

# BLM Answers

## BLM 3-1 Burning Rate of Candles

1.  $8\text{ cm} - 6\text{ cm} = 2\text{ cm}$
2.  $40\text{ g} - 30\text{ g} = 10\text{ g}$
3. 2 h
4. In two hours, the candle got 2 cm smaller and 10 g lighter.
5. The candle changed at a rate of 1 cm/h *or* 5 g/h.

## BLM 3-9 Compare Catalysts and Inhibitors

**Catalyst Differences:** speeds up reaction, makes reaction possible, reduces temperature required for a reaction

**Similarities:** affects rate of reaction, does not usually get used up during reaction

**Inhibitor Differences:** slows down or stops reaction

## BLM 3-10 Teacher Demonstration: A Catalyst in a Chemical Change

1. Answers may vary. Sample answer:
  - Will cobalt chloride solution speed up the reaction between Rochelle salt solution and hydrogen peroxide?
2. Rochelle salt solution, hydrogen peroxide solution
3. cobalt chloride solution
4. Sample answer: Yes. A catalyst is supposed to speed up the rate of change.
5. catalyst *or* cobalt chloride solution
6. Sample answer:
  - temperature
  - reactants
  - amounts of reactants
7. Sketches should show two beakers labelled A and B.
8. a) clear colourless liquid  
b) clear colourless liquid  
c) clear pink liquid
9. pink and bubbles
10. colour changed to dark green then lighter green and back to pink, and there were more bubbles
11. a) and b)
  - no more bubbles
  - no more colour changes
12. colour changed to dark green then lighter green and back to pink, and there were more bubbles
13. The catalyst sped up the reaction.
14. a) yes  
b) It catalysed another reaction when it was poured into beaker A.
15. A catalyst speeds up the rate of change.

## BLM 3-11 Chapter 3 Practice Test

1. e) inhibitor      2. b) temperature
3. g) catalyst      4. f) enzymes
5. a) poisons      6. d) rate of change
7. a) F. Increasing concentration will speed up a reaction.  
b) F. The low concentration of oxygen in a peat bog slows down the rotting process.  
c) T  
d) F. Catalytic converters clean up exhaust in all vehicles.  
e) T
8. b) catalysts and increased surface area
9. d) Cut it into smaller pieces.
10. a) It catches fire easily.
11. a), b), and c) Sample answers:
  - spread out the puddle
  - turn up the heat
  - open the window/run a fan
12. a) Acid in the water.  
b) The higher the concentration, the faster dissolving will happen.

## BLM 3-12 Chapter 3 Test

1. b) rate of change      2. g) catalyst
3. d) surface area      4. c) inhibitor
5. e) enzymes      6. a) temperature
7. a) concentrated; there is more detergent in it  
b) cut into wedges; exposes more surface area  
c) hot summer day; rate of change increases as temperature increases
8. a) T      b) T
9. c) higher water concentration
10. d) inhibitors
11. a) reduce the surface area  
b) dilute the reactants  
c) lower the temperature  
d) add an inhibitor
12. Look for sound experimental design that changes only one variable. Sample answer:
  - Place one sample in a shallow dish to increase the surface area. Keep the temperature and concentration of the samples the same.