

Estimates of Measurement

Solution 1:

The possible sources of errors in measurement are

1. Limitation of the instrument
2. Carelessness in handling the instrument

Solution 2:

Highly sensitive scales are used

1. In grocery shops – to display the exact weight of objects flashed on the small screen
2. In jewellery shops – to weigh valuable items like gold and silver

Solution 3:

The weights and measures department of the government has framed laws to ensure that consumers are not cheated with respect to weights and measures of commodities. The officers of the department visit various places to inspect whether proper weights are used and whether the scales used are proper.

Solution 4:

Retailers should take the following precautions with respect to weights:

1. Every weight must have a hole in the centre filled with lead. The lead carries the stamp of the weights and measures department.
2. A weight has to be made of metal. A wooden or any other weight is not considered to be authorised.

Retailers should take the following precautions with respect to measures:

1. A balance must be stable at one place.
2. The beam of the balance should be such that it moves around a vertical axis freely.
3. The beam of the balance should have the stamp of the department of weights and measures.

Solution 5:

The law made compulsory with respect to weights and measures:

1. A balance must be stable at one place.
2. The beam of the balance should be such that it moves around a vertical axis freely.
3. The beam of the balance should have the stamp of the department of weights and measures.
4. Every weight must have a hole in the centre filled with lead. The lead carries the stamp of the weights and measures department. If this mark is missing, then the weight is not considered as standard and the department takes cognizance of it.
5. A weight has to be made of metal. A wooden or any other weight is not considered to be authorised.

Solution 6:

While buying vegetables in the market:

1. We must see that the vegetable vendor is using weights made of metal and not any other material such as wood.
2. We must confirm that the vegetable vendor keeps the balance in a stable position at one place and the beam of the balance moves freely around the vertical axis.
3. Every weight must have a hole in the centre filled with lead. The lead carries the stamp of the weights and measures department.

Solution 7:

1. In everyday affairs, some measurements are approximate. They are **estimations**.
2. It is legally binding to use **standardised** weights and measures.
3. The balance must be **stable** at one place.

Solution 8:

The grocer in the picture has not weighed the cardamom. He sold it to Neela only by approximation.

The bag is too large for just 5 grams of cardamoms.