

CW7 factors effecting reaction rate (8)

From the below table match the observations (A-D) with the explanations in the below table (1-4).

Observation	Explanation
A	
B	
C	
D	

Observation	Explanation
A. Reactions speed up when the reactants are more concentrated	1. More of the particles are exposed on the surface and the surface particles must react before the inner particles can
B. When temperature increases so does the rate of reaction	2. There are more particles in the same space so more particles will collide and react
C. Catalysts cause reactions to get faster	3. Lowering the activation energy (the energy needed for a reaction to take place) increases the rate of reaction.
D. The smaller the particle size, the greater the reaction rate.	The more energy particles have the more likely they are to have enough energy to react.

You want to do an experiment to see make a berocca (effervescent tablet) dissolve as quickly as possible.

Name two factors you could change to increase the rate of the chemical reaction.

1st thing you could change _____ (3)

Explain in terms of the **particles** how this would increase the reaction rate:

 _____ (3)

2nd thing you could change _____ (3)

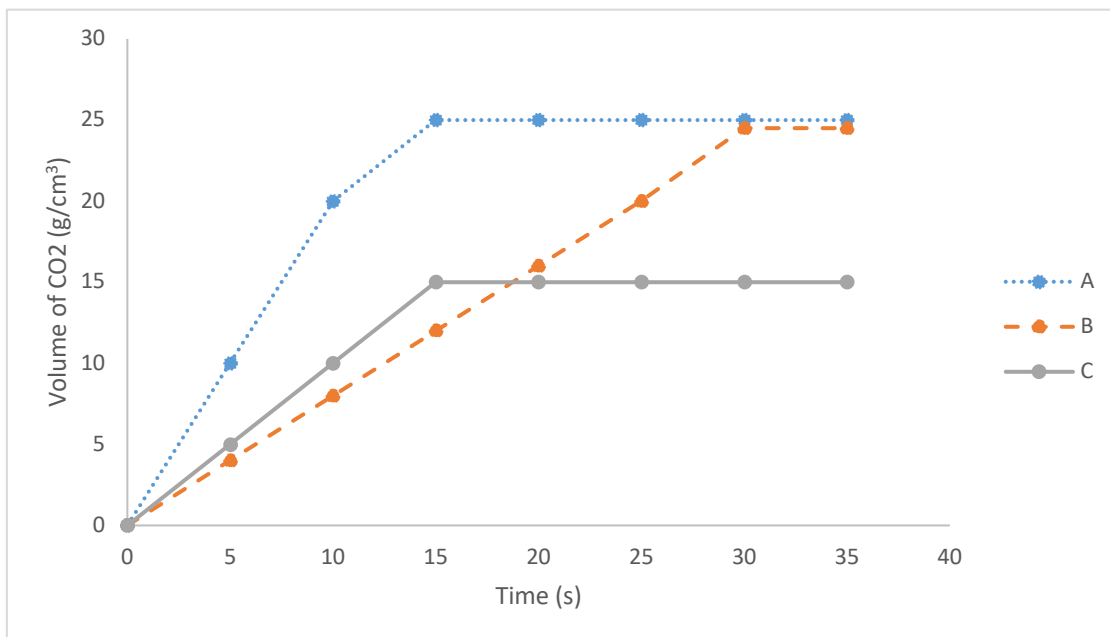
Explain in terms of the **particles** how this would increase the reaction rate:

 _____ (3)

What gas was produced in this chemical reaction? _____ (3)



When bread soda (solid) and vinegar (liquid) react, carbon dioxide (gas) is released. The graph below shows the volume of carbon dioxide released against time for 3 different experiments (A, B, and C) between bread soda and vinegar.



At the start of the reaction, which case, A, B, or C, showed the greatest rate of reaction?

Answer _____(3)

Explanation (6)

At the start of the reaction, which case, A, B, or C, showed the lowest rate of reaction?

