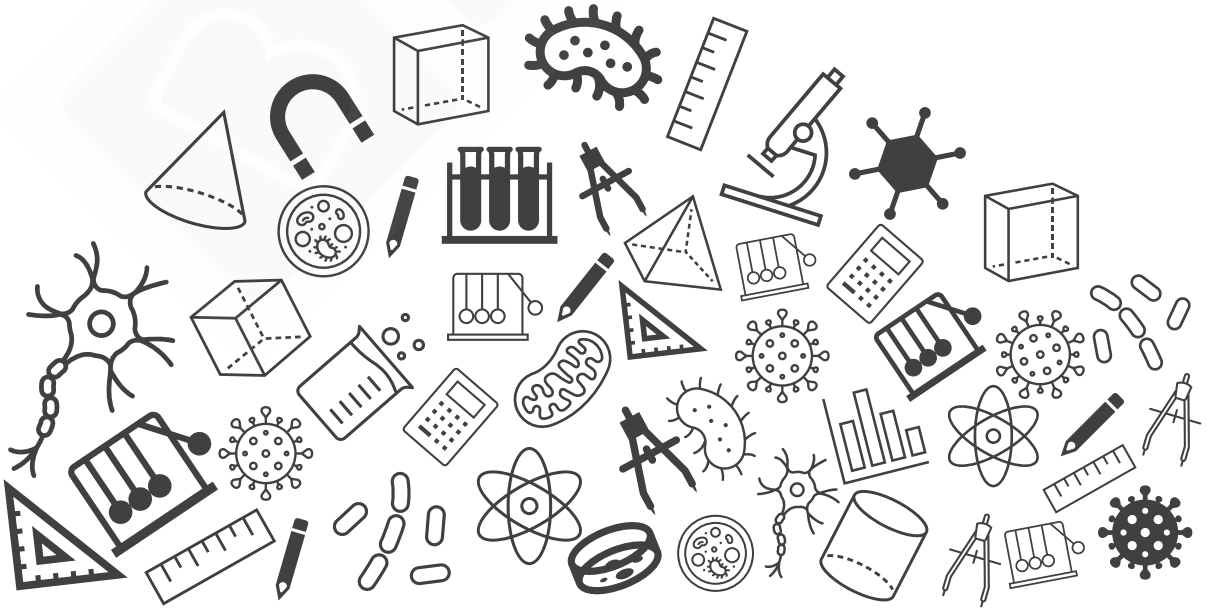
Grade 06
Chapter Notes



BYJU'S Classes

Class Notes

Motion and Measurement of Distances

Grade 06

Topics to be Covered

1 Measurement

1.1 Standardisation of Measurement
1.2 Interconversion of Units
1.3 Correct Measurement of Length
1.4 Measurement of Curved Line

