

Centre of mass experiment (with the lamina): How to minimize inaccuracy when marking the lines : you view the string directly in front of card.

Why angle  $i$  is NOT equal to angle  $r$  in ray experiment:

- thickness of pins
- thickness of mirror
- protractor is not precise

In an experiment to do with the cooling of water, there are certain things which must be kept the same:

- initial temp.
- thickness of test-tubes ( more heat lost when thinner etc.)
- vol. of water
- thickness of cotton wool
- depth of the thermometer in the water
- avoid draughts

Examples of insulators that you can wrap things with:

- bubble wrap
- fiberglass

Styrofoam is a good insulator , however you cannot wrap it around things as it breaks easily.

inaccuracy of ray box method: thickness of rays.

inaccuracy of pin method: pins not straight, or too close, or thickness of lines drawn.

Symbol for extension is 'x' or 'e'.

A ruler is called a 'rule'.

ALWAYS ROUND TO 3.SIG.FIGS.

To improve accuracy, put pins in the light ray experiment FURTHER APART to avoid parallax error. So, I I I is better than I I I (where I is the pins)

Precautions for circuit readings of I and V so that accurate:

For I specifically :

-limit current so that temp. doesn't increase

-use a tapping meter

For I and V: Switch off between readings.

$\theta$  this is the symbol for Celsius temp. (theta)

T this is the symbol for Kelvin temp.

In light ray experiment, lengths are in mm.

Fair test for pendulum experiments:

-length of pendulum

-shape of bob

-no. of swings

-amplitude

If a statement is 'directly proportional', the justification would always be , "straight line that goes through the origin".

If you're comparing the extensions of springs of different materials, certain things have to be the same:

-the cross-section of the springs

-the length of the springs

-the room temperature

How to reduce the heating effect of current:

-Add a variable resistor

-reduce current

-reduce voltage or power

-switch off between readings

Precautions for focal length experiments:

- do it in a darkened room
- clamp ruler to bench
- avoid parallax error when reading the lengths
- make sure that the object/lens/screen are all perpendicular to bench.
- and of course, repeats.

A question one came up and asked to draw a diagram of a load on a ruler on a pivot. Well, this meant that the ruler was unbalanced, and so this means that when you draw it, you must show that the ruler is tilted.

**DON'T FORGET TO WRITE DOWN THE UNITS AFTER EACH ANSWER!!!**

An important precaution for spring experiments is to wait for the spring to stop moving and then record the length.