When you have completed your assignment, submit it to the dropbox.

Create each of the situations below. In doing so, design a lens system for each. Be sure to choose a focal length for your lens and a position for the object. Use a ray diagram to justify your choices. Classify your images by type (real/virtual), orientation (upright/inverted), and size (smaller/same size/larger).

1. A magnifying glass that will help stamp collectors see details on their treasures.
2. A movie projector that will produce an enlarged, real image.
3. A lens that will make a reduced, virtual image for use as a telescope objective.

**Checklist:**

As you complete your assignment, please review the checklist below to ensure that you have included all needed items.

|  |
| --- |
| ***Your assignment should include all of the criteria listed below to receive full credit.***  |
| **Included?** | **Item** |
|  | 1. Each of the three situations is represented.
 |
|  | 1. For each situation, a focal length for your lens and a position for the object are given to create the effect described.
 |
|  | 1. For each situation, a scaled ray diagram is drawn on grid paper to support the student's choices in setting up the situation.
 |
|  | 1. For each situation, images are classified by type (real/virtual), orientation (upright/inverted), and size (smaller/same size/larger).
 |
|  | 1. Presents information clearly to audience.
 |
| ***You may need to use resources outside of this course to complete this assignment. If so, please submit a Works Cited document. If you need assistance, visit the Developmental Module for information on citing any resources that you used.*** |
| **Included?** | **Item** |
|  | For resources used outside of the course, a Works Cited document is submitted along with the assignment.  |