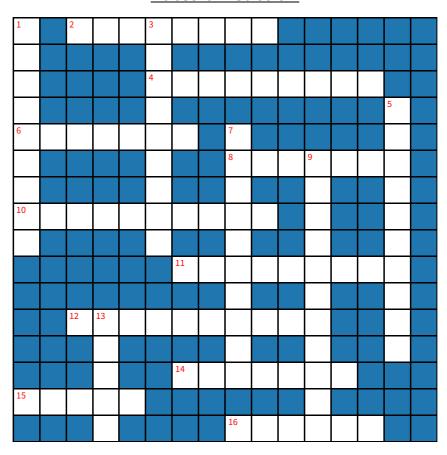
## Rates of reaction



## **Across**

- 2 These substances are made in reactions(8)
- **4** These substances increase the rate of a reaction but do not get used up (9)
- **6** These proteins are biological catalysts (7)
- **8** Particles must do this so they can react together (7)
- **10** These reactions transfer energy to the surroundings, usually by heating (10)
- **11** These substances are used up in reactions (9)
- **12** This type of reaction can go in both directions, with a forward reaction and a reverse reaction (10)
- 14 In this type of equilibrium, the forward and reverse reactions continue to happen(7)
- **15** Powders have large surface \_ \_ \_ \_ compared to their volumes (5)
- **16** This is released when chemical bonds are made (6)

## Down

- 1 In an endothermic reaction, you get more product if the temperature is ... (9)
- **3** In an exothermic reaction, you get more product if the temperature is ... (9)
- **5** This happens to a reaction if the temperature is increased (4,6)
- **7** The minimum amount of energy needed for particles to react (10)
- **9** Scientist whose principle lets you predict the effect on the position of equilibrium when you change the reaction conditions (2,9)
- **13** The rates of the forward and reverse reactions at equilibrium are this (5)