

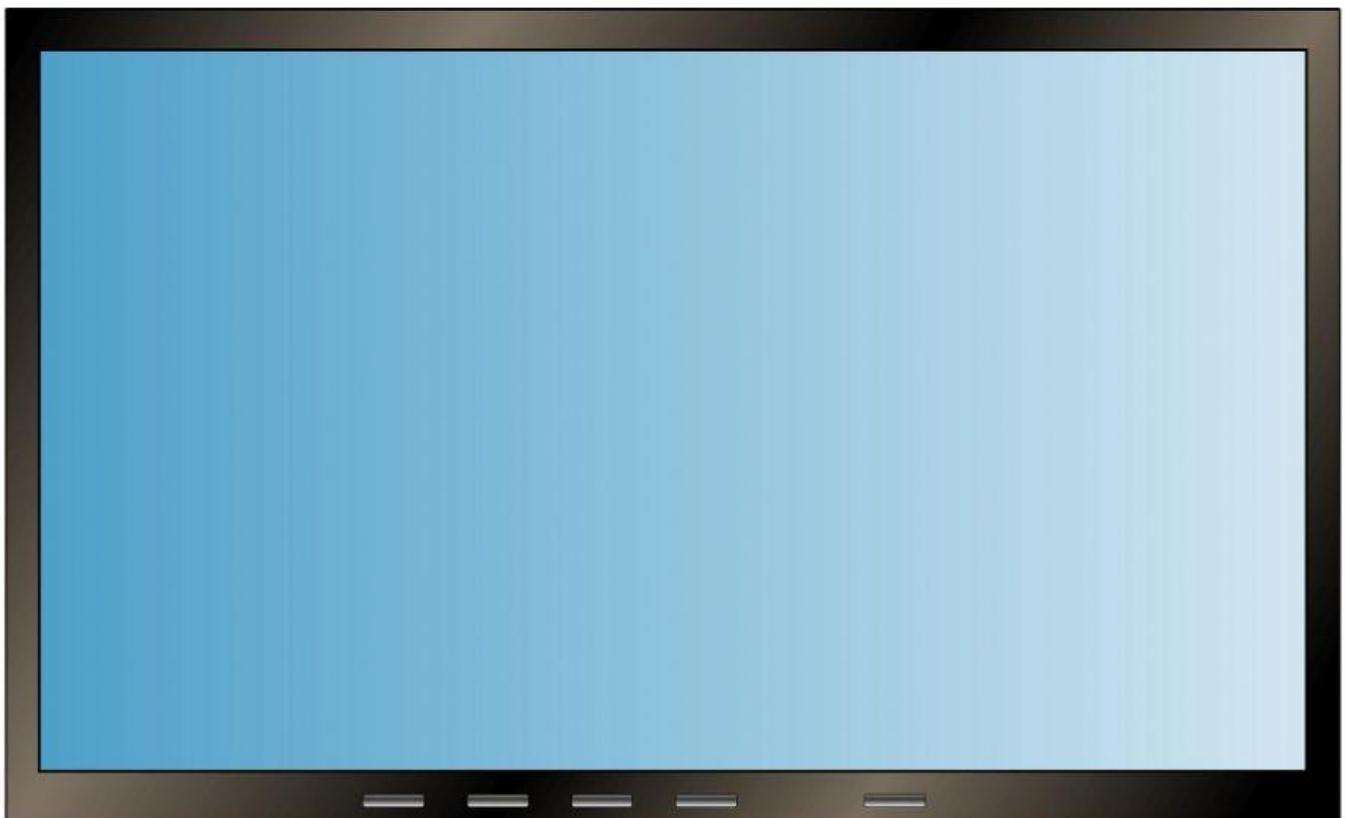
**SK CATHOLIC ENGLISH (M) KUCHING**  
**SCIENCE YEAR 2**

**PdPR Week 20**  
**Wednesday 23<sup>rd</sup> June 2021**

*Unit 6 light and dark*  
**Clarity of Shadows**

Prepared by Cikgu Hamisah

**Watch the Video Lesson below**



In the previous lesson, we have learned that a shadow is formed when light is blocked by an object.

Now, what happens when the light is blocked by a plastic book wrapper? Does it form a shadow?

Let us carry out an investigation to observe the clarity of shadows.

