

Concave Mirrors

Types of Curved Mirrors

- **Concave**
- **Reflective surface curves in**



- **Convex**
- **Reflective surface curves out**

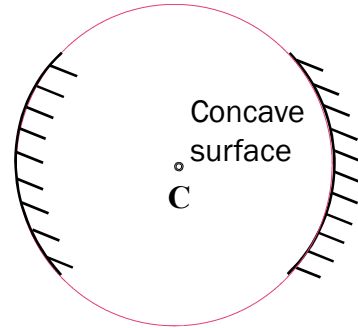


Terminology

► Centre of Curvature (C)

► The centre of the sphere used to make the curve of the mirror

Convex surface

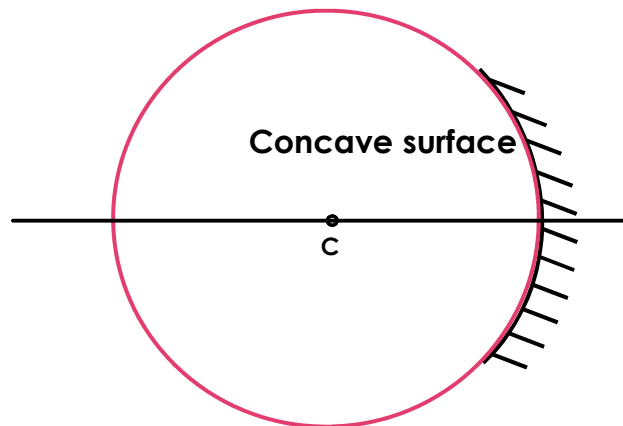


Terminology

► Principal Axis

► The line through C to the midpoint of the mirror

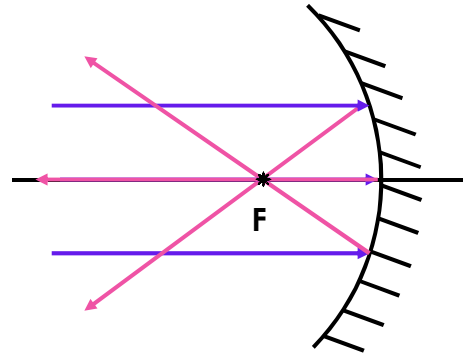
Concave surface



Terminology

► Focus (F)

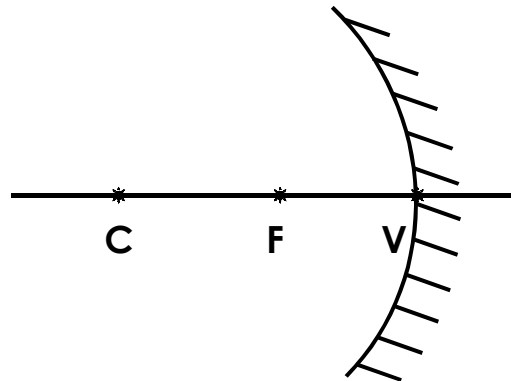
- Rays parallel to the principal axis meet at one point, F.



Terminology

► Vertex (V)

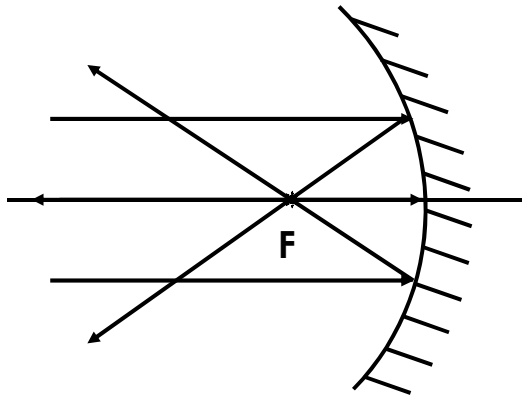
- The point at which the principal axis meets the mirror



