

Illustrating Concepts
Predictable behaviour of light
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1. Sketches should show the rays passing through the surface.
2. Sketches should show only one or two rays passing through the surface, and the rest scattered in different directions.
3. Sketches should show the rays reflecting at the same angle as they struck the surface.
4. Sketches should show the angle of incidence as the angle between the incoming ray and the normal. The angle of reflection should be shown between the outgoing ray and the normal.
5. Sketches should show the ray bending toward the normal in the water.
6. Sketches should show the ray bending away from the normal in the air.

Cloze Activity
Light can reflect and refract
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1. ray model of light
2. transparent
3. translucent
4. opaque
5. incidence
6. plane mirror
7. refraction
8. refracted ray

Assessment
The ray model of light
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1. D 2. B 3. C 4. A 5. B 6. C 7. C 8. A 9. D

Section 5.2 Answers

Section 5.2 Summary

Reading Check

Pages 74–75

1. Reflecting surface of the concave mirror curves inward and the reflecting surface of the convex mirror curves outward.
2. Light rays that are converging are coming together. Light rays that are diverging spread apart.

Interpreting Illustrations
Mirrors
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Sample answers:

1. plane mirror: allows you to see yourself
2. concave mirror: enlarges a person's face so it is easier to see small details
3. convex mirror: increases the field of view for the driver
4. concave mirror: enlarges the inside of the mouth so that the dentist can see your teeth more easily
5. convex mirror: increases the field of view and allows all the store's aisles to be seen at the same time
6. concave mirror: enlarges the parts of a watch or jewellery piece so that it is easier for the jeweller to see the tiny parts
7. convex mirror: increases the field of view for the driver
8. concave mirror: widens the area in which light is projected
9. concave mirror: enlarges a person's face so it is easier to see small details
10. plane mirror: allows you to see yourself

Applying Knowledge
Flat mirrors and curved mirrors
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	Plane Mirror	Concave Mirror (object near to mirror)	Concave Mirror (object far from mirror)	Convex Mirror
reflecting surface	flat	inward	inward	outward
size	same size	Larger	smaller	smaller
orientation	upright	upright	upside down	upright
shape	same	different	different	different
location	behind	behind	in front	behind
example	Sample answer: bathroom mirror	Sample answer: shaving mirror, makeup mirror	Sample answer: flashlight	Sample answer: security mirror

Cloze Activity
Mirror, mirror, on the wall
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1. reflect
2. images
3. plane mirror
4. concave mirror, focal point
5. converging
6. upside down