

## ACTIVITY-16

### RATIO AND PROPORTION

#### RATIO

1. **What we have to do?**

To compute the ratio of an object's height to the length of its shadow.

2. **What is required?**

Three objects of different heights (a pen, a pen stand and a water bottle), a ruler and a lamp.

3. **How much time required for this activity?**

30-40 minutes.

4. **What do you need to know?**

Knowledge of measurement.

5. **How will you proceed?**

- Measure the height of the objects using the ruler and record it.
- Place the lamp in a room on the ground with dim light and mark a position X in front of the lamp.
- Now, place the first object on the ground at X and measure the length of its shadow formed using the ruler. Record your observation.
- Similarly, measure the length of the shadows of all the remaining objects by placing them at position X one by one and record the observation

6. **What have you observed?**

- Find the ratio of the height of objects to the length of their shadows and write in the table given below:

| Position | Object       | Height (a)<br>(in cm) | Shadow ( b)<br>(in cm) | Ratio( $\frac{a}{b}$ ) |
|----------|--------------|-----------------------|------------------------|------------------------|
| X        | Pen          |                       |                        |                        |
|          | Pen stand    |                       |                        |                        |
|          | Water bottle |                       |                        |                        |

7. **What have you learnt?**

8. **What you have to do as extended activity?**

- There are 15 notebooks and 12 books on Umi's table whereas Sarita has 16 notebooks and 15 books. Who has a higher ratio of notebooks to books?

**9. Real life Application:**

Ratio can be used in real life activities like grocery shopping, cooking etc. It can also be used to compare any two numbers.