

Design and Construct a Model of Building

Key Stage: 1

Strand:

Mathematics: Number (Learning Unit: 1N4 Numbers to 100)

General Studies: Make careful observation, simple measurement and classification

Objectives:

- (i) To consolidate the counting in groups of two, five and ten
- (ii) To make careful observation
- (iii) To work individually or collaboratively with peers to identify problems and design feasible solutions

Prerequisite Knowledge: Counting in groups of two, five and ten

Resources Required: Blocks

Description of the Activity:

Setting

The teacher provides students with suitable number of blocks (as shown in Figure 1) according to their abilities and asks students to design and construct models of buildings of different heights and shapes.

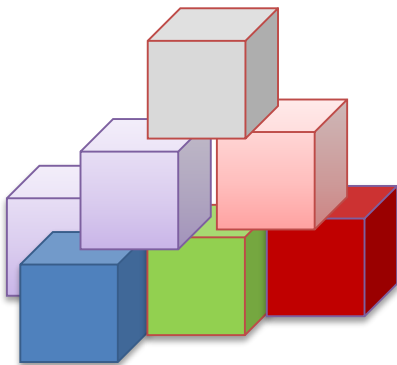


Figure 1

Activity 1

Students are divided into groups. They are instructed to design and construct their ideal building by using the blocks. Some examples are shown in Figure 2 and Figure 3.

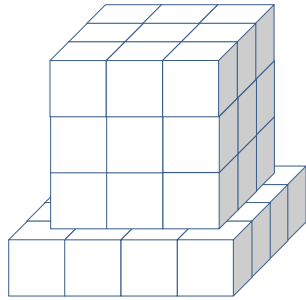


Figure 2

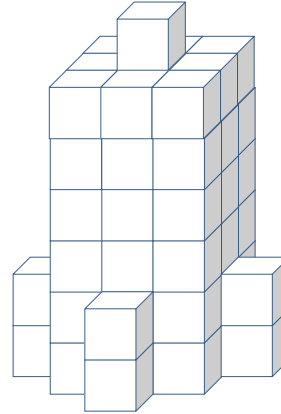


Figure 3

Notes for Teachers:

1. The teacher can remind students to construct their own ideal building. Comparison between the heights of the buildings is not necessary.
2. The teacher can let students introduce the ideas of their design and functions of their buildings.
3. Students are encouraged to put the blocks properly, in commensurate with the development of their small muscles.

Activity 2

1. When students have finished their construction, they can estimate the number of blocks used by their own group, and then estimate the numbers of blocks used by one other group assigned by the teacher.
2. Students have to record the results of estimations.

Note for Teachers:

As the models will be disassembled after this activity, teachers may take photos of them for record.

Activity 3

1. Each group disassembles the building of the group assigned by the teacher in Activity

- 2 and count the exact number of blocks used for the building.
2. The teacher then collects and shows the counting results of all the groups for students to validate their estimation results.

Questions for discussion:

1. Apart from estimating through observation, how can we find out the exact number of blocks used? In addition to counting the blocks one by one, is there any way to count more effectively?
2. Students can be hinted to count in groups of 2 or 5 according to their ability. They can arrange the blocks properly as shown in Figure 4 and Figure 5 before counting.

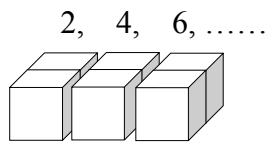


Figure 4

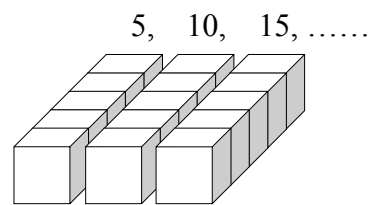


Figure 5

Note for Teachers:

Teacher should encourage students to use various methods for their estimation and appreciate their works.

This example mainly involves the following generic skills:

1. Creativity
 - Design an ideal building
2. Mathematical Skills
 - Compare integers and perform basic calculations
3. Communication Skills
 - Use clear and appropriate ways to express their ideas and feeling
 - Collaborate and discuss with peers to finish simple tasks