

Name: \_\_\_\_\_

Grade 2 (    )

Date: \_\_\_\_\_

Shadows

Objectives:

- Tell that shadows are formed when the light from a source is blocked by an object.
- Tell how the size of a shadow is affected by the position of the object and the position of the light source.

1. Tick (✓) the correct answer.

- ☐ An **opaque object** forms a shadow when it allows only **some** light to pass through it.
- ☐ An **opaque object** forms a shadow when it blocks light from passing through it.
- ☐ A **transparent object** forms a shadow when it blocks light from passing through it.

2. Sana places an object at different distances from a torch.

She keeps **the position of the torch the same** all the time.

She measures **the height of the shadow** formed each time the distance is changed.

Which type of scientific enquiry is Sana using?

**Circle** the correct answer.

**fair testing**

**observing over time**

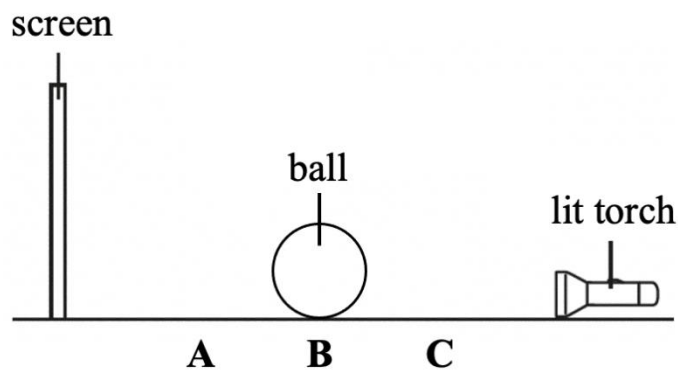
**pattern seeking**

**research**

3. A student carries out an experiment using the set-up below.

She places the ball at positions **A**, **B** and **C**.

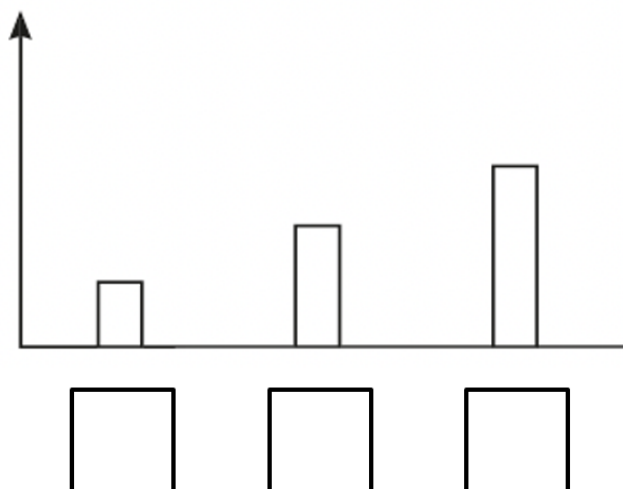
She measures the height of the ball's shadow formed each time the position is changed.



- The bar chart shows the student's results.

Write **A**, **B** and **C** in the correct boxes.

Height of the  
shadow (cm)



Position of the ball

4. Haitham investigates how the position of the object and the light source affects the **size** of a shadow.

The table shows his results.

Distance of the object from the light source (cm)	Height of the shadow (cm)
10	70
20	60
30	50
40	40
50	30

- a. What can Haitham conclude about his investigation?

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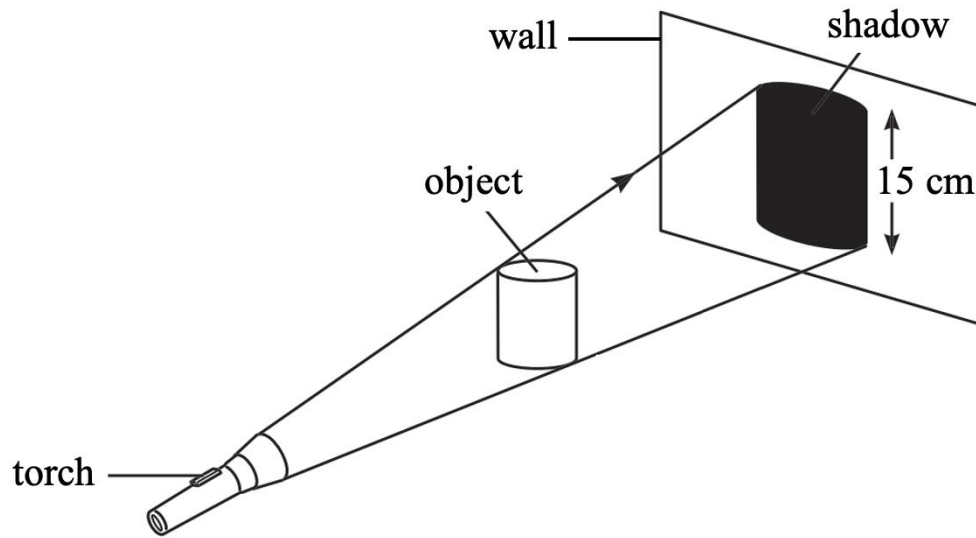
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- b. Write a suitable height of the shadow if the distance of the object from the light source is 60 cm.

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5. Fawaz shines a torch at an object.

He measures the height of the shadow formed.



- a. Name **one** instrument that Fawaz can use to measure the height of the shadow in standard units.

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- b. Fawaz finds out that the height of the shadow is 15 cm.

He wants to make the shadow smaller.

Write down **one** way in which he can make the shadow smaller.

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