Example Items
Science 7
Pre-AP

Science 7 Pre-AP 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 #: 3171

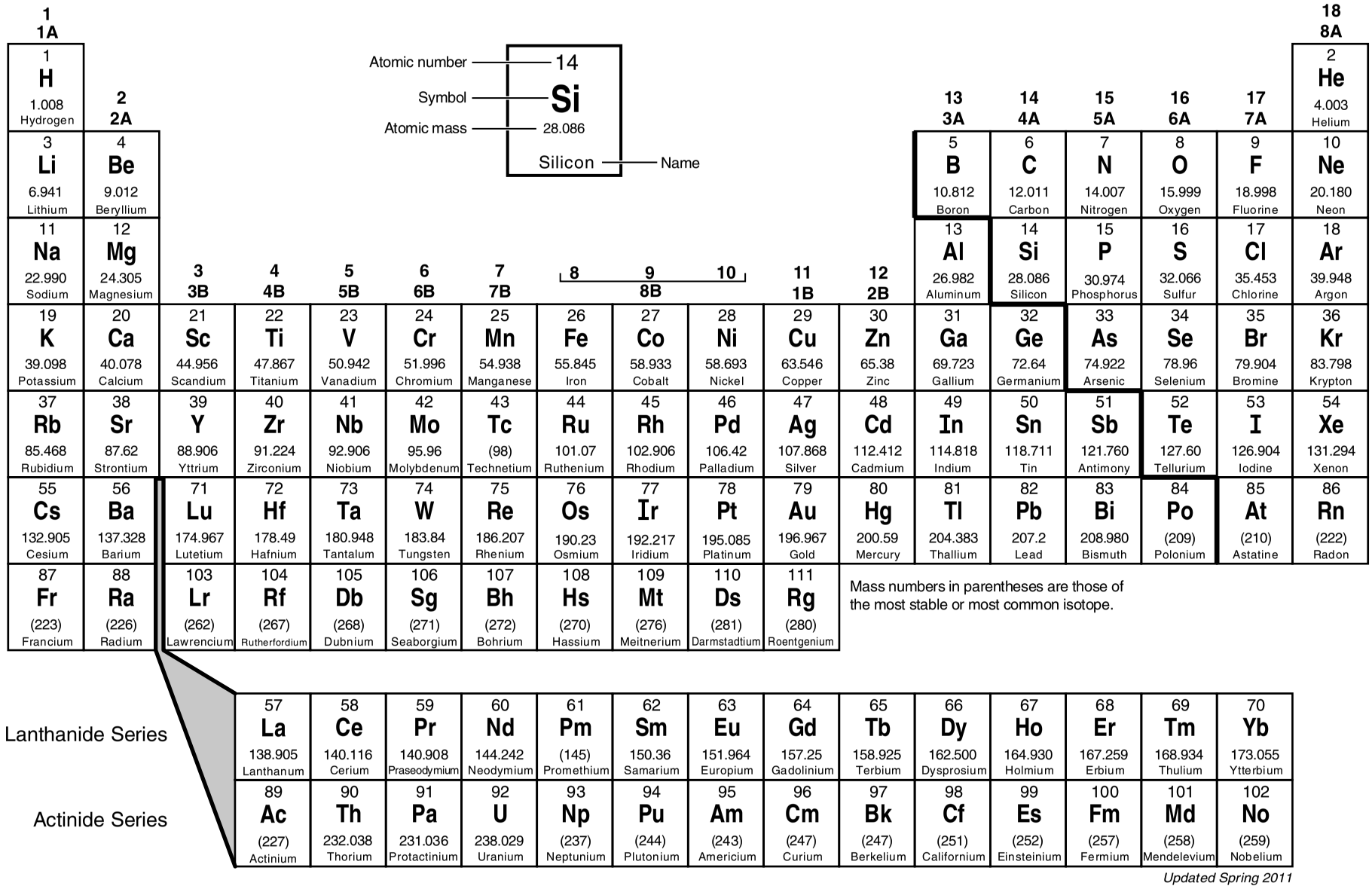
STAAR GRADE 8 SCIENCE REFERENCE MATERIALS

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 7 Pre-AP, Sem 1

1 Elements in the same family or group on the Periodic Table all —

A have the same size atoms

B have the same number of neutrons

C have similar chemical properties

D are similar in metal properties

2 The atomic number of an element represents the number of —

A bonds formed

B protons

C neutrons

D valence electrons

3 The chemical formula NH_4Cl indicates that the formula contains —

A 1 nitrogen atom, 1 hydrogen atom, and 1 chlorine atom

B 1 nitrogen atom, 4 hydrogen atoms, and 4 chlorine atoms

C 1 nitrogen atom, 4 hydrogen atoms, and 1 chlorine atom

D 4 nitrogen atoms, 4 hydrogen atoms, and 1 chlorine atom

4 According to Modern Atomic Theory, the area around the nucleus is referred to as the —

A electron cloud

B molecular region

C neutral area

D subatomic region

5 The instructions for heredity are found in the —

A chromosomes

B cell membrane

C mitochondria

D ribosomes

Dallas ISD - Example Items

EXAMPLE ITEMS Science 7 Pre-AP, Sem 1

Use the table to answer the next question.

