**Science 8**

**5.1 Sheet**

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Instructions:** Read pages 168-175 in B.C. Science 8 and answer the following questions in point form

1. What did Sir Isaac Newton believe about light?
2. Describe what is meant by the particle model of light as described by newton.
3. Why are both the wave model and the particle model of light used in science?
4. Describe how light is described using the ray model of light.
5. Read “did you know’ on page 169 and describe why no shadow can ever be totally “sharp.”
6. Describe what a transparent material does to light and how it appears to our eyes.
7. Describe what a translucent material does to light and how it appears to our eyes.
8. Describe what an opaque material does to light and how it appears to our eyes.
9. Describe how a shadow forms when you’re walking away from the Sun at sunset.
10. Look at figure 5.7 A and describe the relationship between how close an object is to a light source and the size of its shadow.
11. Why are the letters on this page black?
12. Why is this sheet of paper white?
13. Describe why this sheet of paper is not a mirror?
14. Describe incident ray.
15. Describe reflected ray.
16. Draw a diagram showing an incident ray, reflected ray and the “normal.”Also show the angle of incidence(i) and angle of reflection(r) on your diagram.
17. State the “law of reflection.”
18. What is another term that describes “refraction?”
19. What typically causes light to be refracted?
20. What happens to light rays as they move from air into glass? Why does this happen?
21. What is meant by the angle of refraction? How is it measured?
22. What happens to a light ray when it moves into a medium where it slows down?
23. What happens to a light ray when it moves into a medium where it speeds up?
24. Describe why a fish under water appears to be in a different spot than it actually is.
25. What happens to light as it travels through air of different densities?
26. What is meant by a mirage?
27. Describe why you may appear to see pools of water ahead of you on a hot highway.