

1. Draw a convex (bi-convex) lens and illustrate its focal point.

2. Draw a concave (bi-concave) lens.

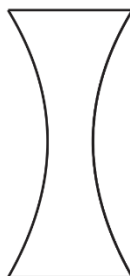
3. In what situation can a **convex lens** cause an object to appear **larger and right-side up**? Draw a picture showing how this happens.



4. In what situation can a **convex lens** cause an object to appear **upside-down**? Draw a picture showing how this happens.



5. What do objects look like when viewed through a **concave lens**? Draw a picture showing how this happens.



6. In what situation can a **concave mirror** cause objects to appear **larger than usual and right-side up**? Draw a picture showing how this happens.



7. In what situation can a **concave mirror** cause objects to appear **upside-down**? Draw a picture showing how this happens.



8. What do objects look like when viewed in a **concave mirror**? Draw a picture showing how this happens.



9. When viewed from a boat, do fish appear **larger or smaller** than they really are? Draw a picture showing how this happens.