Investigation 1	Investigation 2	Investigation 3	Investigation 4
• **Experiment**: Red food coloring was added to water • **Observation**: Water turned pink	• **Experiment**: Yeast was mixed with hydrogen peroxide • **Observation**: Bubbles formed	• **Experiment**: Salt was added to warm water • **Observation**: Salt dissolved completely	• **Experiment**: Crystals were added to a liquid • **Observation**: Crystals sank to the bottom of the container

6 Which investigation's observation indicated a chemical reaction occurred?

A Investigation 1

B Investigation 2

C Investigation 3

D Investigation 4

7 Organic compounds contain elements such as —

A aluminum and nickel

B sodium and chlorine

C nitrogen and sulfur

D magnesium and gold

8 Gills are an adaptation with a specific function. They allow fish to —

A find shelter

B raise their young

C gather and store food for later use

D take oxygen from a water molecule

9 Which examples best represent an organ level of organization in plants and animals?

A Shoot system, digestive system, and root system

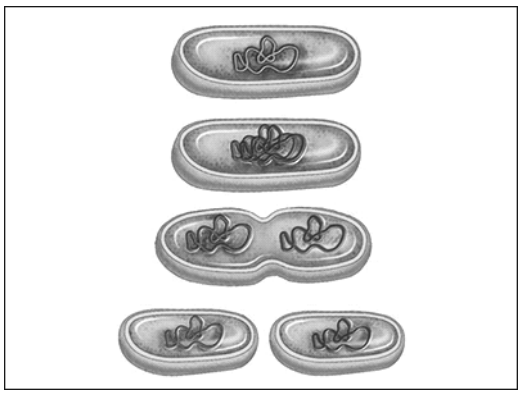
B Skeletal, smooth, and cardiac

C Daisy, spider, and peacock

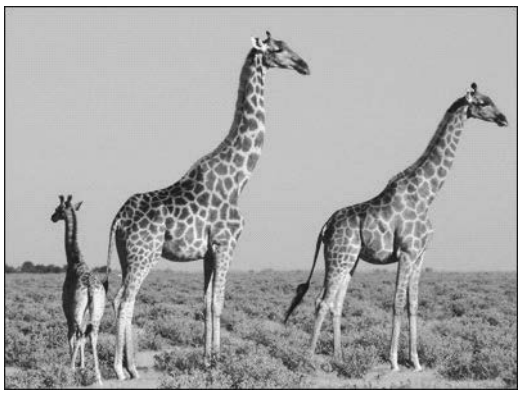
D Leaf, skin, and gills

10 Which organisms produce offspring with the least genetic diversity?

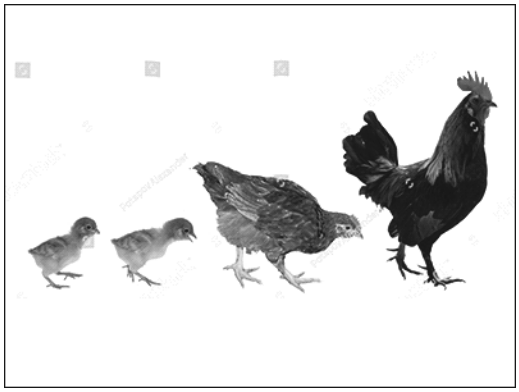
A



C



B



D

11 The equation shows a combustion reaction which produces water and carbon dioxide.

$$\_\_\_\_\_ \rightarrow 4H_2O + 3CO_2$$

Which reactants correctly balance the equation?

A $3CH_2 + 5O_2$

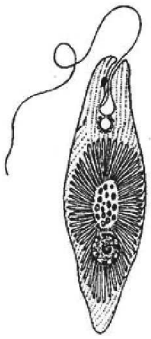
B $3CH_2 + 7O_2$

C $C_3H_8 + 5O_2$

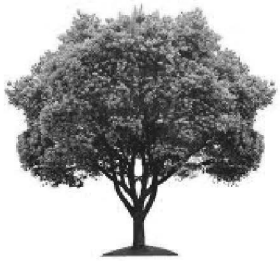
D $C_3H_8 + 7O_2$

EXAMPLE ITEMS Science 7 Pre-AP, Sem 1

Use the pictures to answer the next question.