2 Modes of Transportation

2.1 Land Transport
2.2 Water Transport
2.3 Air Transport

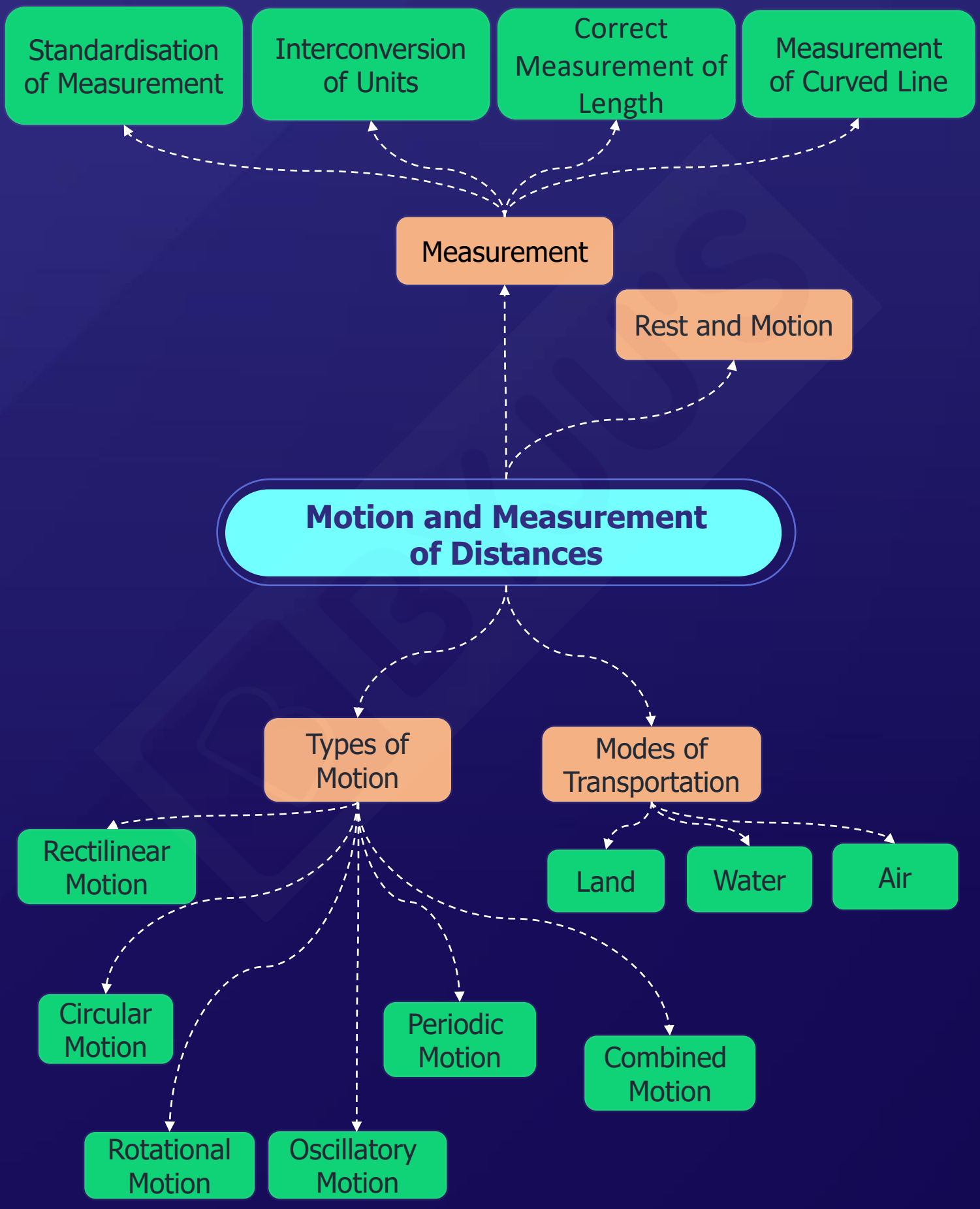
3 Rest and Motion

3.1 State of Rest
3.2 State of Motion

4 Types of Motion

4.1 Rectilinear motion
4.2 Circular motion
4.3 Rotational motion
4.4 Oscillatory Motion
4.5 Periodic Motion
4.6 Combined Motion

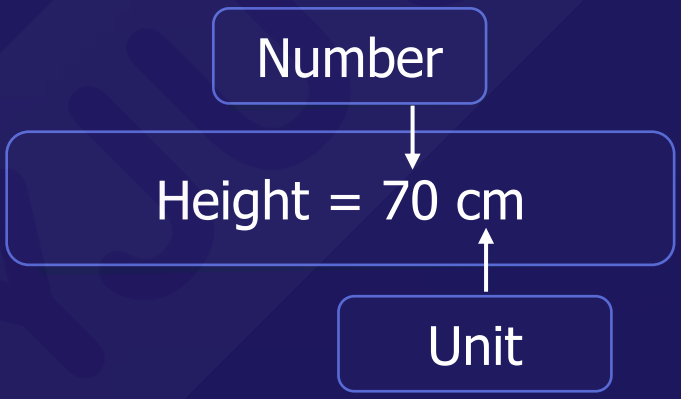
Mind Map


Standardisation of Measurement
Interconversion of Units
Correct Measurement of Length
Measurement of Curved Line
Measurement
Rest and Motion
Motion and Measurement of Distances
Types of Motion
Modes of Transportation
Rectilinear Motion
Circular Motion
Rotational Motion
Oscillatory Motion
Periodic Motion
Combined Motion
Land
Water
Air

1. Measurement

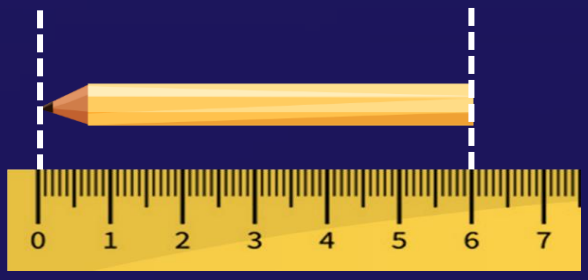
Comparison of an unknown quantity with a known quantity of the same kind is called measurement.

A measurement is expressed as a number followed by a unit.



Length

- Length is the measure of the distance between two points.
- A ruler or a measuring tape can be used to measure length.

