

**Exemplar 6: Viewing 3-D Shapes**  
**(To cater for learner differences)**

**Learning Dimension:** Shape & Space

**Learning Unit:** 3-D shapes (II)

**Key Stage:** 1

**Objectives:** (i) To describe the shapes of the faces of 3-D shapes  
(ii) To recognize different faces of some given 3-D Shapes

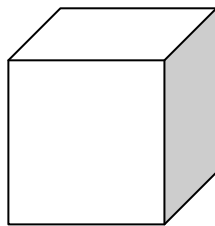
**Prerequisite Knowledge:** Identifying triangles, quadrilaterals, squares and rectangles and drawing along the edges of the shapes

**Teaching Resources:** Solids, paper and worksheet

**Description of the Activity:**

Activity1 (for average pupils):

1. The teacher shows the following 3-D shapes to the class. Pupils are requested to observe and describe the shapes of each face.



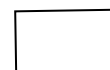
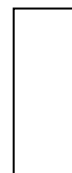
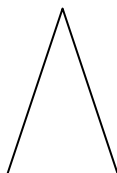
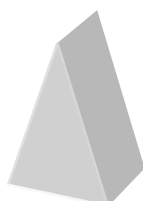
Example:



There are two triangles and three rectangles.

2. Pupils place one of the 3-D shapes on a piece of paper and draw along the edges of each face.

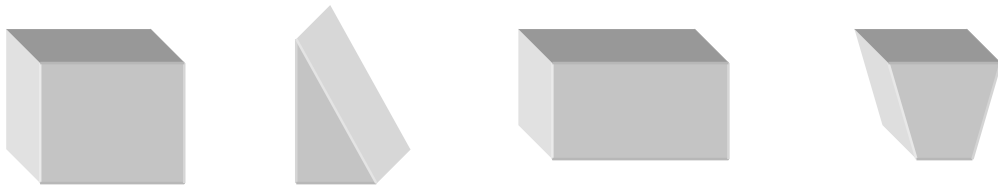
Example:



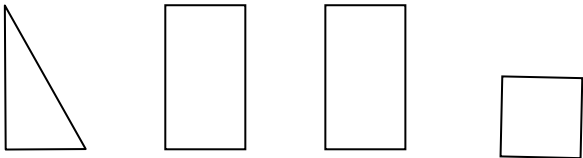


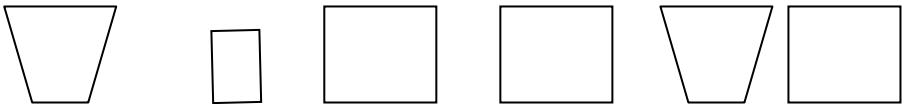
3. Pupils are requested to repeat the activity with the other 3-D shapes.

Activity 2 (for more able pupils):

1. For more able pupils, the teacher might show more 3-D shapes to them like the following. Pupils observe the 3-D shapes from different directions.



2. Pupils are requested to find the corresponding 3-D shapes of the given faces of 3-D shapes and put them in the correct row of the following table.

3-D shapes	The faces of the 3-D shapes
	
	
	
	

**Notes for Teachers:**

1. Some pupils may have difficulty in relating pictures with solids. It is easier for them to observe the different faces of solids by copying them onto a piece of paper. Activity 1 is thus suitable for average pupils. For pupils who have a good spatial sense, they are required to visualize the 3-D shapes and look for corresponding solids (activity 2).
2. The focus of this exemplar is on the understanding of the shapes of the different faces of some simple solids like cubes and triangular prisms, not the names of the solids.
3. It is desirable to give pupils adequate time to observe the solids from different directions so as to get some concrete experience.
4. In filling in the above table, pupils could present the results with drawings or symbols.

This exemplar mainly involves the following generic skills:

**1. Communication Skills**

- Describe the solids and their faces orally with simple and appropriate mathematical terms
- Present the results with appropriate drawings and symbols

**2. Critical Thinking Skills**

- Reason inductively in the process of identifying 3-D shapes through observation