- 1. Two molecules of HBr collide and then form H₂ and Br₂. During the collision, the bonds in the HBr molecules are
 - A) broken as energy is absorbed
 - B) broken as energy is released
 - C) formed as energy is absorbed
 - D) formed as energy is release
- 2. Given the balanced equation representing a reaction: $O_9 \rightarrow O + O$

What occurs during this reaction?

- A) Energy is absorbed as bonds are broken.
- B) Energy is absorbed as bonds are formed.
- C) Energy is released as bonds are broken.
- D) Energy is released as bonds are formed.
- 3. To break a chemical bond, energy must be
 - A) absorbed
- B) destroyed
- C) produced
- D) released
- 4. What occurs in order to break the bond in a Cl₂ molecule?
 - A) Energy is absorbed.
 - B) Energy is released.
 - C) The molecule creates energy.
 - D) The molecule destroys energy.
- 5. Given the balanced equation representing a reaction: $Cl_2 \rightarrow Cl + Cl$

What occurs during this reaction?

- A) A bond is broken as energy is absorbed.
- B) A bond is broken as energy is released.
- C) A bond is formed as energy is absorbed.
- D) A bond is formed as energy is released.
- 6. Given the balanced equation representing a reaction:

$$2NaCl \rightarrow 2Na + Cl_2 \\$$

To break the bonds in NaCl, the reactant must

- A) absorb energy
- B) create energy
- C) destroy energy
- D) release energy

7. Given the balanced equation representing a reaction:

$$Br_2 + energy \rightarrow Br + Br$$

Which statement describes the energy change and bonds in this reaction?

- A) Energy is released as bonds are broken.
- B) Energy is released as bonds are formed.
- C) Energy is absorbed as bonds are broken.
- D) Energy is absorbed as bonds are formed.
- 8. Given the balanced equation representing a reaction:

$$H_2(g) + Cl_2(g) \rightarrow 2HCl(g) + energy$$

Which statement describes the energy changes in this reaction?

- A) Energy is absorbed as bonds are formed, only.
- B) Energy is released as bonds are broken, only.
- C) Energy is absorbed as bonds are broken, and energy is released as bonds are formed.
- D) Energy is absorbed as bonds are formed, and energy is released as bonds are broken.
- 9. Which statement describes what occurs as two atoms of bromine combine to become a molecule of bromine?
 - A) Energy is absorbed as a bond is formed.
 - B) Energy is absorbed as a bond is broken.
 - C) Energy is released as a bond is formed.
 - D) Energy is released as a bond is broken.
- 10. Given the balanced equation representing a reaction: $Cl_2(g) \rightarrow Cl(g) + Cl(g)$

What occurs during this change?

- A) Energy is absorbed and a bond is broken.
- B) Energy is absorbed and a bond is formed.
- C) Energy is released and a bond is broken.
- D) Energy is released and a bond is formed.