# Activation Energy Quiz PDF

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**What happens to the activation energy when a catalyst is used?**

- ◯ It increases
- ◯ It decreases
- ◯ It remains the same
- ◯ It doubles

**What is activation energy?**

- ◯ The energy released during a reaction
- ◯ The minimum energy required to start a reaction
- ◯ The energy absorbed by the products
- ◯ The energy stored in reactants

**Which factor does NOT directly affect activation energy?**

- ◯ Temperature
- ◯ Catalyst
- ◯ Concentration of reactants
- ◯ Pressure

**Which part of a potential energy diagram represents activation energy?**

- ◯ The energy of reactants
- ◯ The energy of products
- ◯ The peak energy point
- ◯ The baseline energy level

**Discuss the impact of temperature on the activation energy and rate of a chemical reaction.**

**Explain how activation energy affects the rate of a chemical reaction.**

**What information can be obtained from a potential energy diagram regarding activation energy?**

**How can the Arrhenius equation be used to determine the activation energy of a reaction?**

**Describe the role of a catalyst in a chemical reaction and how it affects activation energy.**

**What does a potential energy diagram illustrate?**

- ◯ The concentration of reactants over time
- ◯ The energy changes during a reaction
- ◯ The speed of a reaction
- ◯ The color change in a reaction

**What are the effects of increasing temperature on a chemical reaction?**

- ☐ Increases the kinetic energy of molecules
- ☐ Decreases the activation energy
- ☐ Increases the reaction rate
- ☐ Changes the chemical equilibrium

**Which of the following are characteristics of a catalyst?**

- ☐ It is consumed in the reaction.
- ☐ It lowers the activation energy.
- ☐ It speeds up the reaction.
- ☐ It alters the equilibrium position.

**In the Arrhenius equation, which parameters are involved?**

- ☐ Activation energy
- ☐ Rate constant
- ☐ Temperature
- ☐ Concentration of products

**Which of the following are true about potential energy diagrams?**

- ☐ They show the energy of reactants and products.
- ☐ They illustrate the activation energy.
- ☐ They indicate the reaction rate.

- [ ] They depict the transition state.

**What is the role of a catalyst in a chemical reaction?**

- ◯ Increases the activation energy
- ◯ Decreases the activation energy
- ◯ Consumes reactants
- ◯ Increases the temperature

**In which units is activation energy typically measured?**

- ◯ Joules
- ◯ Kilowatts
- ◯ Kilojoules per mole
- ◯ Moles per liter

**Which of the following factors can influence the rate of a chemical reaction?**

- [ ] Temperature
- [ ] Catalyst
- [ ] Activation energy
- [ ] Surface area of reactants

**Provide an example of an industrial application where controlling activation energy is crucial and explain why.**

**Which of the following best describes the Arrhenius equation?**

- ◯ It relates pressure and volume.
- ◯ It describes the energy change in a reaction.
- ◯ It relates the rate constant to activation energy and temperature.
- ◯ It calculates the concentration of reactants.

**Which statements about activation energy are true?**

- [ ] It is the energy required to break bonds in reactants.
- [ ] It can be lowered by increasing the temperature.
- [ ] It is unaffected by the presence of a catalyst.
- [ ] It determines the speed of a reaction.