Study Island

Potential Energy

1. When a match is lit, _____ energy is transformed into light and heat energy.

- **A.** gravitational
- **B.** chemical
- **C.** elastic
- **D.** electrical

Force

2. All energy can generally be considered to be either kinetic energy or potential energy. Some specific forms of energy, such as electrical, magnetic, and gravitational energy, can operate in the space around objects and affect other objects that come near. In these examples,

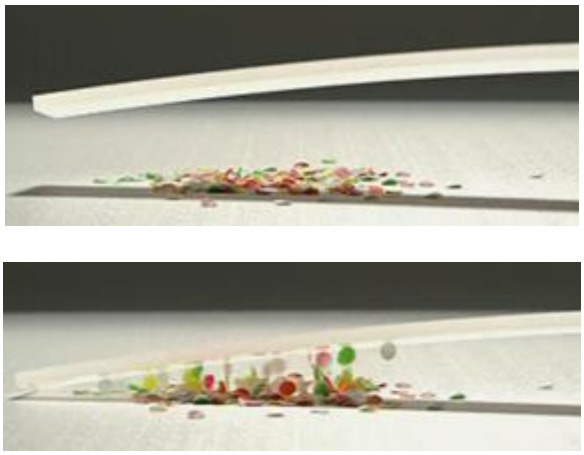
- **A.** energy exists in a field.
- **B.** energy is continuously destroyed.
- **C.** energy is continuously created.
- **D.** all of these

Force

3. Technology Enhanced Questions are not available in Word format.

Force

4.



Images derived from clip provided by Education Clip Library with permission from ITN Source

The images above show a plastic stick attracting small pieces of brightly colored paper. If the stick has a negative charge, then the paper that sticks to it must have

- **A.** a negative charge.
- **B.** a positive charge.
- **C.** a greater charge.
- **D.** a smaller charge.

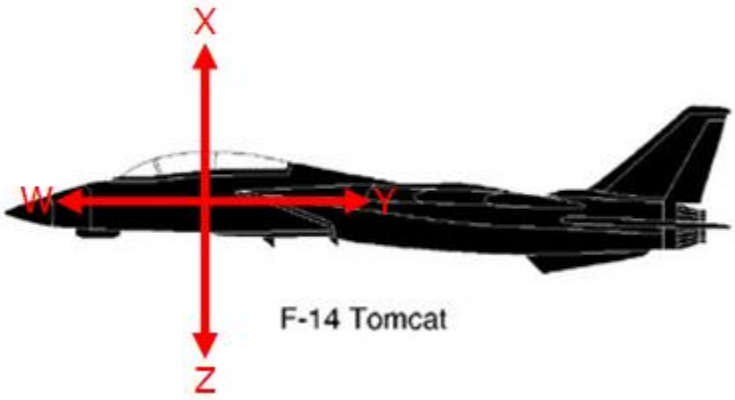
Potential Energy

5. Chemical energy is a form of

- **A.** kinetic energy only.
- **B.** both potential and kinetic energy.
- **C.** potential energy only.
- **D.** neither potential nor kinetic energy.

Object Motion

6.



In the diagram above, the drag force

- **A.** is represented by Y and slows the forward motion of the jet.
- **B.** is represented by X and helps to keep the jet from falling to the ground.
- **C.** is represented by Z and pulls the jet toward the ground.
- **D.** is represented by W and makes the jet move forward at a faster speed.

Object Motion

7. A ball is dropped from a tower. From whose reference point is the ball approaching the observer?

- **A.** a person standing on top of the tower
- **B.** a person standing on the ground beneath the tower
- **C.** a person in an airplane flying above the tower
- **D.** a person on the ground driving rapidly away from the tower.

Object Motion

8. A hockey puck slides across an ice rink more easily than it does across a rough concrete surface. Why is this?

- **A.** There is more friction on the ice rink.
- **B.** There is less gravity on the ice rink.
- **C.** There is less friction on the ice rink.
- **D.** There is more gravity on the ice rink.

Force

9. Tony weighs 180 pounds on the surface of the Earth. If Tony travels to the Moon, his weight will be about 30 pounds.

Judging from this information, which of the following would be a good general definition of "weight"?

- **A.** Weight is a measure of the force of gravity on objects.
- **B.** Weight is a measure of the volume of objects.
- **C.** Weight is a measure of electromagnetic attraction between objects.
- **D.** Weight is a measure of the mass of objects.

Potential Energy

10. Before a ball rolls down a hill, it has gravitational potential energy. Before a rubber ball bounces away from a surface, it has elastic potential energy.

From the list below, select the type of potential energy that allows *you* to throw a ball.

- ○ **A.** chemical potential energy
- ○ **B.** gravitational potential energy
- ○ **C.** elastic potential energy
- ○ **D.** human potential energy
