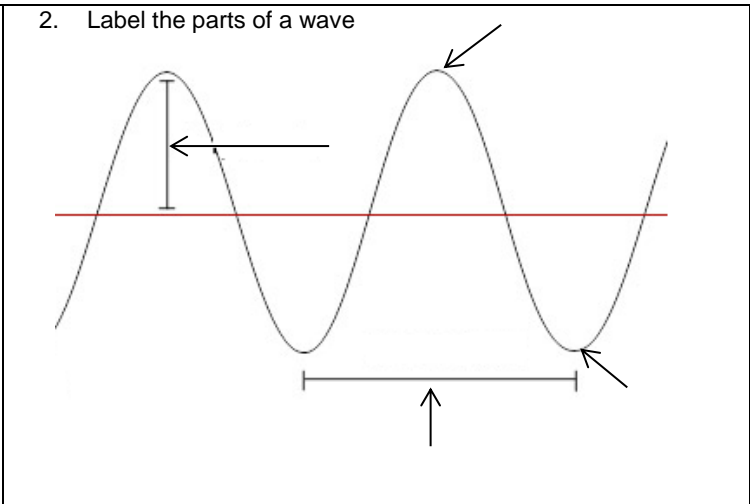


1. Properties of light



3. What is the Electromagnetic spectrum –

The electromagnetic spectrum is made up the following

Shortest wave length

Longest wavelength

Write the name of the visible wavelengths from long to short

4. What is the difference between incandescent and luminescent light? Give some examples

5. What are the different types of light you have studied with few examples

6. Draw a diagram with the following:

- A plane mirror
- A normal
- An incident ray with an angle of incidence of  $25^\circ$
- A reflected ray

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State the Law of Reflection and explain how your ray diagram follows the law.

7. Draw a diagram with the following:

- A plane mirror
- A normal
- An incident ray with an angle of incidence of  $83^\circ$
- A reflected ray

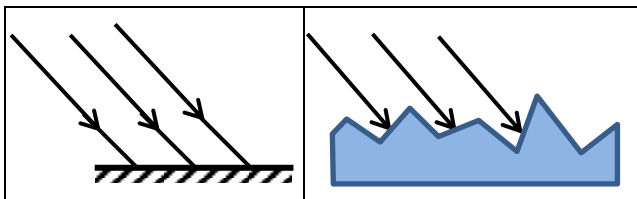
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State the Law of Reflection and explain how your ray diagram follows the law.

8. Match each descriptor on the left with the best term on the right. Each descriptor may be used only once.

Term	Description
1. ___ angle of incidence	A. a smooth, flat reflecting surface
2. ___ angle of reflection	B. the point where reflected rays meet when incident rays are parallel to and near the principal axis
3. ___ center of curvature	C. the point that is the same distance from all points on the surface of a curved mirror
4. ___ concave mirror	D. the angle between the incident ray and the normal
5. ___ convex mirror	E. the angle between the reflected ray and the normal
6. ___ focal point	F. an image that is formed when light rays meet and do not have to be extended backward
7. ___ focal length	G. the distance from the mirror to the focal point
8. ___ incident ray	H. an image that is located behind a mirror
9. ___ normal	I. a line that is perpendicular to a surface
10. ___ plane mirror	J. a line drawn through the center of a spherical mirror, and through the vertex
11. ___ principal axis	K. a light ray that "bounces off" a surface
12. ___ reflected ray	L. a light ray that travels toward a mirror
13. ___ real image	M. a mirror that "caves in"
14. ___ virtual image	N. a mirror that bulges outwards.

9. Explain the difference between specular and diffuse reflection. Use the diagrams provided to illustrate your explanation.



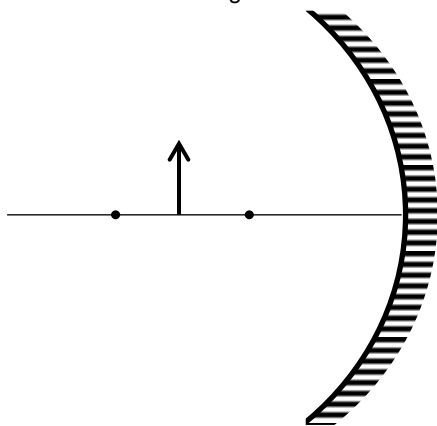
Give an example of a surface that would show diffuse reflection and a surface that would show specular reflection.

