

TEACHER NOTES

Science

Physics - Working Scientifically



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Contextual Summary

This is an on-site Science resource that engages students with their visit to Blackgang Chine, most notably the Water Force attraction.

Students work scientifically in observing and collecting data. They will discover which of the water chutes is the fastest by devising and/or conducting experiments.

Students will use scientific terminology to describe their findings, and use standard measurement units to record their data.

The resource is designed for students in lower and upper key stage

2, of all abilities, and relates to the Working Scientifically part of the National Curriculum.

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It would be useful if students had previous discussion about the principles of fair testing and variables. It is also important that students know how to take an average reading.

This resource will provide students with an enriched experience as they will be using their visit to practise important scientific skills, whilst having fun and working together.

Ability Levels

This resource is suitable for lower key stage 2 and upper key stage 2 students of all abilities.

There is a low and high ability resource for both upper and lower key stage 2 students (4 variants in total).

Key skills practised in this unit:

- ▶ Recognising when a simple fair test is necessary
- ▶ Making decisions about how to record and analyse data
- ▶ Identification of key variables & choosing one to investigate
- ▶ Making accurate observations
- ▶ Using scientific terminology to describe findings
- ▶ Working scientifically.

Relationship to Curriculum

The above skills are required to be taught and practised as per the National Curriculum / Curriculum for Excellence, for key stage 2 science.

SUBJECT

Science

UNIT

Physics - Working Scientifically

OPPORTUNITIES FOR USE

- ✗ Pre-Visit
- ✓ On-Site Activity
- ✗ Post-Visit



✓ Perinheral Task

CURRICULUM / SYLLABUS

- ✓ National Curriculum 2014
- ✓ Curriculum for Excellence

Applies to Resource numbered:

1	0	6	0	1	1
1	0	6	0	1	2
1	0	6	0	1	3
1	0	6	0	1	4

Learning Opportunities

Pre-Visit

- It is suggested to teachers that some background to the topic be taught and practised in class prior to the trip so students are aware of the scientific skills they will be using.

During the Visit

Students to complete tasks within the Science resource linked to this document: *Water Force Challenge!*

Resource ID: **106011** (KS2L low ability) **106012** (KS2L higher ability)

106013 (KS2U low ability) **106014** (KS2U higher ability)

- Students work in pairs or small groups.
- Using scientific terms to describe their observation.
- Setting up simple practical enquiries, comparative and fair tests.

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- ✓ Students are able to set up scientific enquiries in everyday situations.

Learning Outcomes

- ✓ Some students are able to follow instructions for a simple scientific enquiry; some students will design a simple scientific enquiry.
- ✓ They can make systematic and careful observations.
- ✓ They can make accurate measurements using standard units.
- ✓ Students will use scientific language to explain their findings.

Possible follow-up tasks:

Key stage 2 students could also:

- Design more complex experiments to test the speed of different objects with variables as a focus.

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