## 1 Expectation: 8.8(B)

Look at the image of the Milky Way galaxy below.

Courtesy of NASA/JPL-Caltech, 2011.

The Milky Way was created when a cloud of gas and dust began to condense. Near the center of the Milky Way, material is just beginning to condense into new stars. This indicates that —

**A** the sun is near the edge of the Milky Way galaxy, close to other stars that have already formed.

**B** the sun is at the center of the Milky Way galaxy, close to dust and gas that has not yet condensed into new stars.

**C** the sun is outside the Milky Way galaxy, close to other stars that are traveling through space.

**D** the sun is near the center of the Milky Way galaxy, close to other stars that are just beginning to form.





GO ON

**2 Expectation: 8.5(B)**

Chlorine (Cl) is an extremely reactive element. This is because chlorine —

**F** cannot lose any electrons.

**G** can gain electrons in its outermost shell.

**H** has fewer neutrons in its outermost shell than in its nucleus.

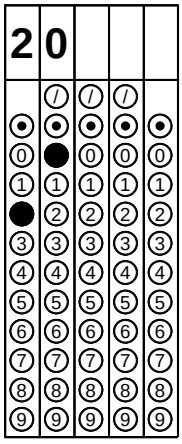
**J** has as many electrons in its nucleus as in its outermost shell.

**3 Expectation: 8.6(C)**

In a series of controlled experiments, a student measures the force acting on a go-cart and the go-cart's acceleration. The student's data are shown below.

| Force (N) | Acceleration ($m/s^2$) |
|---|---|
| 10 | 0.5 |
| 24 | 1.2 |
| 30 | 1.5 |

Based on the recorded observations, what is the mass of the go-cart in kilograms?




**4 Expectation: 8.11(B)**

A desert ecosystem is depicted in the photograph below.

What must the grasses be able to do to survive?

**F** The grasses must be able to outcompete cacti and yucca plants for shade.

**G** The grasses must be able to outcompete cacti and yucca plants for water.

**H** The grasses must be able to outcompete cacti and yucca plants for shelter from storms.

**J** The grasses must be able to outcompete cacti and yucca plants for minerals in mountain rocks.





GO ON

**5 Expectation: 8.5(E)**

A food scientist placed a raw egg in a pan and cooked it. The white and yolk became a thick, solid mass. What evidence indicates that a chemical reaction occurred when the egg was cooked?

**A** The egg changed from a liquid state to a solid state.

**B** Water vapor was released as the egg was heated.

**C** The cooked egg cannot return to its raw state.

**D** Some of the raw egg was boiled and released as a gas.

**6 Expectation: 8.7(C)**

A tide with the largest difference between water levels at high and low tides is known as a spring tide. Two spring tides occur in each lunar cycle. This is because a spring tide occurs when —

**F** the moon and the sun pull on Earth at a 90° angle.

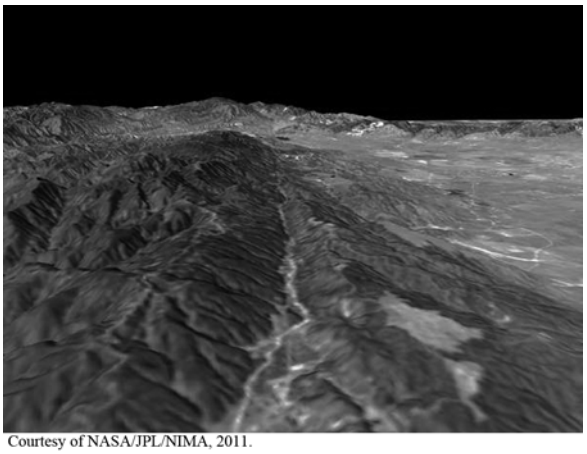
**G** the sun is closest to Earth.

**H** the moon is closest to Earth.

**J** the gravitational pulls of the moon and the sun are aligned.

**7 Expectation: 8.9(B)**

An image of the San Andreas Fault, which runs along the coast of California, is shown below.



Courtesy of NASA/JPL/NIMA, 2011.

The San Andreas Fault represents an area where the Pacific Plate is drifting northwest. As the Pacific Plate moves, it grinds against the North American Plate, creating —

**A** a long trough of broken earth.

**B** a flat, even surface.

**C** a series of island volcanoes.

**D** a group of gently rolling hills.

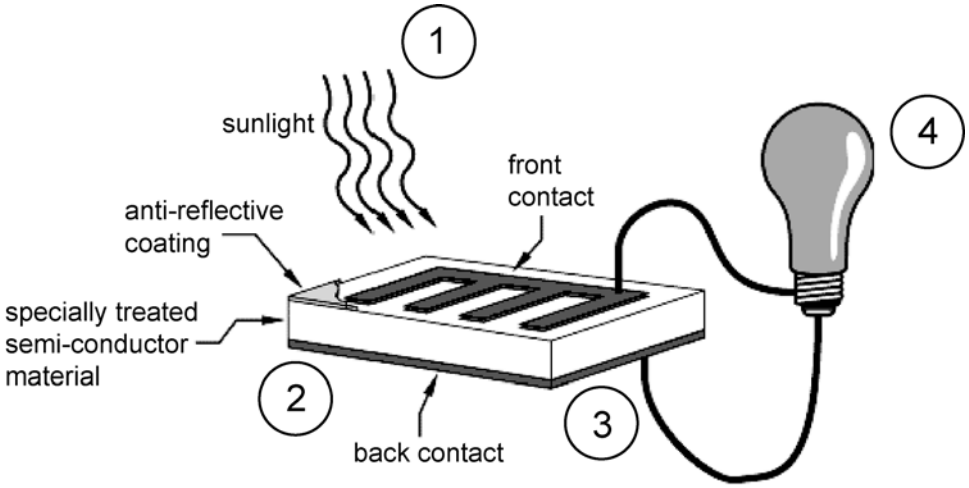




GO ON

**8 Expectation: 6.9(C)**

The diagram below shows a solar cell.




Courtesy of NASA, 2011.

At what point is light energy transformed into electrical energy?

**F** 1

**G** 2

**H** 3

**J** 4





# Grade 8 Science made with STAAR Test Maker 1-800-930-TEST

| Item Number | Reporting Category | Readiness or Supporting | Content Student Expectation | Process Student Expectation | Correct Answer |
|---|---|---|---|---|---|
| 1 | 3 | Supporting | 8.8(B) | | A |
| 2 | 1 | Readiness | 8.5(B) | | G |
| 3 | 2 | Readiness | 8.6(C) | 8.2 (E) | 20 |
| 4 | 4 | Readiness | 8.11(B) | | G |
| 5 | 1 | Readiness | 8.5(E) | 8.2 (B) | C |
| 6 | 3 | Supporting | 8.7(C) | 8.3 (A) | J |
| 7 | 3 | Readiness | 8.9(B) | 8.3 (B) | A |
| 8 | 2 | Supporting | 6.9(C) | 8.3 (B) | G |