Which type of reflection obeys the laws of reflection?

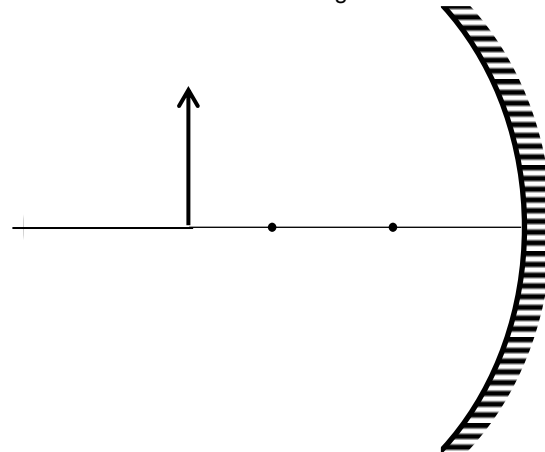
10. Draw a fish 1.5 cm high and 3 cm in front of the plane mirror. Draw a picture of its image. Make sure the image distance is correct for three points on your drawing.



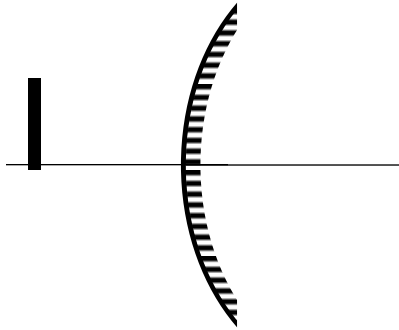
11. Draw a ray diagram to find the image of the object, then state the characteristics of the image



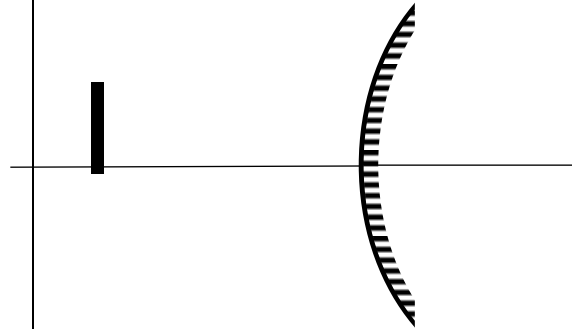
12. Draw a ray diagram to find the image of the object, then state the characteristics of the image.



13. Draw the image of the letter I if the focal length of the mirror is 2.0cm



14. How would the image change as the I moves further from the mirror?



15. Complete the following table to describe the characteristics of the image in each situation.

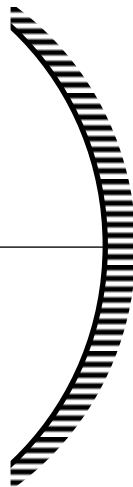
Type of Mirror	S _____	A _____	L _____	T _____
Plane Mirror				
Concave Mirror	---	---	---	---
object between F and V				
object between C and F				
object beyond C				
Convex Mirror				

16. When listing the characteristics of a concave mirror, we had to consider three different cases. Why didn't we need to do this for the convex mirror?

17. Identify the type of mirror that is best suited for each use

	Type of Mirror
Dentist Mirror	
Security Mirror	
Dressing Room	
Passenger side mirror on a car	
Hallway safety mirror	
Flashlight	

18. The focal length of a make-up mirror is 35cm. How far away from the mirror should you be in order to see a magnified, upright image in the mirror? Draw a ray diagram to support your answer.



19. A concave mirror has a focal length of 6.0cm. An object with a height of 1.5cm is placed 10.0cm in front of the mirror. Calculate the image distance and height.

20. The passenger-side rearview mirror on a car has a focal length of -2.5m. A person with a height of 1.5 m is standing 5.2m away from the mirror. Calculate the height and distance of their image using a ray diagram.

21. Complete the table to compare and contrast concave and convex mirrors

	Concave	Convex
Description (what does it look like)		
Type of image produced		
Location of Focal Point		

22. Complete the following table to compare and contrast real and virtual images

	Real	Virtual
How they are formed		
Where they are located		
How do we view them		
What type of mirror produces this type of image?		