Terminology

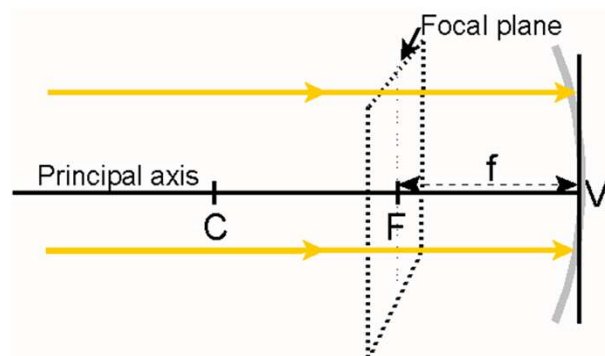
► Converge

► To meet at a common point



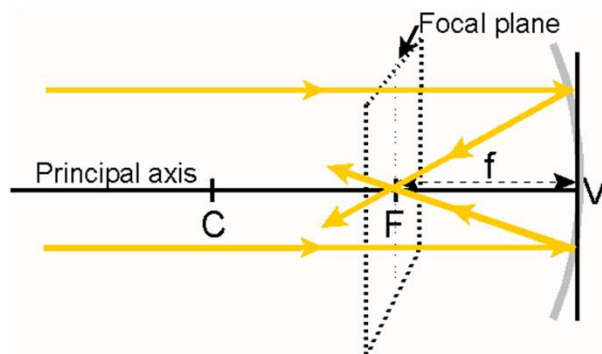
Characteristic Rays

► Incident rays of light parallel to the principal axis...



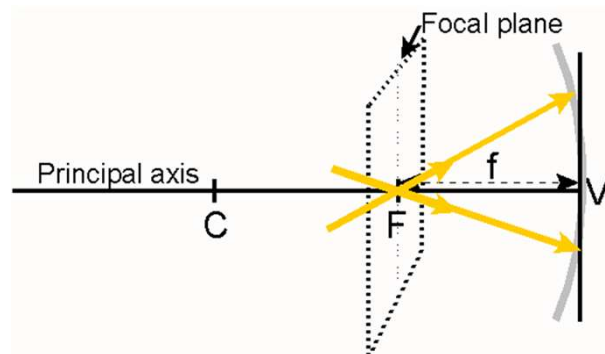
Characteristic Rays

- ... reflect through the focus, F .



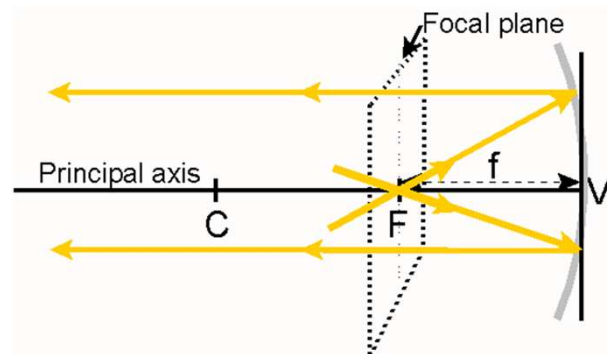
Characteristic Rays

- Incident light passing through the focus...



