**Science 8 Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Electromagnetic Radiation 6 - Using Mirrors to Form Images Date\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (flat) mirrors
   1. E.g. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ from a lamp shines on a blueberry.
      1. This light reflects off all \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ on the blueberry, in all \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
         1. Only the rays coming from \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ point are shown.



* 1. All of the rays from the blueberry that strike the mirror \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ according to the law of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
     1. The rays that reach your \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ appear to be coming from a point \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the mirror.
        1. The same process occurs for every \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ on the blueberry.
  2. Your brain “knows” that \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ travels in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ lines.
     1. Your brain interprets the pattern of light that reaches your \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ as an \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of a blueberry \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the mirror.

1. Image size and distance



* 1. Rays are shown coming from three different \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ on the bird.
  2. These rays \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ off the mirror and back to the bird’s \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
     1. Notice that the points appear to be coming from \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the mirror.
     2. Each point appears to be coming from a point that is as far \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the mirror as the real point is in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of the mirror.
     3. Also notice that the three points are exactly the same \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ apart in the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ as they are on the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, the bird.
  3. A plane mirror produces an \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ with the same \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ as the object.
     1. If you are standing on your feet, a plane mirror produces an \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of you standing on your feet.
     2. The ray that diverges from the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ hand of the boy converges at what appears to be the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ hand of his image.
     3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ appear to be \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ by a plane mirror.

1. A \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ mirror is a mirror that curves \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
   1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ mirrors reflect light rays to form \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
   2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ light rays bounce off the curved surface of a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ mirror and then meet at a single point called the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ point.
      1. Light rays are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (coming together) at the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ point.
   3. The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ formed by a concave mirror depends on how far the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is from the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ point of the mirror
      1. If a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ object is reflected in a concave mirror, its image is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and upside down.



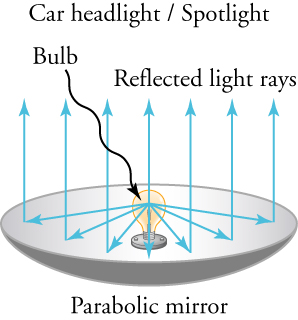
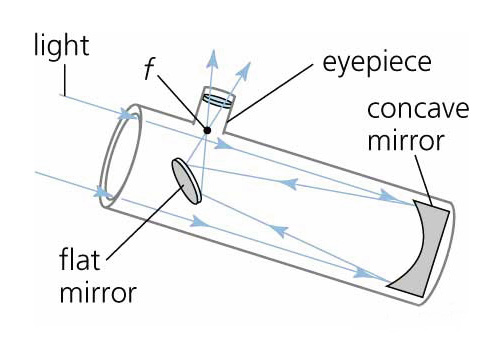
* + 1. As the object approaches the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ point, its image remains \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ but gets ever \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.



* + 1. If the object is between the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ point and the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, then the image appears to be \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ than the object and is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

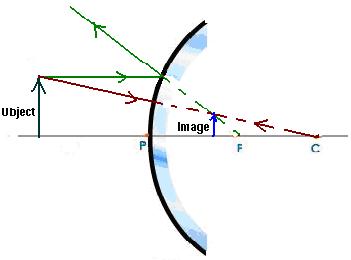


* 1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ mirrors have many uses
     1. If a bright light is placed at the focal point, then all the light rays bounce off the mirror and are reflected \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to each other.
        1. This makes an intense, focussed \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of light.
        2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, flashlights, lighthouses, and car \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ use this kind of mirror.

* + 1. The largest \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ all use concave mirrors to collect \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ because the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ concentrates the light so effectively.

1. A \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ mirror is a mirror that curves \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
   1. Convex mirrors also reflect light rays to form an \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, but in an \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ way to concave mirrors.
      1. A convex mirror reflects \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ light rays as if they came from a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ point \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the mirror
      2. Light rays that \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ apart after reflecting are described as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
      3. The image formed is always \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ than the actual object.



* + 1. More objects can be seen in a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ mirror than in a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ mirror of the same size.
  1. Security \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, such as those in convenience stores, are large \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ mirrors.
     1. Convex mirrors make it possible to monitor a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ region of the store from a single location.
     2. Convex mirrors can also \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the view of traffic that can be seen in rearview or side-view mirrors of automobiles.
        1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ seen in a convex mirror are not realistic
        2. Most \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ side-view mirrors carry a printed warning that the objects viewed are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ than they appear to be