

Exemplar 8: Poster Design –
Recognition of Measuring Weight Using Kilogram
(Project Learning)

Learning Dimension: Measures

Learning Unit: Weight

Key Stage: 1

Objectives: (i) To measure and compare the weights of objects using ‘kilogram’
(ii) To estimate the weights of objects in kilograms
(iii) To recognize daily life examples of weight measurement in kilograms

Prerequisite Knowledge: (i) Reading the marked graduation on a scale
(ii) Estimate and measure the weights of objects in ‘kilograms’

Teaching Resources: Scales, sets of weights, assorted objects, magazines, newspapers

Description of the Activity:

Activity 1:

1. Pupils are divided into groups. Each group is given some standard one-kilogram weights. Pupils have to “feel” the weight of 1 kilogram.
2. Pupils are asked to list objects (by guessing) in the classroom: Which ones have a weight of about a kilogram, more than a kilogram and less than a kilogram?

Questions for Discussion:

1. How do you know your estimate is accurate?
2. Can you judge the weight of an object by its size?
3. Is it reliable to judge the weight of an object by its size?

Activity 2:

1. Each group is given a scale. Pupils can check their guesses in Activity 1 by using the scale if necessary.
2. Each group is provided with a bag of marbles, some tennis balls, staplers, and dictionaries. Pupils are requested to estimate and measure the number of pieces of each object that will make up a total weight of one kilogram approximately.

Questions for Discussions

1. How accurate are your estimates?
2. Why do you need more of some objects than of others to make their weight up to one kilogram?

Activity 3:

1. Pupils make 4 posters to introduce the metric weight measure – ‘kilogram’ in daily life examples:
 - A. One poster of 4-5 objects which have a weight greater than 1 kilogram
 - B. One poster of 4-5 objects which have a weight less than 1 kilogram
 - C. One poster of 2-3 objects which have a weight of about 1 kilogram
 - D. One poster of 1 group of objects which together have a weight of about 1 kilogram
2. Pupils work in groups to discuss how to carry out the work and report the main points of discussion to the class in order to share ideas with others.
3. Pupils collect resources, judge the appropriateness of the materials and choose the type of objects for the different posters.
4. Pupils estimate and find out the weight of objects with scales if possible to sort out the category the objects belong to.
5. At the end of the project, pupils put up the posters in the classroom to display their work.

Questions for discussion:

1. What objects are relevant to the theme?
2. How can the information be organized? Is it better or possible to have a focus for each poster? For example, the poster displays the weight of a certain type of object.
3. How can the objects be represented on the poster? Pictures? Drawings? Symbols?
4. Is it possible to use real objects?
5. If pictures of objects are used, where can pupils get the pictures?
6. Is it necessary to check the weights of objects?
7. How can the layout of the posters be designed?

Notes for Teachers:

1. Pupils should be given adequate time to do the project. They can work on it in school or at home.
2. There should be scales in the classroom or other appropriate locations in school for checking the weight of objects.
3. The teacher should give guidance and support (including explicit instructions, suggested

ways to collect data) to pupils throughout their work.

4. Pupils' performance in the project can be assessed through the following criteria:

Criteria	Description of the Criteria
Understand the theme of the project	<ul style="list-style-type: none"> Do pupils make 4 correct posters that introduce daily life examples of objects weighed in "kilograms"? Do pupils develop a strategy to estimate, compare and measure the weight of targeted objects?
Using appropriate strategies and methods	<ul style="list-style-type: none"> Do pupils identify appropriate sources (magazines, newspaper, etc) for the collection of data? Do pupils make estimates of the weight of objects identified? Do pupils bring the objects to be estimated against a weight of one kilogram for making improved estimate? Do pupils use suitable scales to measure objects to check their estimates? Do pupils make use of appropriate representations (pictures, drawings or real objects) to display the data?
Accuracy	<ul style="list-style-type: none"> Do pupils give accurate examples of objects weighing more than 1 kilogram, less than 1 kilogram and about 1 kilogram? Do pupils give an accurate example of objects whose weights add up to 1 kilogram?
Presentation and communication	<ul style="list-style-type: none"> Can pupils organize information systematically and accurately? Can pupils display information on the poster neatly and clearly? Can pupils provide a suitable heading for the posters to highlight the theme?
Attitude	<ul style="list-style-type: none"> Do pupils work in co-operation? Do pupils participate actively in the task?

The criteria suggested are by no means exhaustive and each criterion above is not of the same importance.

This exemplar mainly involves the following generic skills:

1. Collaboration Skills

- Share responsibilities and understand the roles of individual members in collecting and making posters
- Participate actively in discussion in selecting a suitable strategy for collecting information
- Listen to others with patience, negotiate and compromise with others in selecting a suitable design for the posters

2. Critical Thinking Skills

- Select, classify and organize objects into the appropriate categories
- Make an estimate of the weight of objects based on experience and check the accuracy of doubtful information with suitable scales

3. Creativity

- Strengthen creative abilities such as originality, visualization and analysis through the process of designing the posters