

Grade 4 - How Heavy? How Light?

Concept:

- Weigh objects using a balance and standard units.
- Determine sums and differences of weights.
- Estimates the weight of an object and verifies using a balance

Pre-requisites

Before beginning this activity

1. Students should be able to compare two weights using a weighing balance
2. Students should be able to measure weight and express it in units

Teacher Note

A simple balance can be constructed using paper cups, threads and ruler. This balance can be used to compare weights of objects, measure unknown weights using known weights, measure unknown weights using combination of known weights.

During the activities, teacher should use words like heavier when comparing two weights. Encourage students to use 'heavier than' when comparing two weights. Teacher should also use expressions like 'more than' 'less than' when comparing weights.

The assessment questions assess the following:

Q1: Pictorially assesses whether children can compare weights of an object using a balance.

Q2: Assesses whether children can compare weights and express it in words.

Q3: Assesses whether children can match the pictorial representation of weight comparison using a balance and the corresponding comparison in words

Q4: Assesses whether children know how to weigh an object of unknown weight.

Q5: Assesses whether children can measure weights of unknown objects using a combination of weights.

Q6: Assesses whether children are able to visualize the weighing balance position for given weights

Bridging

1. Check whether students can compare two objects as light and heavy by using a weighing balance

2. Check whether students know how objects are measured in real-life.
Ask questions like:
How do you buy rice from a shop?
How do you buy chili powder from shop?

Through this discussion children should be able to say that units like kg and g are used to measure weights in real-life. Now, fill in the following tables given in the textbook

1. Five things bought in grams and kilograms (Page no.138)
2. Mention the units used to buy common items (Page no.139)

Day 1

Learning outcome

- Measures weights of unknown objects using an object of known weight.

Activity:

1. Divide students into groups of three. Give each group a weighing balance and a known weight (standard weights can be used if available. If they are not available, we can use things like soap, goli whose weight is known can be used)
2. The weight of the standard weight can be informed to students and students will use the weight to measure other objects.
3. Each group can measure sand and make sand packets each weighting 150 g, 200 g, 250 g. Ask each group to label the packets with the weight. They can also weigh ice-cream sticks, toothpicks etc. as per the availability of material
4. Teacher can discuss with students on the units of measuring weights.

Day 2

Learning outcomes

- Measure the unknown weight based on knowing weight by combination of known weights

Activity:

1. Give three known weights to students. Standard weights can be used if available. If standard weights are not available goli or stones can be

assigned weights and be used as standard weights. Goli of different sizes can be used as 1 g, 2 g, 3 g etc.

2. Each group must measure ice-cream sticks according to the weights mentioned in the activity

3. Teacher can demonstrate how a combination of weights can be used to measure an unknown weight. For example, a 3g and 2 g marble can be used to measure 5 g of ice cream sticks, by placing them on one pan of the balance. If we have to weigh and measure 1 g of ice-cream sticks, 3g marble and 2 g marble can be placed in the two pans and ice-cream sticks can be added to the pan with 2 g balance, until it balances