

Collision Theory Quiz PDF

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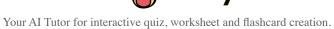
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Which of the following statements about activation energy are correct?
 ☐ It is the energy required to start a reaction. ☐ It can be lowered by a catalyst. ☐ It is the same for all reactions. ☐ It determines the speed of a reaction.
How does increasing temperature affect reaction rate?
 Decreases the energy of collisions Decreases the number of collisions Increases the energy and frequency of collisions Has no effect on the reaction rate
What are the characteristics of effective collisions?
Sufficient energyProper orientationHigh pressureLow energy
How does surface area affect reaction rates?
 □ Larger surface area increases reaction rate. □ Smaller surface area decreases reaction rate. □ Surface area has no effect on reaction rate. □ Larger surface area decreases reaction rate.
What is the primary requirement for a chemical reaction to occur according to collision theory?
○ High pressure○ Effective collisions



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○ Low temperature○ Presence of a catalyst				
Troophoo of a datalyor				
What is the term for the mi	nimum energy re	quired for a rea	action to occur?	
O Potential energy				
○ Kinetic energy				
Activation energy				
○ Thermal energy				
Explain how collision theor	y accounts for th	ne effect of tem	perature on reac	tion rates.
				<i>-</i>
Describe the role of molecu	ilar orientation in	n determining v	hether a collisio	n will be effective.
How does increasing the coto collision theory?	oncentration of re	eactants affect	the rate of a che	mical reaction accordir
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Discuss the impact of a catalyst on the activation energy and reaction pathway.				
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Provide an example of a real-world application of collision theory in industry and explain its significance.				
Which of the following are factors that can increase the rate of a chemical reaction?				
☐ Increasing concentration				
Decreasing temperature				
☐ Increasing surface area				
Adding a catalyst				
Which factor does NOT directly affect the rate of a chemical reaction?				
○ Concentration of reactants				
O Surface area of reactants				
Color of reactants				
○ Temperature				
Which statement is true about ineffective collisions?				
They have sufficient energy and proper orientation.				
They do not lead to product formation.				
○ They always result in a reaction.				



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○ They are faster than effective collisions.
What role does a catalyst play in a chemical reaction?
 Increases the activation energy Provides energy to reactants Lowers the activation energy Changes the reactants
Which of the following increases the frequency of collisions in a reaction?
 Decreasing the temperature Increasing the concentration of reactants Reducin the surface area Removing a catalyst
Which statements are true about catalysts?
 They are consumed in the reaction. They lower the activation energy. They increase the reaction rate. They change the equilibrium position.
Which factor is most directly related to the orientation of molecules during a collision?
ConcentrationSurface areaTemperatureCollision geometry
Why might a reaction with a low activation energy still proceed slowly under certain conditions?



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