

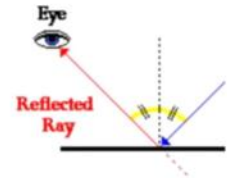
# 5.2 notes

April 20, 2020 9:17 AM

## 5.2 Notes

March 31, 2020 9:45 AM

Science 8  
**5.2: Mirrors and Reflection**



### What is a Mirror?

Anything that reflects light so that a visible image is produced is known as a mirror.

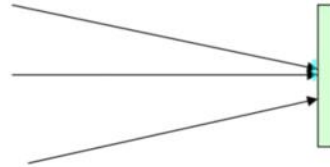
EX: - windows - shiny metal  
- a spoon - surface of a puddle

The image produced by mirror is known as a reflection

There are 3 types of mirrors we will be looking at:

### 1. Flat or Plane Mirror

Reflect light at the same angle



\* follows the law of reflection

### 2. Concave Mirrors

Reflect light to converge into a single point called a focal point



Point where rays cross = FOCAL POINT

Image produced depends on how FAR object is from the mirror.

mirror curves inward like a "CAVE"

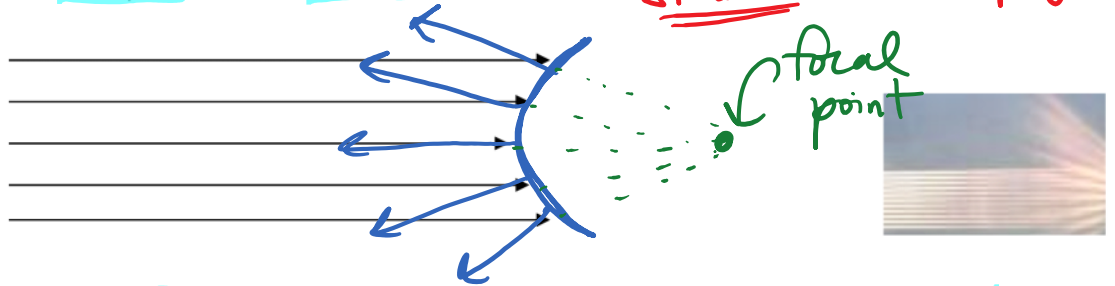
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### 3. Convex Mirrors

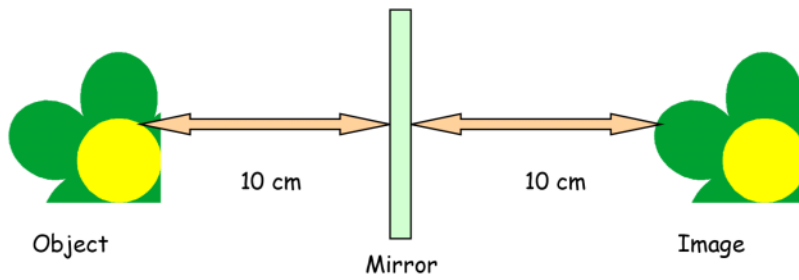
Reflect light to diverge

Focal point is on the other side of the mirror

*\* Always produce images that are smaller and upright!*

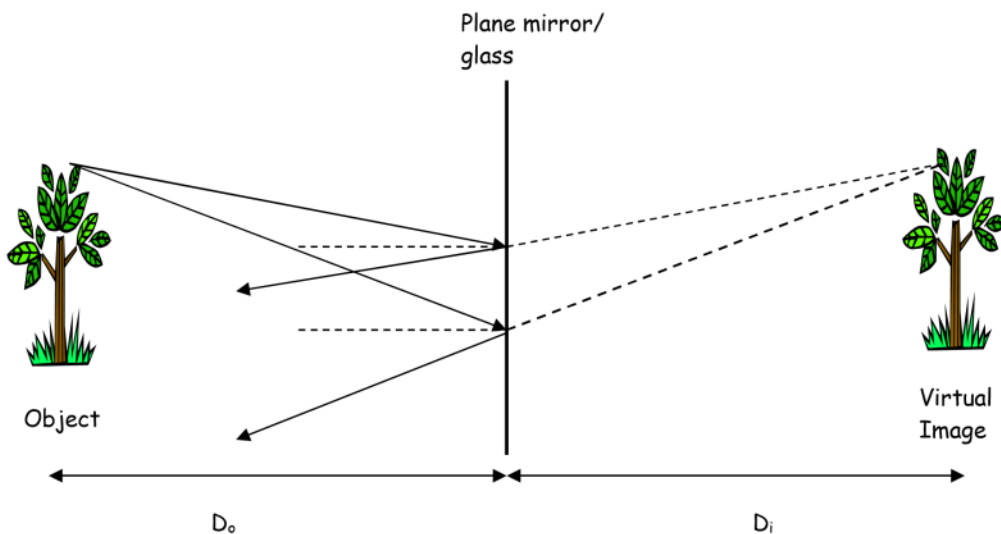


The distance from the object to the mirror is the same distance from the mirror to the image.

