

Teacher: Sayan Chakraborti

Student:

**Simple Machines: Levers****Questions:****Problem 1: Seesaw Balancing**

A seesaw is a first-class lever. If you have a seesaw with the fulcrum in the middle, and one child weighing 30 kg sits 2 meters from the fulcrum, how far from the fulcrum should a 60 kg child sit to balance the seesaw?

**Problem 2: Wheelbarrow Lifting**

A wheelbarrow is a second-class lever. If you place a rock that weighs 300 Newtons 0.5 meters from the wheel (fulcrum), and the handles where you lift are 1.5 meters from the wheel, how much force do you need to lift the rock?

**Problem 3: Fishing Pole Casting**

A fishing pole is a third-class lever. If you apply an effort of 5 Newtons to cast the line by holding the pole 1 meter from the tip (fulcrum), and the end of the line with the hook is 2 meters away from where you are holding, how much force is applied to the end of the line?