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Crash Course Chemistry #16: Passing Gases: Effusion, Diffusion, and the Velocity of a Gas

Name: _____ Date: _____

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1. The distinct smell of rotten eggs is due to the gas _____.
2. The speed and direction of gas movement is referred to as its _____.
3. Gases move more quickly at higher _____ because their particles have more kinetic energy.
4. The average speed of gas particles is referred to as the _____ velocity.
5. The movement of gas particles through a small hole or barrier is known as _____.
6. According to Graham's Law, the rate of effusion of a gas is _____ proportional to the square root of its molar mass.
7. The formula for kinetic energy is _____.
8. Temperature is a measure of the average _____ energy of particles in a system.
9. When a gas moves from an area of high concentration to low concentration, the process is called _____.
10. The random motion of gas particles is caused by frequent _____ between them.
11. Graham's Law can also be used to estimate the rate of _____, although it's less reliable than for effusion.
12. A _____ gradient is the difference in concentration between two regions.
13. The velocity of a gas is _____ proportional to the square root of its molar mass.
14. A solid that forms from the reaction of two gases is an example of a _____ reaction.
15. The net velocity of a gas is always _____ than the average velocity of its particles due to collisions.

Crash Course Chemistry #16: Passing Gases: Effusion, Diffusion, and the Velocity of a Gas KEY

1. The distinct smell of rotten eggs is due to the gas **hydrogen sulfide**.
2. The speed and direction of gas movement is referred to as its **velocity**.
3. Gases move more quickly at higher **temperatures** because their particles have more kinetic energy.
4. The average speed of gas particles is referred to as the **average** velocity.
5. The movement of gas particles through a small hole or barrier is known as **effusion**.
6. According to Graham's Law, the rate of effusion of a gas is **inversely** proportional to the square root of its molar mass.
7. The formula for kinetic energy is $\frac{1}{2}mv^2$.
8. Temperature is a measure of the average **kinetic** energy of particles in a system.
9. When a gas moves from an area of high concentration to low concentration, the process is called **diffusion**.
10. The random motion of gas particles is caused by frequent **collisions** between them.
11. Graham's Law can also be used to estimate the rate of **diffusion**, although it's less reliable than for effusion.
12. A **concentration** gradient is the difference in concentration between two regions.
13. The velocity of a gas is **inversely** proportional to the square root of its molar mass.
14. A solid that forms from the reaction of two gases is an example of a **precipitation** reaction.
15. The net velocity of a gas is always **lower** than the average velocity of its particles due to collisions.

15 Questions

Answer Key Included

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