

Outdoor Learning Lesson Plan by Nature Play QLD

Science – Physical sciences

- A push or a pull affects how an object moves or changes shape (ACSSU033)

Design and Technology

- Explore how technologies use forces to create movement in products (ACTDEK002)
- Use materials, components, tools, equipment and techniques to safely make designed solutions (ACTDEP007)
- Use personal preferences to evaluate the success of design ideas, processes and solutions including their care for environment (ACTDEP008)
- Sequence steps for making designed solutions and working collaboratively (ACTDEP009)

Class:

Date:

Time:

Weather:



Resources:

Clipboards, paper, pencils, teddy bear, rope, pulleys, a collection of loose parts for groups to create their own pulling machine/design

Introduction: (15 mins)

Find a large space outside and play "Simon Says" with the whole class. Call out different 'push' motions they can do for example a push up, jumping up off the ground or role play pushing a heavy box. Call out also different 'pull' motions, such as role play pulling a heavy wagon, pulling up a weed from the ground, tug of war, pulling a bucket on a rope up from well. Invite children to take turns calling out positions and motions and encourage them to create their own.

Activity 1: (30 mins)

Invite children in small groups to go on a 'push and pull' hunt around the school grounds. E.g. a door that needs to be pushed, a storage container that needs the top pulled off. Explain that each group can either sketch the item and describe its position or location in the school or take a photograph.

Activity 2: (30-60 mins)

Demonstrate to the class how a pulley works by hoisting up a teddy bear using a rope, pulley and tree branch. All stand beneath the teddy bear and choose a child to pull down on the rope to make the teddy bear go up. Discuss how when the rope goes up, the teddy bear then goes down. Explain that the pulley is a simple machine that changes direction.

Invite children in groups to create their own method or machine for pulling an object of their choice. Groups may wish to set up a single pulley and rope attached to a basket that they could use to hoist loose parts from the ground up onto a playground platform. Other groups may wish to create a method of pulling a small model boat through the water, pull a toy through a tube or to pull a wagon. Encourage children to work collaboratively as a team to trial, test and explore different materials and methods of pulling an object.

Once complete, encourage each group to share their method/machine. Invite children to peer and self-evaluate their designs and suggest possible future improvements and/or uses for their designs.

