TEACHER NOTES

Science: Physics

Motion & Force, Working Scientifically

Education Destination

TAPNELL FARM PARK

Contextual Summary

This resource is for students in upper key stage 2 and relates to the Physics and Working Scientifically parts of the Science National Curriculum, focusing on Forces.

The on-site task allows students to explore the effects of friction on movement and find out how it slows or stops moving objects. They will identify the effects of friction that act between moving surfaces.

The post-visit task will provide opportunities for Working Scientifically. Students will make a model go-kart and use it to investigate the force needed to move it over different surfaces.

Tasks are designed to appeal to students in upper key stage 2.

The on-site task focuses on the effects of friction caused by different surfaces.

Students will ride the go-karts over different surfaces and record the variation in force needed to move the go-kart.

This will be related to the effects of friction.

The post-visit task is an investigation that allows students to make a model go-kart and test it over various surfaces.

They will investigate the effects that different surfaces have on the force needed to move the go-kart.

Some students may go on to investigate the effects of increasing mass on the force needed to move the go-karts.

SUBJECT

Science - Physics

UNIT

Motion & Force

OPPORTUNITIES FOR USE

× Pre-Visit
✓ On-Site Activity
✓ Post-Visit
× Peripheral Task

P6-P7

CURRICULUM / SYLLABUS

✓ National Curriculum 2014
✓ Curriculum for Excellence

Applies to Resource numbered:

1 5 2 1 0 1
1 5 2 1 0 2

Ability Levels

There are two resources - one each for lower and higher ability students in upper key stage 2.

Key skills practised in this unit:

- Observation of changes in force
- Recording observations
- Investigation skills
- Communication skills.

Relationship to Curriculum

These skills are required to be taught and practised as per the National Curriculum / Curriculum for Excellence, for key stage 2 science, specifically: Physics: Motion & Force (friction).

Learning Opportunities

During the Visit

- Students complete the on-site activities in the resource linked to this document: *Feel the Friction!*

Resource ID: 152101 (KS2U lower ability)
Resource ID: 152102 (KS2U higher ability)

Post-Visit

- Students complete the follow-up activitiy in the resource linked to this document: *Feel the Friction!*

Resource ID: 152101 (KS2U lower ability)
Resource ID: 152102 (KS2U higher ability)

- Students will develop their observational skills.
- They will practise recording their observations.
- The post-visit task will provide opportunities to gain valuable practice in the area of working scientifically.

Learning Outcomes

- ✓ Students will be able to measure and record force readings.
- ✓ Students will demonstrate their understanding of the effects of friction.
- ✓ Students will have worked scientifically.