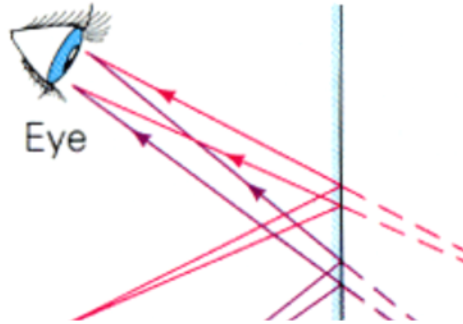


*- So mirrors do not change how far away you are in the reflection*

How a mirror works...



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Try This!

Concave mirrors – Image size

Read Page 185 about Concave mirrors. Draw and label figures A, B and C.

A

B

C

draw these 3 pics on paper so you know how distance affects the image produced!

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Mirrors Activity

Try this with a mirror @ home

**Looking in a Flat Mirror**

If you look in a mirror and blink your right eye, which eye of the reflected person will blink back at you?

This effect is called lateral inversion.

**Finding the distance to your image**

Place a 15cm ruler with one end on your nose and the other on the mirror. Using the image of the ruler, how far away is the reflection image from the mirror's surface?

Distance from nose to mirror = \_\_\_\_\_ cm  
Distance from mirror to image = \_\_\_\_\_ cm  
Total distance from nose to image = \_\_\_\_\_ cm

**Image of letters**

Write down how you think the images of these letters will look in a mirror

R            S            b            e            o            a            y

Look at these images in a mirror and write down what they actually look like

R            S            b            e            o            a            y

**The image of your name**

Write down your full name in the space below so that it will appear normal when you look at it in the plane mirror. Test it and correct any incorrect inverted letters.

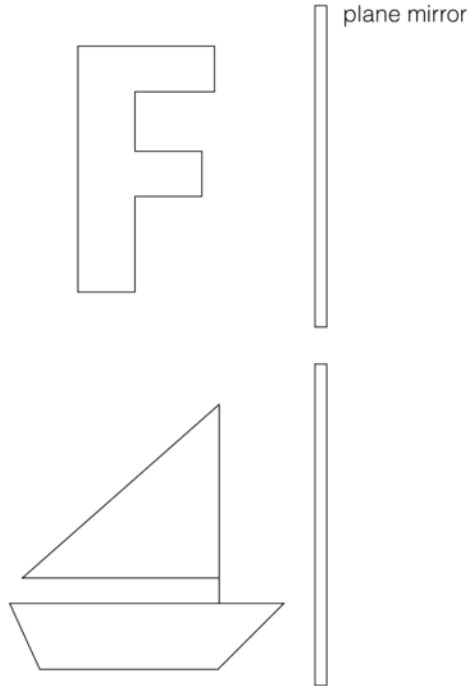
Try This!

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What You See is What You Get!

Name \_\_\_\_\_  
Date \_\_\_\_\_ Per \_\_\_\_\_

1. Use a ruler to draw the reflected images of the objects below.



2. Were there any differences between the object and its image in the plane mirror with respect to:

(a) size?

F \_\_\_\_\_

Sailboat \_\_\_\_\_

(b) distance from the mirror?

F \_\_\_\_\_

Sailboat \_\_\_\_\_

(c) orientation?

F \_\_\_\_\_

Sailboat \_\_\_\_\_

Try This

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**Reading With a Mirror**

Name \_\_\_\_\_  
Date \_\_\_\_\_ Per \_\_\_\_\_

Use a mirror to read the three messages below. Then answer the following questions.

Image A

**What is the main  
difference between  
an object and its  
reflection in a plane  
mirror?**

Image B

**?egami rorrin a siht sl**

Image C

**Wstl dsqqenob h9r9?**

1. Which of these images is a true reflection in a plane mirror?
2. How were the other images made?
3. Consider all of the letters of the alphabet. What capital letters look the same when they are reflected in a mirror?


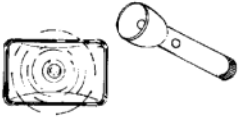






Do This!

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**Identifying Mirrors**

Name \_\_\_\_\_  
Date \_\_\_\_\_ Per \_\_\_\_\_

Identify the type of mirror (plane, convex, or concave) used in each situation below. Write your answer on the line provided.

<p>1. Bathroom wall mirror</p>  <p>Purpose: to show your exact appearance Type of mirror: _____</p>	<p>2. Car headlights and flashlights</p>  <p>Purpose: to project a strong beam forward Type of mirror: _____</p>
<p>3. Store surveillance mirror</p>  <p>Purpose: to show a wide view Type of mirror: _____</p>	<p>4. Cosmetic mirror</p>  <p>Purpose: to show a magnified view of parts of your face. Type of mirror: _____</p>
<p>5. One-way mirror</p>  <p>Purpose: to see into a brightly lit room; looks like a mirror to the people being observed Type of mirror: _____</p>	<p>6. Car mirror</p>  <p>Purpose: to show a wide-angle view behind and beside the car Type of mirror: _____</p>
<p>7. Dental mirror</p>  <p>Purpose: to make teeth visible and to magnify them Type of mirror: _____</p>	<p>8. Reflecting ball at a dance</p>  <p>Purpose: to project portions of lights hitting it in many different directions Type of mirror: _____</p>