# INVESTIGATION

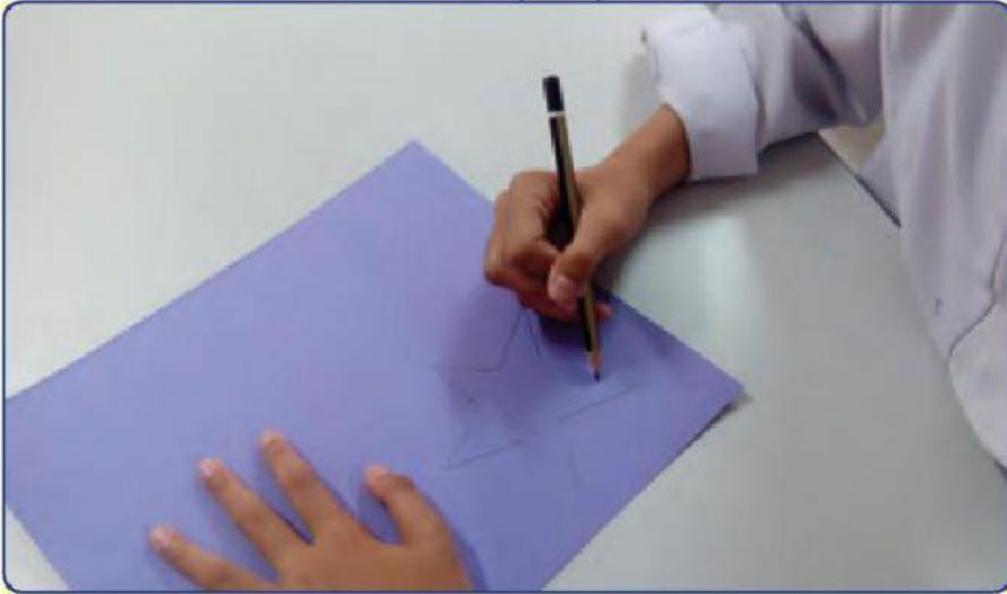
## Observe the Clarity of Shadows

### Apparatus and Materials

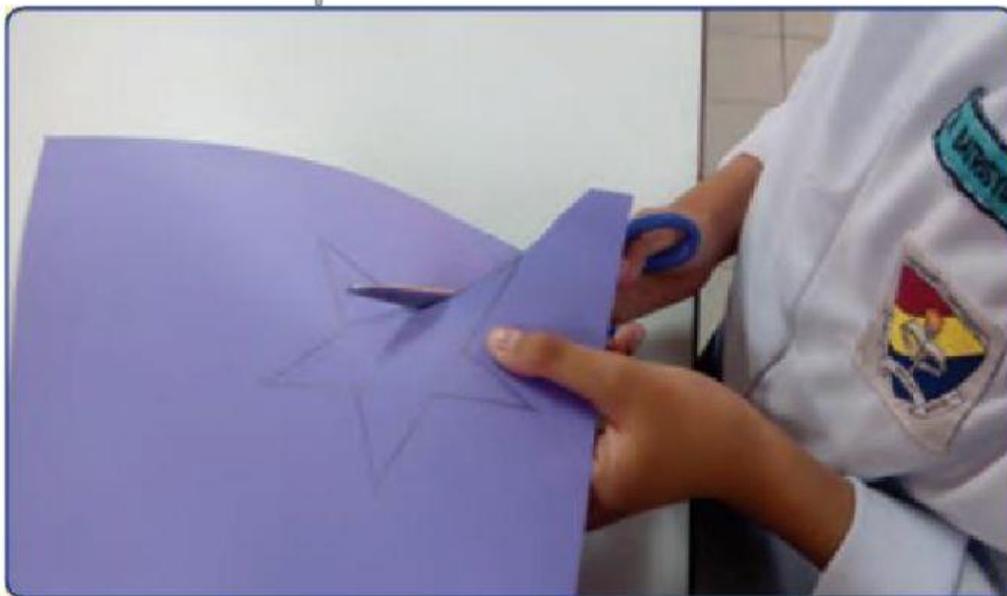
|               |               |               |
|---------------|---------------|---------------|
| White card    | Torch         | Pencil        |
| Skewer        | Scissors      | Adhesive tape |
| Plastic sheet | Tracing paper | Thick paper   |

