

Task

Read each of the statements in the table below.

Decide whether they are correct or not and write your answer in the second column.

If the statement is incorrect, add a corrected statement in the final column.

Statement	Correct or incorrect?	Correct statement
1. Mean rate of reaction = quantity of reactant \div time taken		
2. The units to use for rate of reaction in a gaseous reaction are cm^2/s .		
3. Collision theory says that reactant particles just need to bump into each other to react.		
4. Activation energy is the maximum amount of energy that particles must have before they react.		
5. The effect of increasing concentration of reactants in solution increases the frequency of collisions, so increases the reaction rate.		
6. The effect of increasing the surface area of a solid reactant decreases the chance of particles colliding, so decreasing the reaction rate.		
7. A catalyst is a substance that changes the rate of a chemical reaction.		
8. Enzymes are catalysts in a biological system.		
9. A reversible reaction is a chemical reaction where the products react and form the original reactants.		
10. The independent variable is the variable that is measured in an experiment.		

Suggested answers

Statement	Correct or incorrect?	Correct statement
1. Mean rate of reaction = quantity of reactant \div time taken	✓	
2. The units to use for rate of reaction are in a gaseous reaction are cm^2/s .	x	The units to use to show rate of reaction are in a gaseous reaction are cm^3/s .
3. Collision theory says that reactant particles just need to bump into each other to react.	x	Collision theory says reactant particles must bump into one another with <i>sufficient energy</i> in order for reaction to take place.
4. Activation energy is the maximum amount of energy that particles must have before they react.	x	Activation energy is the <i>minimum</i> amount of energy that particles must have before they react.
5. The effect of increasing concentration of reactants in solution increases the frequency of collisions, so increases the reaction rate.	✓	
6. The effect of increasing the surface area of a solid reactant decreases the chance of particles colliding, so decreasing the reaction rate.	x	The effect of <i>increasing</i> the surface area of a solid reactant increases the chance of particles colliding, so <i>increasing</i> the reaction rate.
7. A catalyst is a substance that changes a chemical reaction.	x	A catalyst increases the rate of reaction by providing a different pathway for the reaction that has a lower activation energy.
8. Enzymes are catalysts in a biological system.	✓	
9. A reversible reaction is a chemical reaction where the products react and form the original reactants.	✓	
10. The independent variable is the variable that is measured in an experiment.	x	The <i>dependent</i> variable is the variable that is measured in an experiment.