



Topic Title: Funky Pharaohs

Year Group: 3

Academic Year:2022-2023

Science Intent:

To explore pushes and pulls, friction and magnets with respect to the forces involved and their use in everyday life.

Prior Scientific Learning/Linked Topics: <ul style="list-style-type: none">• Repeat actions that have an effect• Explore how things work• Explore and talk about different forces they can feel• Talk about the differences between materials and changes they notice• Explore the natural world around them• Describe what they see, hear and feel whilst outside.	Literacy Links (including texts/media used): The Tin Forest	Maths Links: Measurement and Statistics Graphs
Scientific Knowledge:	Working Scientifically:	



<ul style="list-style-type: none"> • Compare how things move on different surfaces. • Notice that some forces need contact between two objects, but magnetic forces can act at a distance. • Observe how magnets attract or repel each other and attract some materials and not others. • Compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials. • Describe magnets as having two poles. • Predict whether two magnets will attract or repel each other, depending on which poles are facing. 	<p>Children will:</p> <ul style="list-style-type: none"> • Ask relevant questions and use different types of scientific enquiries to answer them, using scientific equipment with increasing accuracy. • Gather, record, classify and present data in various ways to help in answering scientific questions. • Record data using scientific diagrams and labels, classification keys, tables and bar charts. • Use straightforward scientific evidence and vocabulary to answer questions and support findings. • Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. • Identify patterns, including similarities and differences related to simple scientific ideas and enquiries.
<p>Lesson Content:</p> <p>Initial assessment:</p> <p>Children will explore how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. Children will take part in a carousel of activities where they will explore a range of toys/games that involve forces to move them.</p> <p>Elicitation activity:</p> <p>The children will complete a mind map to show what they already knew about forces and magnets and they will generate some questions.</p> <p>Identifying pushes and pulls:</p> <p>The children will be shown the carousel toys/games they previously looked at and will discuss what they had to do to get it to work (the words push and pull</p>	



should arise here). The children will then walk around the classroom finding objects that they can use/move that require a push or pull or both force. The children will choose a method of recording their findings (venn diagram, table, illustrations and labels).

Compare how things move on different surfaces:

The children will test how a toy car travels differently on different surfaces when pushed down a ramp. They will measure the distance travelled and record their results in a table.

Compare how things move on different surfaces (cont.):

The children will now record their results in a bar graph. The children will discuss their results and draw up a conclusion using adjectives to describe the material/surfaces that the car travelled on.

Recognise that some forces need contact between two objects but magnetic forces can act at a distance:

The children will carry out a carousel of activities that involve making things move in different ways, including pushing and pulling, using air and using magnets; moving a paper clip around a maze using a magnet, using a fan to blow a ping pong ball into a hole, playing mini snooker using a small ball and pencil as the cue and exploring balloon rockets. Children will learn that most forces require direct contact but some magnets act without contact (magnet and paper clip).

Observe how magnets attract or repel each other and attract some materials and not others:

Children will have a sand tray filled with items made from various materials (paper clip, plastic lid, wooden pencil etc). Using a magnet they will fish for items. Children will discuss: what materials were the recovered items made from? Why do some items remain covered in the sand? Why do some of the items made from metal attract and others do not?

Compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials:

Children will be given a selection of coins and will predict whether or not they will be attracted to a magnet. Children will then investigate this and sort the coins into categories – attracted to the magnet and not. They will add the names of the items from the previous lesson that they recovered from the sand tray.

Magnet Investigation:

Children will test the strength of different types of magnets. They will have a sheet with a box to the far left where a paper clip will be placed; to the right of this there will be boxes labelled 0-15. They will start furthest away and move the magnet towards the paper clip, box by box. When the magnet is attracted the children will record the number (cm). They will then repeat with the different types of magnets and write a concluding sentence – which magnet was



strongest? How do you know?

Key Vocabulary:

force, push, pull, twist, contact force, non-contact force, magnetic force, magnet, strength, bar magnet, ring magnet, button magnet, horseshoe magnet, attract, repel, magnetic material, metal, iron, steel, poles, north pole, south pole

Stunning Start/Marvellous Middle/Fabulous Finish:

All to be revealed.

OAA/Trips/Visits/Visitors:

All to be revealed.