# Steps

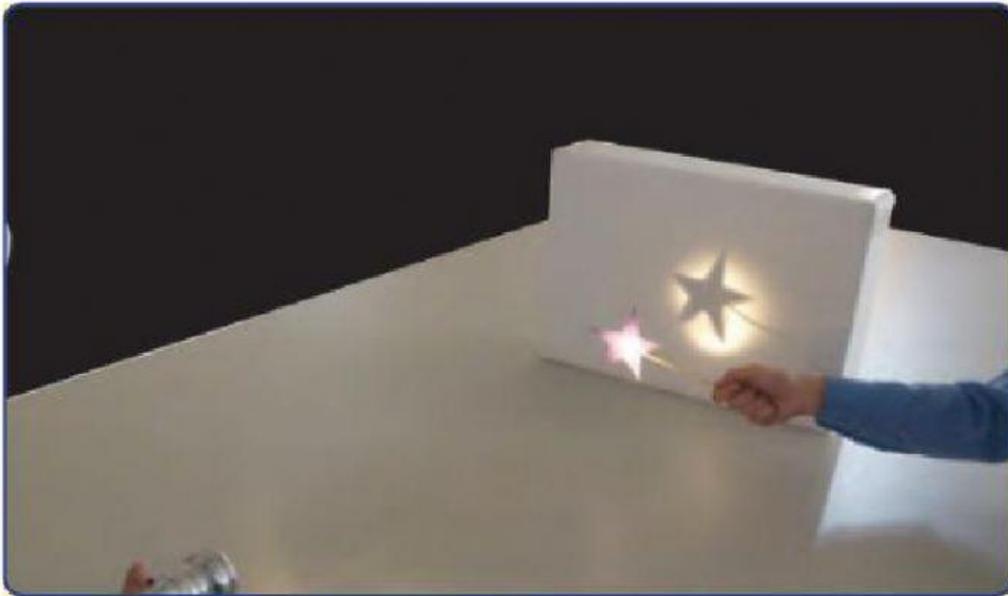
- 1) Draw the shape of a star on a piece of thick paper.



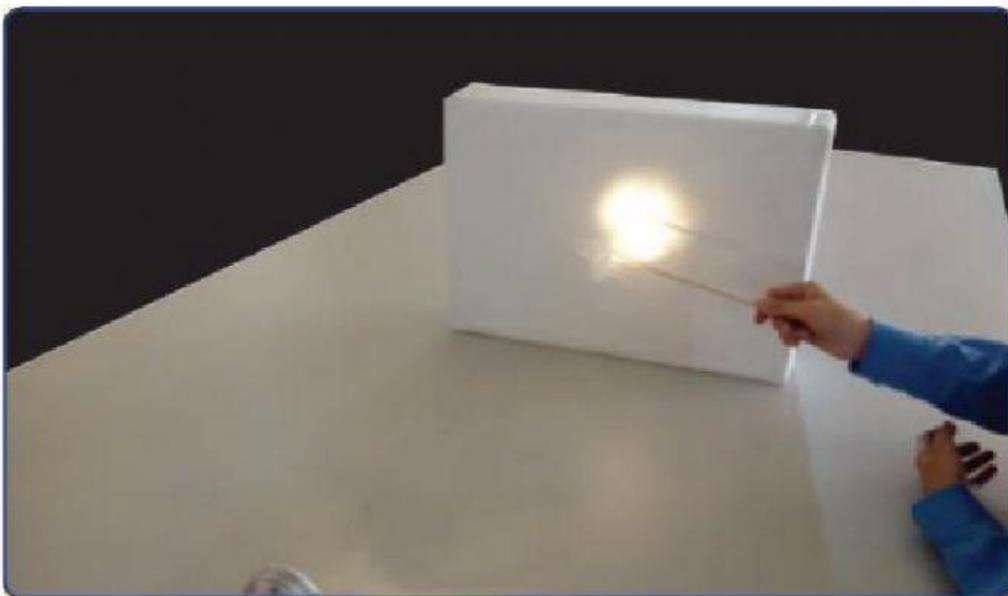
- 2) Cut and paste it on a skewer.