Protozoa



Tree

Dog

Mushroom

12 According to cell theory, what characteristics do the organisms share?

A All of the organisms share the same cell structure.

B All of the organisms must breathe oxygen to survive.

C Every cell in the organisms come from existing cells.

D Each cell in the organisms are created by sexual reproduction.

13 When George flies his model airplane, he wants to know how fast and the direction it is flying. What does he calculate to tell him both?

A Acceleration

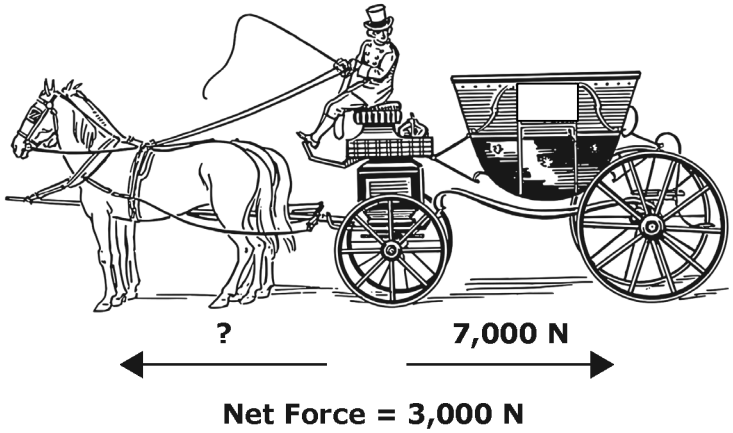
B Distance

C Speed

D Velocity

EXAMPLE ITEMS Science 7 Pre-AP, Sem 1

14 Horses pull a carriage and the overall net force for the interaction is 3,000 N.



What is the pulling force provided by the horses?

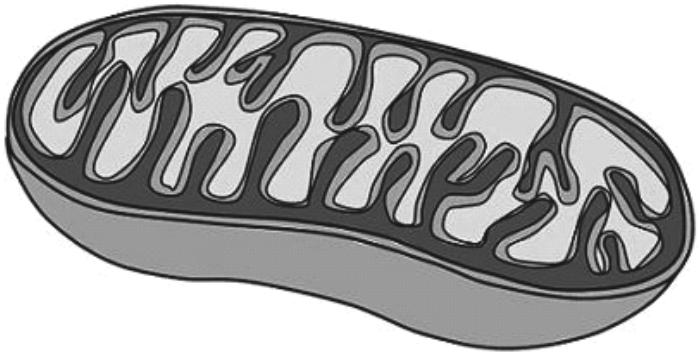
A 3,000 newtons

B 4,000 newtons

C 7,000 newtons

D 10,000 newtons

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



15 What is the function of the organelle?

A Controls all life processes of the cell

B Protects other organelles from damage

C Stores waste to be removed from the cell

D Releases the energy the cell needs to survive

EXAMPLE ITEMS Science 7 Pre-AP Key, Sem 1

Item#	Key	SE	Process Skills	SE Justification
1	C	8.5C	--	Interpret the arrangement of the Periodic Table, including groups, to explain how properties are used to classify elements.
2	B	8.5B	--	Identify that protons determine an element's identity and valence electrons determine its chemical properties, including reactivity.
3	C	8.5D	--	Recognize that chemical formulas are used to identify substances and determine the number of atoms of each element in chemical formulas containing subscripts.
4	A	8.5A	--	Describe the structure of atoms, including locations, of protons and neutrons in the nucleus and electrons in the electron cloud.
5	A	7.14C	--	Recognize that inherited traits of individuals are governed in the genetic material found in the genes within chromosomes in the nucleus.
6	B	8.5E	8.2E	Investigate how evidence of chemical reactions indicate that new substances with different properties are formed.
7	C	7.6A	--	Identify that organic compounds contain carbon and other elements such as hydrogen, oxygen, phosphorus, nitrogen, or sulfur.
8	D	7.12A	--	Investigate and explain how internal structures of organisms have adaptations that allow specific functions such as gills in fish.
9	D	7.12C	--	Recognize levels of organization in plants and animals, including cells, tissues, organs, organ systems, and organisms.
10	A	7.14B	--	Compare the results of uniform or diverse offspring from sexual reproduction or asexual reproduction.
11	C	8.5F	--	Recognize whether a chemical equation containing coefficients is balanced or not.
12	C	7.12F	--	Recognize that according to cell theory all organisms are composed of cells.
13	D	8.6B	--	Differentiate between speed, velocity, and acceleration.
14	B	8.6A	8.2E	Demonstrate and calculate how unbalanced forces change the speed or direction of an object's motion.
15	D	7.12D	--	Differentiate between structure and function in plant and animal cell organelles, including cell membrane, cell wall, nucleus, cytoplasm, mitochondrion, chloroplast, and vacuole.