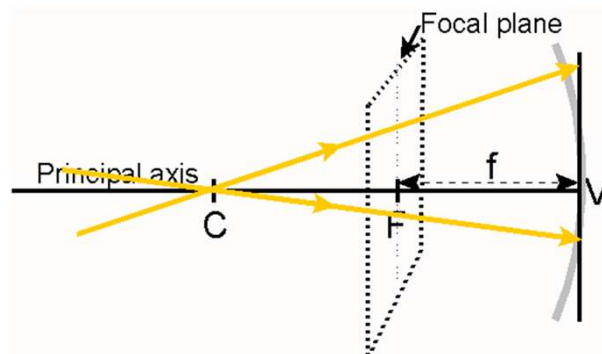
Characteristic Rays

- ...reflect parallel to the principal axis



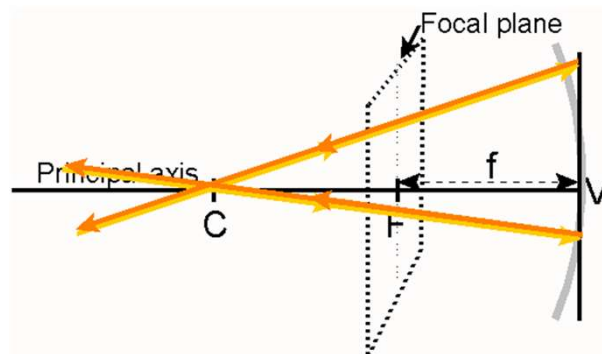
Characteristic Rays

- An incident ray passing through the centre, C, will...



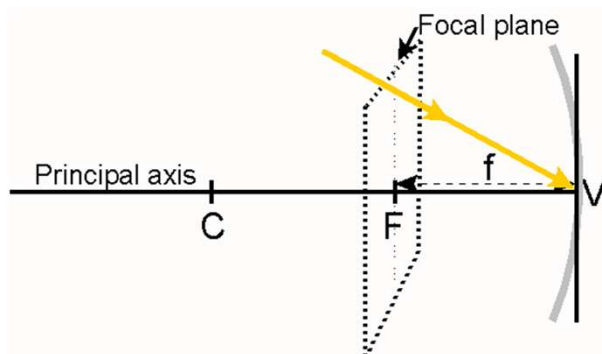
Characteristic Rays

- ...reflect back upon itself!



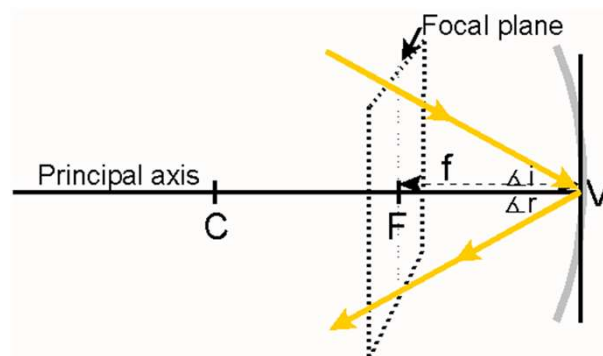
Characteristic Rays

- An incident ray striking the vertex, V, will...



Characteristic Rays

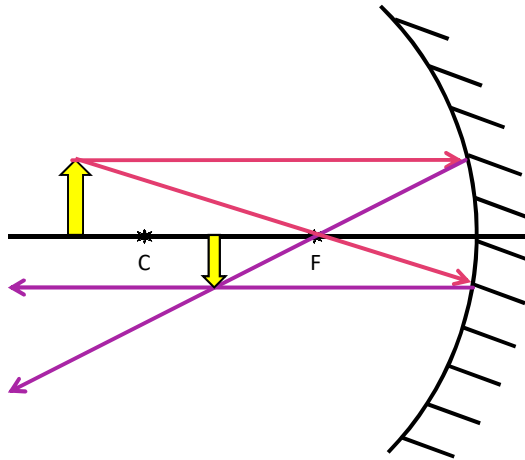
- ... reflect back with the same angle!
- Remember the law of reflection!



Locating Images - SALT

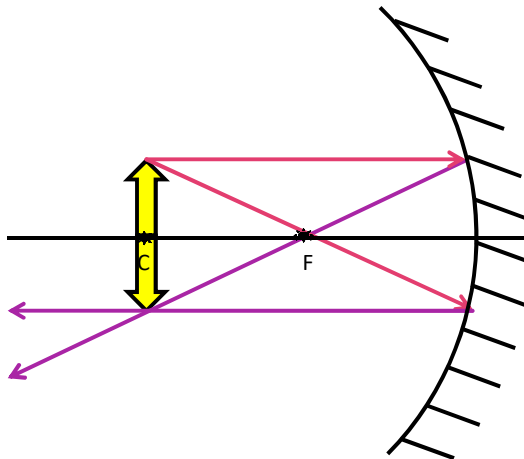
Salt	Options
Size of Image	Smaller, Larger, or Same Size
Attitude	Upright or Inverted
Location	Behind the mirror, Between C and F, In front of F, Behind C
Type	Real - image formed in front the mirror Virtual - image formed behind the mirror

