

# Refraction

Combined Science - Physics - Key stage 4 - Waves

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# Independent Practice

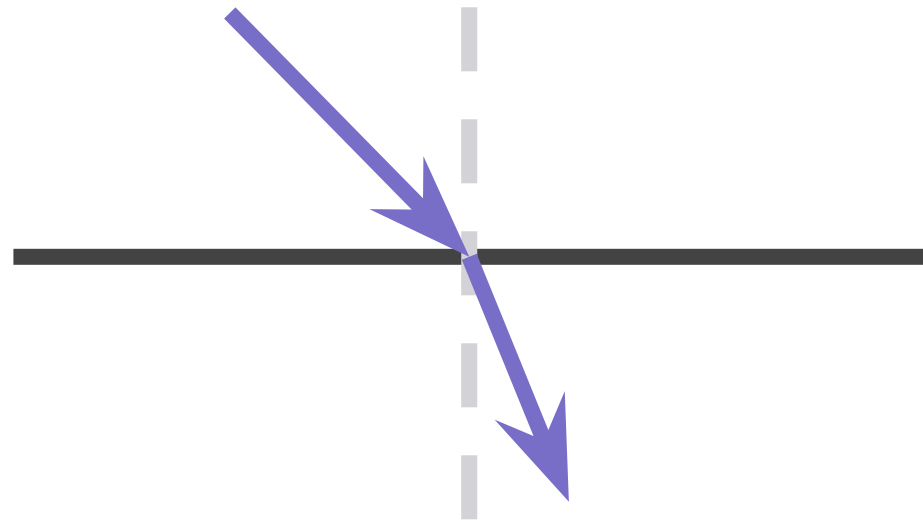
Use the following media to label each of the diagrams correctly

Air (least dense)

Glass

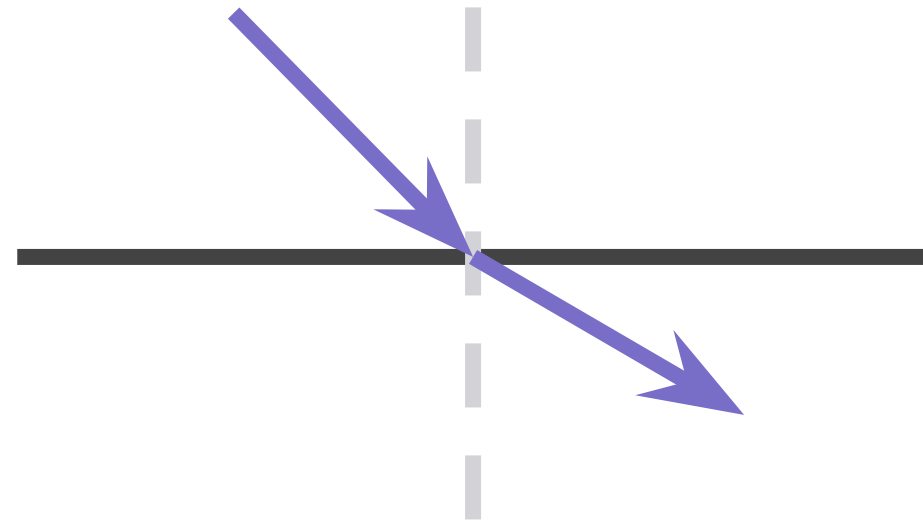
Diamond (most dense)

