

Friends of Longford Park

Potential and Kinetic Energy

Lesson Plan

Approximate duration:	15 minutes
Suitable for:	Key Stage 2, 3
Learning objective:	To identify different types of energy.
Overview:	Use the movement of a swing to help children understand the concepts of potential and kinetic energy. Builds on the previous swings session.
Location:	Play areas near the former Longford Hall and in the northern area of the park.
Materials required:	<ul style="list-style-type: none">• Pens and paper
Session Plan:	Teacher or a volunteer holds the swing at the high point of its motion. <ul style="list-style-type: none">• What different type of energy does an object possess at its high point?• What happens to this energy when the swing starts to move?• How is potential energy converted into kinetic energy and vice versa during a ride on a swing?
Extension activity:	Ask children to draw a diagram of the motion of a person on a swing. On a diagram, identify the energy at different points. An object sitting still at the lowest point on a swing possesses potential energy. When a force powerful enough to overcome gravity and friction is exerted upon it, the potential energy is converted into kinetic energy. Momentum acts upon the object and moves it upwards until the object is brought to a rest by the loss of momentum and the action of friction and gravity. At that point, the kinetic energy is momentarily transformed back into potential energy before gravity pulls the object back towards the earth and the energy is transformed into kinetic energy.