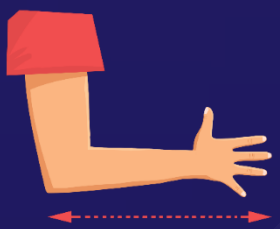


1. Measurement

1.1 Standardisation of Measurement

Ancient Units of Measurement

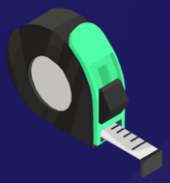
Hand span



Cubit

Foot

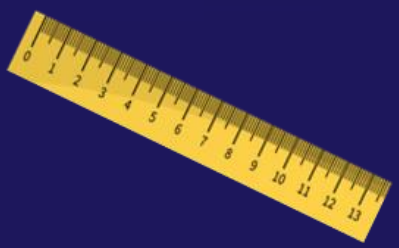
Standard Units of Measurement



Length - metre

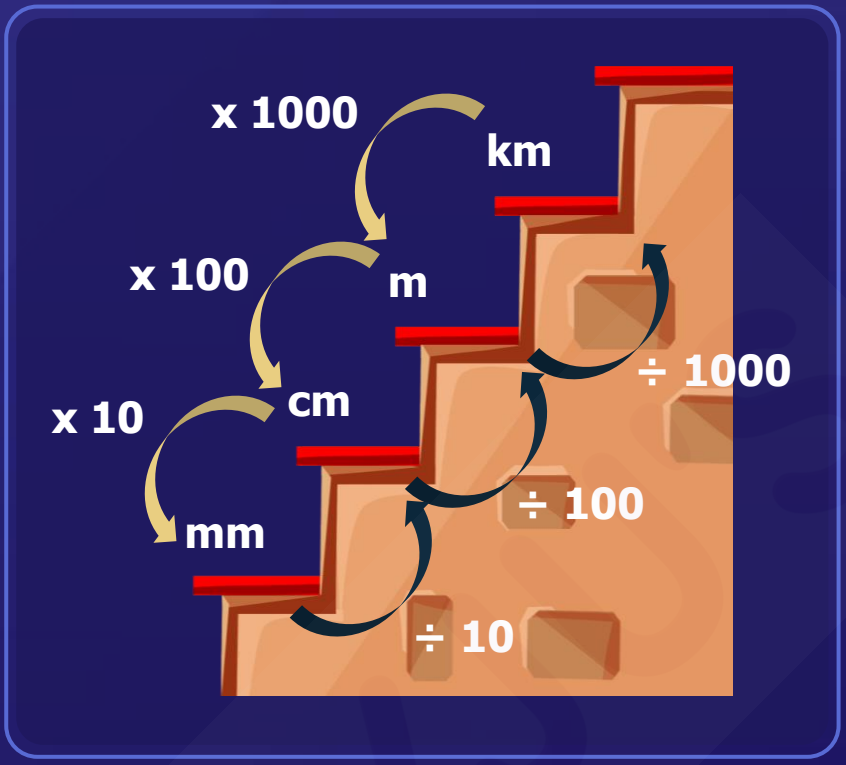
Mass - kilogram

Time - second

Ancient Units	Standard Units
	
Inaccurate	Accurate
Not globally accepted	Globally accepted
Inconvenient	Convenient

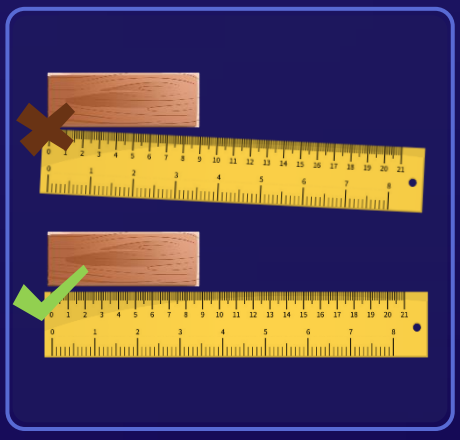
1. Measurement

1.2 Interconversion of Units

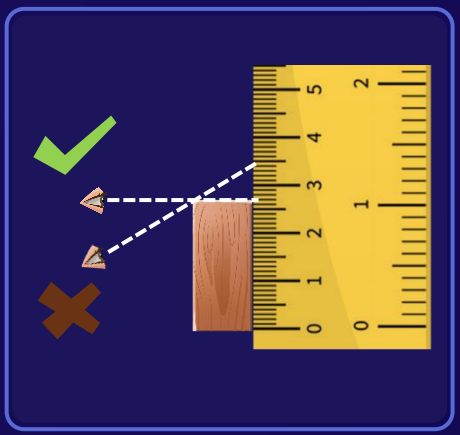


1.3 Correct Measurement of Length

The ruler must be aligned with the length that is being measured.

