calcite	3
Fluorite	4
Apatite	5
Feldspar	6
Quartz	7
Topaz	8
Corundum	9
Diamond	10 (hardest)

Which mineral can scratch feldspar, but cannot scratch topaz?

A Apatite

B Corundum

C Fluorite

D Quartz

8 Which energy management plan changes the amount of renewable energy used in homes?

A Saving grass clippings and leftover vegetables from meals to create a compost pile

B Replacing the windows in the home with new, energy-efficient windows

C Using energy generated by windmill farms

D Buying candles for light during a storm

9 What are the main concerns in using crude oil as an energy resource?

A Health and technology issues

B Environmental and health issues

C Technology and economic issues

D Environmental and economic issues

10 A student listed all the substances she studied in her chemistry lab.

CO_2 (carbon dioxide)
$CaCO_3$ (calcium carbonate)
C_3H_8 (propane)
$HC_2H_3O_2$ (acetic acid)

Which element is common to all of the substances?

A Carbon

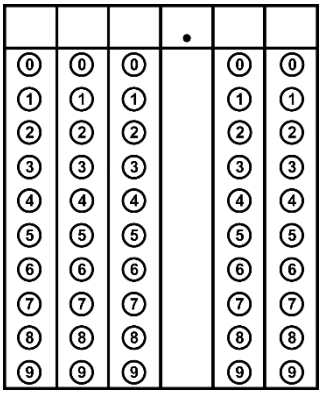
B Hydrogen

C Calcium

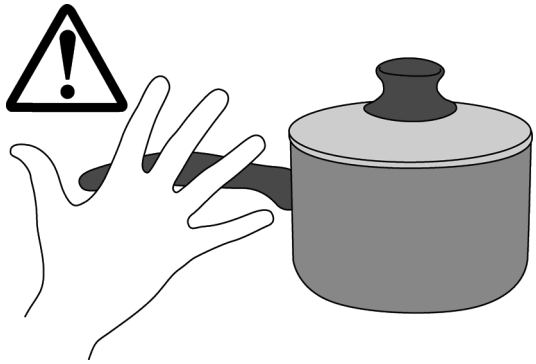
D Oxygen

11 Students calculated the density for an unknown substance. The sample had a mass of 90 kg and a volume of 8 L. What is the density of the unknown substance in kg/liter?

Record the answer and fill in the bubbles on the grid provided. Be sure to use the correct place value.



12 A student who was not wearing proper safety equipment burned his finger on a pot handle.



This method of thermal energy transfer is —

A convection

B radiation

C conduction

D condensation

EXAMPLE ITEMS Science 6 Key, Sem 1

Item#	Key	SE	Process Skills	SE Justification
1	D	6.9B	6.2E	Verify through investigations that thermal energy moves in a predictable pattern from warmer to cooler until all the substances attain the same temperature such as an ice cube melting.
2	C	6.6A	6.2D	Compare metals, nonmetals, and metalloids using physical properties such as luster, conductivity, or malleability.
3	A	6.5B	--	Recognize that a limited number of the many known elements comprise the largest portion of solid Earth.
4	C	6.9C	--	Demonstrate energy transformations.
5	D	6.5C	--	Differentiate between elements and compounds on the most basic level.
6	A	6.5D	6.2E	Identify the formation of a new substance by using the evidence of a possible chemical change such as production of a gas, change in temperature, or production of a precipitate.
7	D	6.6C	6.2E	Test the physical properties of minerals, including hardness, and luster.
8	C	6.7B	--	Design a logical plan to manage energy resources in the home.
9	B	6.7A	--	Debate the advantages and disadvantages of using coal, oil, and natural gas.
10	A	6.5A	6.2E	Know that an element is a pure substance represented by chemical symbols.
11	11.25	6.6B	--	Calculate density to identify an unknown substance.
12	C	6.9A	--	Investigate methods of thermal energy transfer, including conduction, convection, and radiation.