

Friends of Longford Park

Seesaws and Levers

Lesson Plan

Approximate duration:	15 minutes
Suitable for:	Key Stage 2
Learning objective:	To use a lever to increase the power of a force
Overview:	Seesaws illustrate how simple machinery, such as a lever, can increase the power of the force we are able to exert. This exercise can also reinforce the concepts of mass and gravity covered on the swings.
Location:	Play area near the former Longford Hall, although this is only a very small seesaw and would be more suitable for younger children.
Materials required:	None
Session Plan:	<p>Ask children how easy it is for them to lift another person, perhaps illustrate by trying to do this in practice.</p> <p>Have one child sit at the end of a seesaw and ask another to lift that child using the seesaw.</p> <ul style="list-style-type: none"> • Why is it easier to lift the person using a lever (seesaw)? Have them explain this in terms of forces involved. • What happens if the person sits closer to the centre of the seesaw? What does this tell us about the relationship between the length of the lever and the weight we are able to move?
Extension Activity:	<ul style="list-style-type: none"> • What happens if two people of different weights sit on a seesaw? • What can they do to make sure that they can play on the seesaw? <p>Teacher's notes: the longer the lever, the greater the force so that we are able to move progressively heavier objects with the same amount of effort. By moving closer to the centre of the seesaw, the length of the lever is shortened, therefore it requires more force to lift the person. In 220 BC, Archimedes said "Give me a place to stand and a lever long enough and I will move the world".</p> <p>If two people of different weights sit on the seesaw, the force of gravity means that the heavier one will be pulled to the ground, leaving the lighter one stranded in the air. The heavier person needs to move towards the centre to play effectively.</p>