Glass



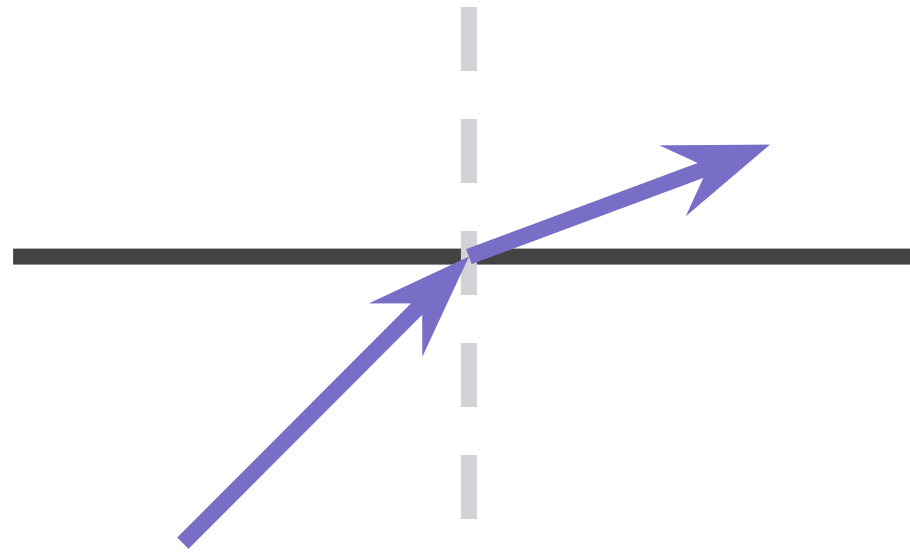
a \_\_\_\_\_

Glass



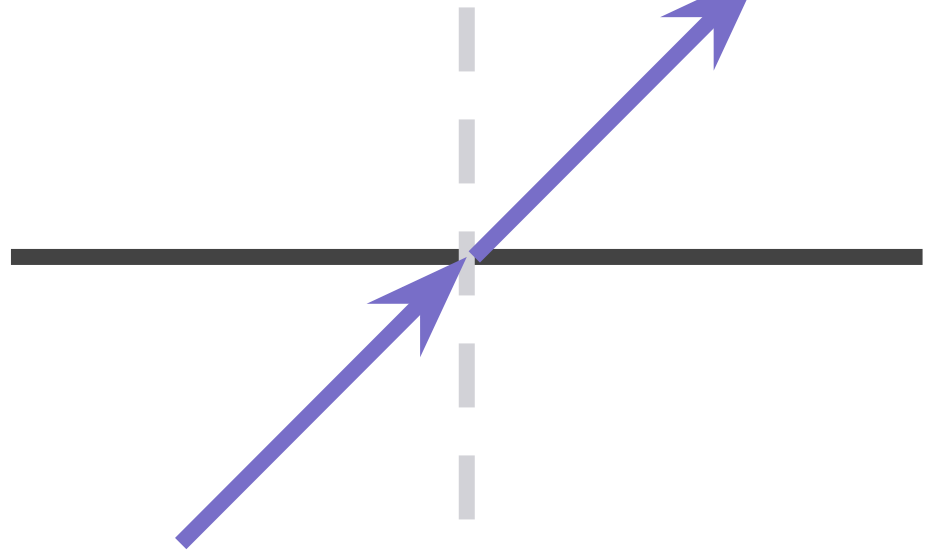
b \_\_\_\_\_

Glass



c \_\_\_\_\_

Glass



d \_\_\_\_\_



# Independent practice

1. What were your independent and dependent variables?
2. How are the angles of incidence and reflection measured?
3. Why should you draw your normal, glass block and angles of incidence before starting the practical?
4. What is the biggest source of error in the investigation?
5. What can you conclude from the investigation?

The angle of refraction is always \_\_\_\_\_ than the angle of incidence (when light is going from air into glass)

6. Name two steps to make your results accurate?



# Independent practice

Complete the sentences below to explain why waves refract

When a wave moved from one medium to another its  $v$ \_\_\_\_\_ may change

If the wave arrived at the interface and an a\_\_\_\_\_, one side of the wave will arrive before the other

This causes one side of the wave to change  $v$ \_\_\_\_\_ before the other so the wave will change  $d$ \_\_\_\_\_

The wave will have a smaller  $w$ \_\_\_\_\_ when it is travelling slower