Object is beyond C



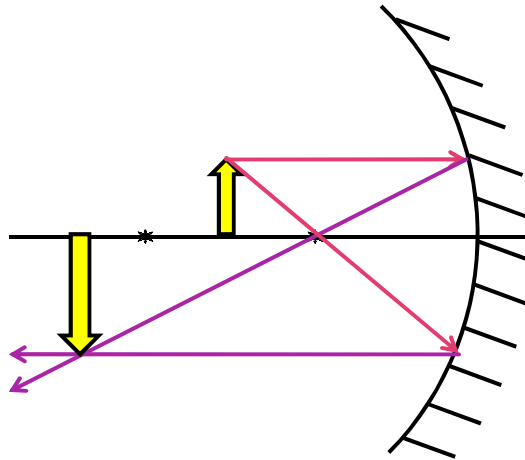
S	Smaller
A	Inverted
L	Between C & F
T	Real

Object is at C



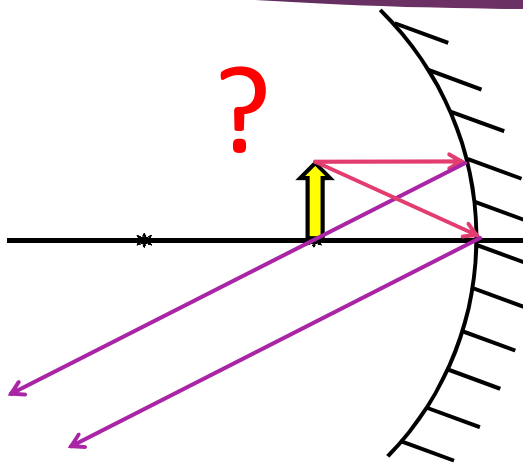
S	Same Size
A	Inverted
L	At C
T	Real

Object is between C & F



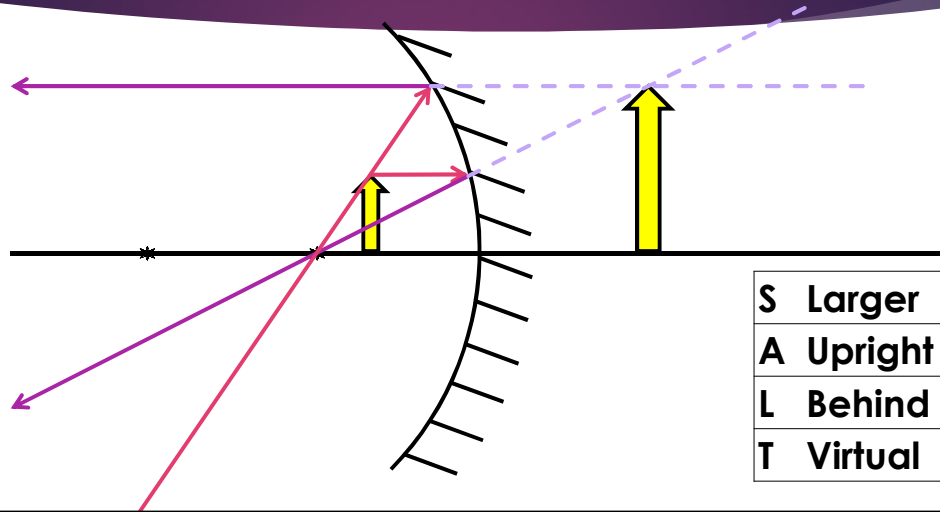
S	Larger
A	Inverted
L	Beyond C
T	Real

Object is at F



S	↓
A	↓
L	
T	NO IMAGE

Object is in front of F



Homework

- ▶ Worksheet Questions
- ▶ Read Chapter 11.9
- ▶ Answer Questions 1-10