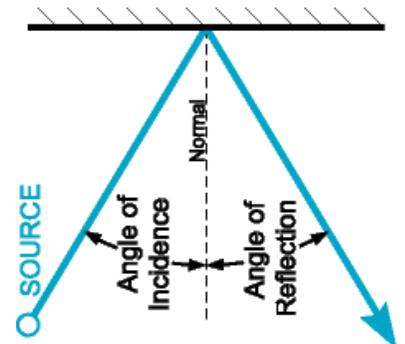
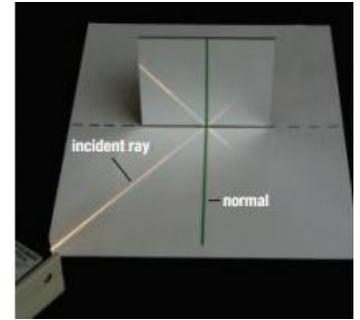
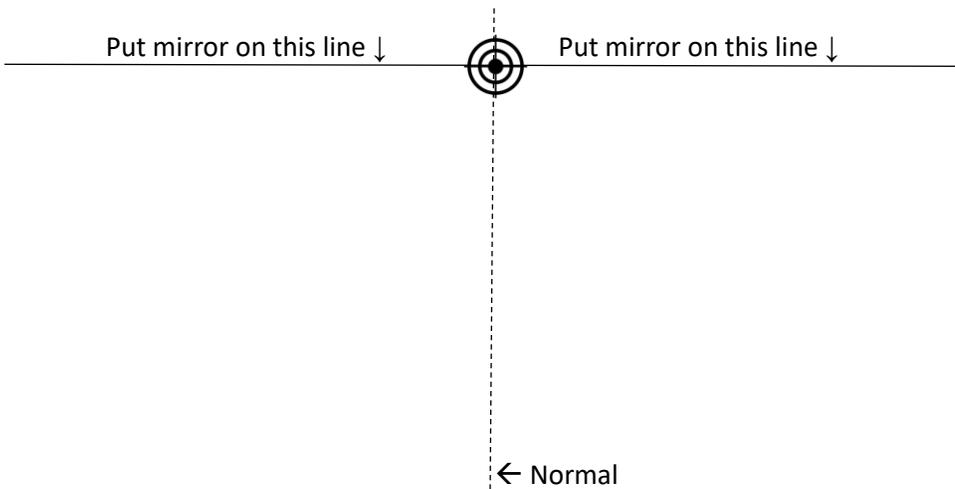


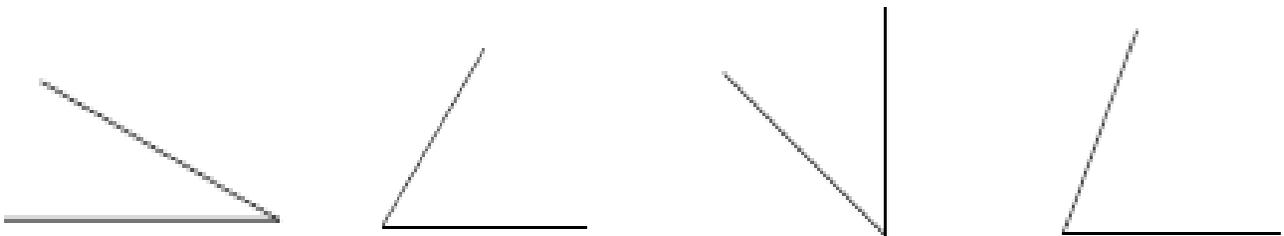
Activity 1: Reflecting Light Off a Plane Mirror



1. Shine the ray box with 1 beam of light towards the mirror so that it hits the "target" where the normal touches the mirror.
2. Trace the incident ray in **green**. Add an **arrow** to show the light is heading towards the mirror. \longrightarrow
3. Trace the reflected ray in **green**. Add an **arrow** to show the light is heading away from the mirror \longrightarrow
4. **Repeat** for **2 different angles of incidence**, using a different colour for each set of rays.