Answer _____(3)

Explanation (6)

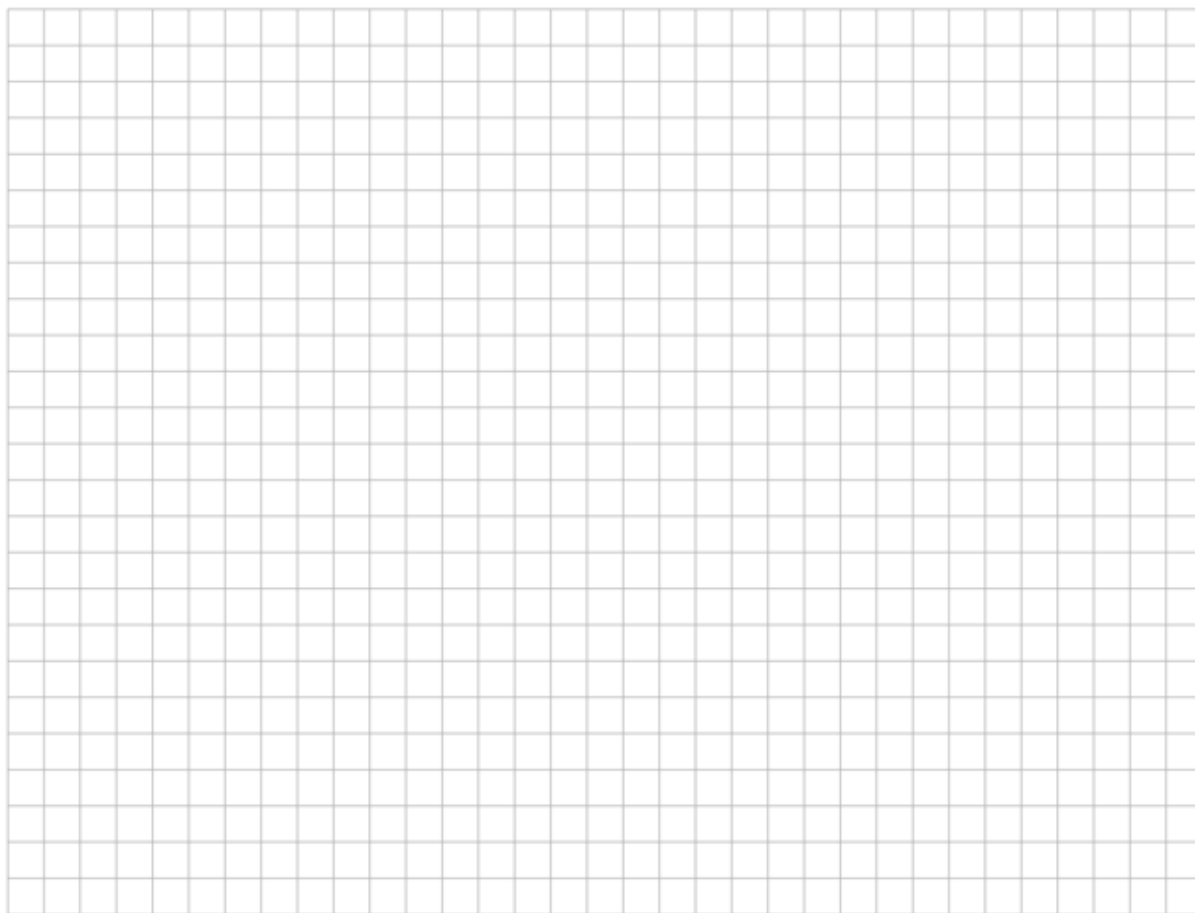
In which case, A, B, or C, was the least mass of bread soda used? Answer _____(3)

Explanation (6)

In an investigation to investigate the rate of reaction of a vitamin tablet dissolving with temperature you recorded the following data.

Temperature (°C)	10	20	30	40	50
Reaction rate (1/s)	0.1	0.2	0.3	0.4	0.5

Use the table to plot a graph of temperature on the x-axis and reaction rate on the y-axis. (12)



What conclusion could you draw from the graph?

In this experiment what was the:

Cause variable (the thing you changed). Ans _____ (3)

Effect variable (the thing you measured). Ans _____ (3)

Control variable (the things you kept the same). Ans _____ (3)