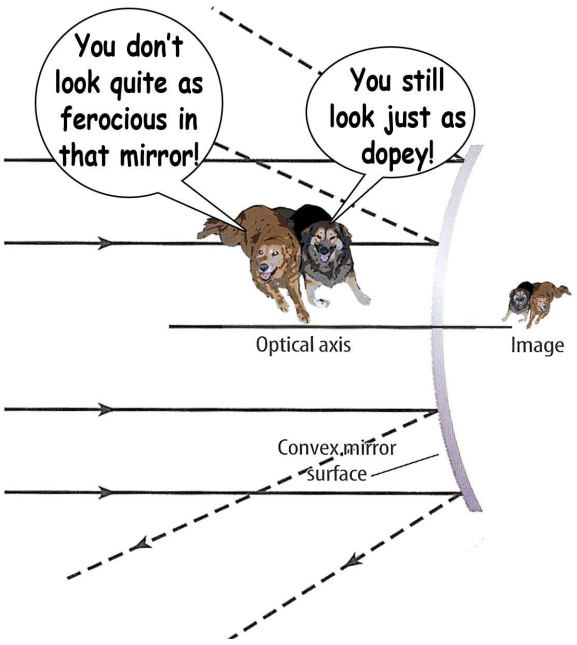
Physics: Form WS9.4.1A Name _____

LIGHT Date _____ Period _____

Convex Mirrors

A convex mirror is mirror with a surface that curves outward. Normals drawn perpendicular to the curved surface of a convex mirror diverge or spread out. The law of reflection tells us then, that the reflected rays of a convex mirror coming from parallel incident rays will also diverge. A convex mirror causes light rays to spread out or diverge. Since the reflected rays of a convex mirror diverge, the mirror does not focus them. The rays of a convex mirror appear to come from a focal point behind the mirror. As a result, a virtual image forms. The image of a convex mirror is virtual, always upright, and appears behind the mirror. It is always smaller than the object. Convex mirrors extend the field of view. They can be used as blind spot car mirrors, at traffic intersections, and for surveillance.



Answer the questions below based on the reading above and on your knowledge of physics.

1. Why doesn't a convex mirror focus light? _____

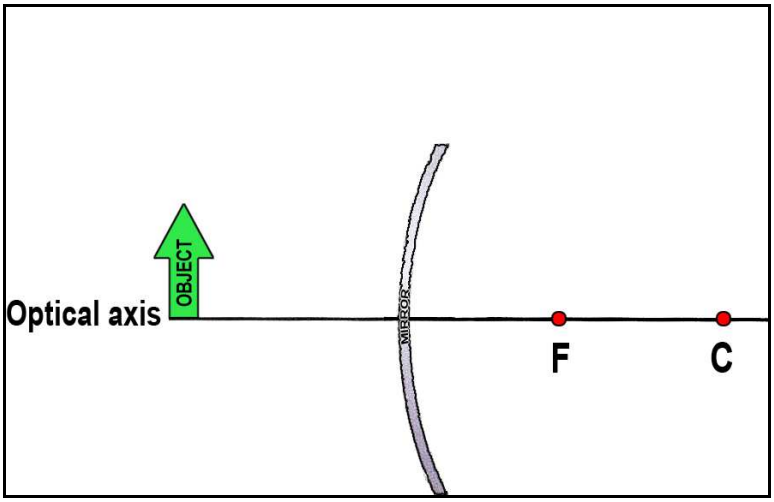
   _____

   _____

2. Why is the image formed by a convex mirror virtual? _____

   _____

3. In the space to the right, draw a ray diagram showing the formation of the image.



4. What are some uses for convex mirrors? _____

   _____

   _____

5. Explain why convex mirrors can be used in the way they are. _____

   _____

   _____