

MOTION

Target	Teacher: Key Stage 2 (ages 7-11) This lesson plan is not intended to be handed out to students but to be use as a teacher preparation and tutorial.
Description	Motion is a fundamental concept in science. This lesson explores different causes of motion, such as pull, push, drop (gravity), and also introduces the term force.
Learning objectives	Knowing different ways of setting an object into motion. Knowing a cause of motion (push, pull, drop, slide) in terms of influence of a force. Knowing about the relation between speed, distance and time.
Time frame	30-60 min
Keywords	motion, force, push, pull, gravity
In class	Discuss what causes an object to move. Let the students suggest different ways of setting an object into motion and list them on the whiteboard. For example pushing, pulling, throwing, dropping, sliding, adding a motor. Discuss that the cause of motion is called force. Discuss how the size of the force influences the motion. Discuss relation between speed, distance and time. Discuss how this can be visualized and explored in Algodoo using the Classmate PC. Let the students create scenes in Algodoo using the suggestions you came up with together or let them use their own ideas. Help the students make decisions and ask guiding questions. Encourage the students to follow the procedure Create – Predict – Interact – Evaluate. Allow the students to follow-up and share their experiences in class after the simulation.

Create a scene

Create a plane with objects resting on it. Make objects that roll, slide, driven by a motor, fall.

Make a prediction

How can the object be set into motion?

What makes the object stop?

Run/Interact

Explore different ways of moving the object. Tilt the Classmate PC and watch the object slide down the plane or fall through the air. Turn off an on gravity and explore its influence on the motion. Grab the object by using the hand tool. Push and pull and make the objects move in different ways.

Evaluate

What are the different causes of motion in the cases?

What is needed in order to set an object into motion?

