



Sample Lesson Plan The Big Bus Module: Science- Pushes and Pulls



Title

Use *The Big Bus Pushes and Pulls* to provide an opportunity to experience and learn more about these forces

Introduction

The *Big Bus Science Activity "Pushes and pulls"* is designed to introduce and review the basic concepts and vocabulary behind **Forces and Motion** at the KS 1 level.

In this lesson

The "**Pushes and Pulls**" module is composed of four e-learning objects:

1. Moving Words
2. Driving Bo Bear and friends
3. Moving and stopping
4. Other pushes and pulls

Objects 1 & 2 can be used together as revision and application of the vocabulary associated with movements and direction.

Object 3 reviews the child's understanding of how forces affect motion in terms of starting motion or stopping motion. Forces are referred to as pushes and pulls and no more, as per the National curriculum guidelines. The examples used are related directly to the expected average child's experiences and build on these experiences to formulate a conclusion.

Object 4 is designed to allow the more advanced children to consider push and pull by things other than humans, in this case wind and moving water.

All the objects can be prepared with a final printed report of the child's activities and answers

Age Range: 5 – 7 years

Lesson Plan

Learning objectives

Moving Words and Driving Bo Bear and Friends

Having completed this activity most children will have learnt:

- that there are many sorts of movement which can be described in many ways

- to observe and describe different ways of moving

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Moving and stopping

Having completed this activity most children will have learnt:

- that pushing or pulling things can make objects start or stop moving
- to identify similarities and differences between the movement of different objects

-to make suggestions about how objects can be made to move and to find out whether they were right

Other pushes and pulls

Having completed this activity most children will have learnt:

- that it is not only ourselves that make things move by pushing
- to ask questions about what is causing movement

Technical preparation

Install the CD-ROM on to the computer. If you are presented with a choice of Worlds to visit, select Bo Bear's World, Adventurers' World or Explorers' World as appropriate.

If you are in Adventurers' World or Explorers' World, open the Information Booklet index and scroll through the available modules to find the module. Select **Pushes and Pulls**.

Previous experience

Introducing the module

Gather the children around a large computer monitor or interactive whiteboard.

After the initial demonstration, and if more than one computer is available, the children could now break into working groups and undertake the module for themselves.

Allow the children about 20 minutes to complete each section, and then gather them back together to discuss how they got on.

Classroom management

A single classroom computer running *The Big Bus*, using a large monitor or interactive whiteboard, is an effective whole-class teaching resource. Introduce the module to the whole-class before pupils break into their groups.

If you have access to a computer suite this module can be completed as a whole-class lesson.

If you have access to only one or two computers, pupils will need to complete the module on a rotational basis.

Duration

Each group of children will require approximately 15 minutes of computer time. The teacher introduction and follow-up time will take approximately 10 minutes and 10 minutes respectively.

All objects are designed to be somewhat open ended with the child provided with the option to review their work by going over the animations again after completing the exercise and preparing a report of their work. Each group of children will require approximately 10- 20 minutes of computer time per section. The teacher introduction and follow-up time will take approximately 10 minutes and 10 minutes respectively.

Differentiation

This module can be differentiated to suit all pupils, irrespective of reading ability, as all text can be fully narrated. Object 4 is designed for more able children to extend their understanding of pushes and pulls to those of wind and water.

Extending the module

In PE the children could use the vocabulary from Moving Words to get a partner to recreate the movements or the vocabulary from Driving Bo Bear and Friends to send a classmate around a course.

Curriculum Information

The National Curriculum in England for Science (KS1)

Sc4: 2a, 2b, 2c

QCA Scheme of Work for Science:

Unit 1E – Pushes and Pulls

The Scotland 5-14 Guidelines for Environmental Studies

Science –Energy & Forces: Level A, B.

The Northern Ireland Curriculum for Science and Technology

Physical processes; Forces and energy: a, c

The National Curriculum in Wales for Science

Physical processes; Forces and motion: 2.2, 2.3

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