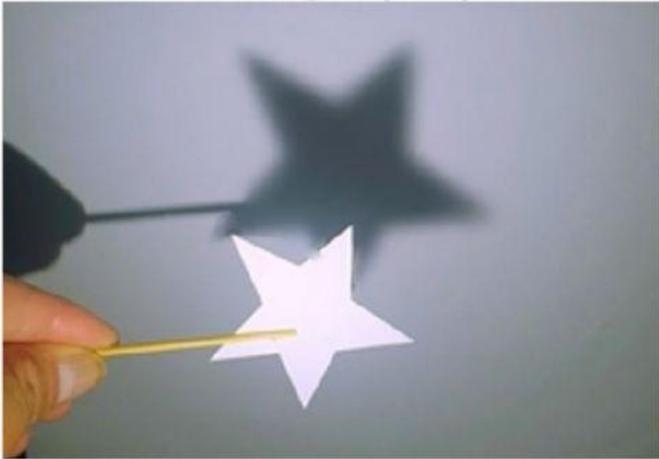


- 3) Flash the light on the star.  
Observe the shadow formed.



- 4) Repeat steps 1 to 3 using a plastic sheet and tracing paper.



| Object   | Observation |
|--|-------------|
| <p>Plastic sheet</p>    |             |
| <p>Tracing paper</p>   |             |
| <p>Thick paper</p>  |             |

5) Record your observation in the table as shown below.

| Object        | Clarity of Shadows |
|---------------|--------------------|
| Plastic sheet |                    |
| Tracing paper |                    |
| Thick paper   |                    |

### Question

Which object produced the clearest shadow? Why?

Thick paper produced the \_\_\_\_\_

because thick paper \_\_\_\_\_

light to pass through it.

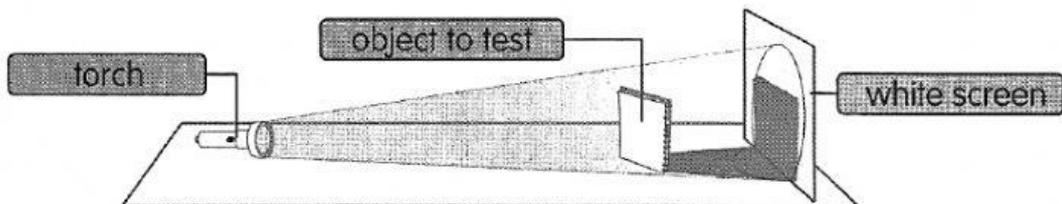
## I Investigate >> Observe the Clarity of Shadow

### Apparatus and Materials

- white screen
- torch
- objects to test

### Steps

1. Arrange the tools and materials as shown.



2. Flash the torch onto the notebook.
3. Repeat step 2 using other objects.
4. Record your observation in the table given.

| Objects       | Clarity of shadows |            |           |
|---------------|--------------------|------------|-----------|
|               | Clear              | Less clear | No shadow |
| Notebook      |                    |            |           |
| Glass bottle  |                    |            |           |
| Pencil        |                    |            |           |
| Plastic ruler |                    |            |           |
| Transparency  |                    |            |           |

### Questions

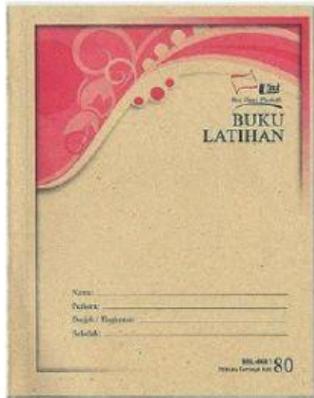
1. State an object that has no shadow from the table above.

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2. Which objects produce clear shadows?

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# Objects



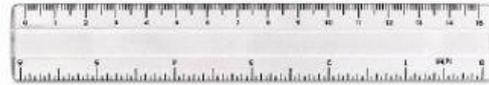
Notebook



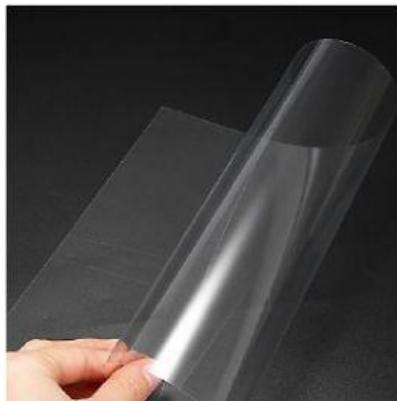
Glass bottle



Pencil



Plastic ruler



Transparency

# Observations

Record the observation in the table below.

| Objects       | Clarity of Shadows       |                          |                          |
|---------------|--------------------------|--------------------------|--------------------------|
|               | Clear                    | Less clear               | No shadow                |
| Notebook      | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Glass bottle  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Pencil        | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Plastic ruler | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Transparency  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

## Questions

1. State an object that has no shadow from the table above.

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2. Which objects produce clear shadows?

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