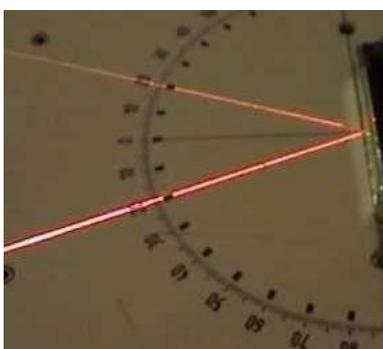
Activity 2: Measuring Angles

1. Practice measuring angles using a protractor at <http://bit.ly/2gPqil4>
If you get stuck click on the **HINT** button
2. Play **alien angles** to practice estimating angles <http://bit.ly/1clJZLf>
3. Use a protractor to measure the following angles. Write the measurement below each one.

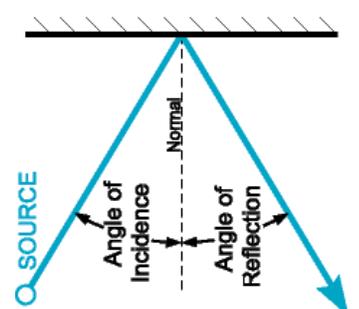


Activity 3: Reflection Measurements

1. Shine the ray box with 1 beam of light towards the mirror at the angle shown in the chart for trial 1.



Trial	Angle of Incidence	Angle of Reflection
1	10°	
2	25°	
3	45°	
4	75°	

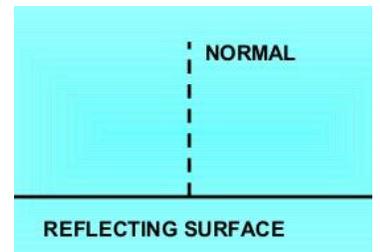


2. Use the protractor to measure and record the **angle of reflection** from the mirror.

Activity 4: Along the Normal

1. Shine the light ray box with 1 beam of light directly along the normal.
2. **Take a picture**
What happens?

Why do you think this happens?



Activity 5: Using Miras to Find Reflected Images

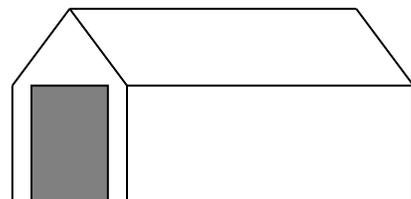
1. Place the Mira (red plastic) so that the image of the **point P** shows up on top of the **point Q**
2. Trace a line along the bottom of the Mira.
3. Measure the distance from the dot Q to the Mira line and dot P to the Mira line.
What do you notice?
4. Draw an **X** where the image of X is located.

Q •

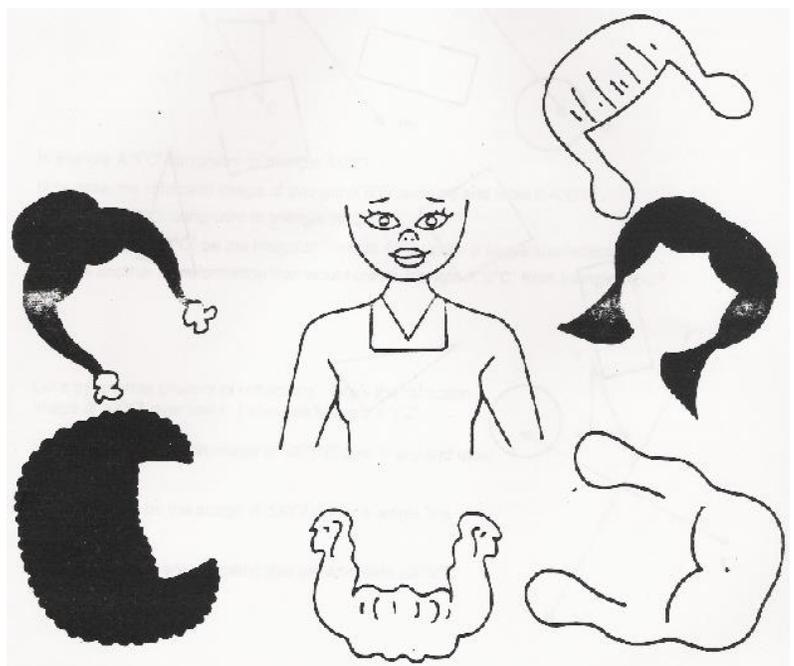
X •

5. Use the Mira to park the image of the car into the garage.
6. Trace the bottom of the Mira.
7. Trace the image of the car
What do you notice about the position of the car?

P •



8. Pick a wig and where to put the Mira
place the wig on the girl's head.
9. Trace the bottom of the Mira
location.
10. **Repeat** for a second wig



11. Use the Mira to show where the reflected image appears.