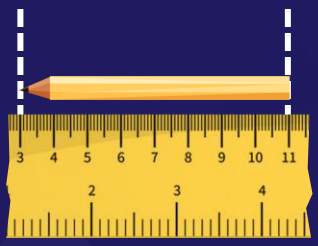


Our eyes must be exactly in front of the point where the measurement is to be taken

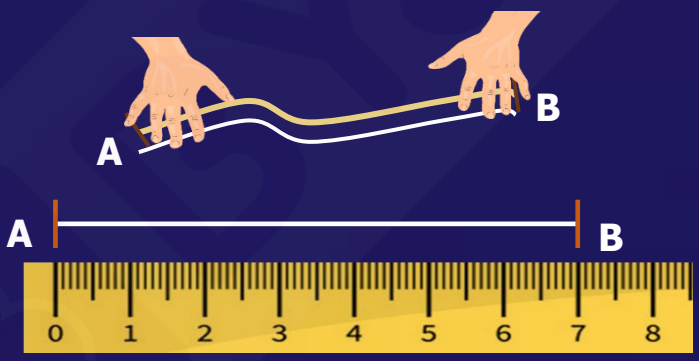


1. Measurement

The end of the object should coincide with the zero mark on the ruler. If the ruler is broken, we can measure between the two fully visible marks on the scale.



1.4 Measurement of Curved Line



The length of a curved line can be measured using a thread and a ruler.

The thread is placed along the curve as shown and the end points are marked. The thread is then straightened and the length between the two markings measured using a scale. This gives the length of the curve.

2. Modes of Transportation

Transport modes are means by which passengers and goods are taken from one place to another.

These modes of transportation are generally categorised into:

2.1. Land Transport

It is the mode of transporting people, animals, or goods from one location to another location on land. Examples: car, train, etc.

2.2. Water Transport

It is the mode of transport of people or goods from one place to another via water. Examples: ship, boat, etc.

2.3. Air Transport

It is the movement of passengers or goods by air. Examples: aeroplane, helicopter, etc.

3. Rest and Motion

The state of rest or motion of an object is always specified with respect to an observer.

3.1 State of Rest

When an object does not change its position with time with respect to an observer, it is said to be at rest. Example: A house is at rest with respect to its surroundings

3.2 State of Motion

When an object changes its position with time with respect to an observer, it is said to be in motion. Example: A flying aeroplane is in motion with respect to its surroundings

4. Types of Motion

4.1. Rectilinear Motion

If an object moves along a straight line, the motion of the object is
called rectilinear motion.
Examples: A car moving on a straight road, marching soldiers, etc.

4.2. Circular Motion

If an object moves along a circular path, the motion of the object is called circular motion. Examples: A car moving on a circular track, an artificial satellite orbiting Earth, etc.

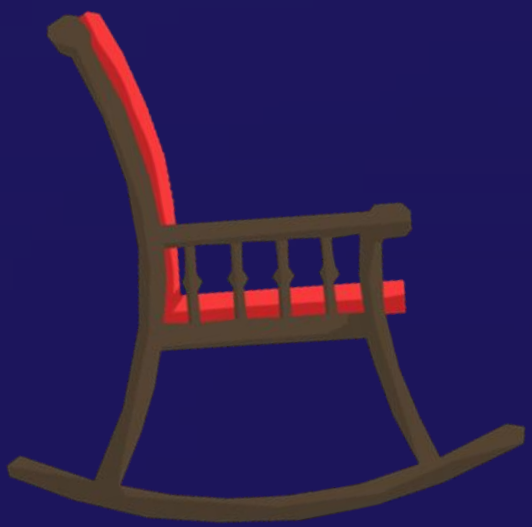
4. Types of Motion

4.3. Rotational Motion

Rotational motion is defined as the motion of a body about a fixed axis.
Examples: Motion of a ferris wheel, a spinning top, etc.

4.4. Oscillatory Motion

Oscillatory motion is defined as the to and fro motion of an object about a fixed position.
Examples: Motion of the rocking chair, vibration of guitar strings, etc.



4. Types of Motion

4.5. Periodic Motion

If an object repeats its motion after fixed intervals of time, its motion is called periodic motion. Examples: motion of minute hand of a clock, motion of Earth around the Sun, etc.

4.6. Combined Motion

When an object is moving in such a way that it combines two or more types of motion, it is called combined motion.
Example: the movement of wheels on a cart combines rectilinear and rotatory motion.