This document is designed to inform you of the learning planned for your child's next unit of inquiry. In addition we offer you some optional ideas for supporting your child at home.

Y2 Unit Overview

How the World Works

In their fourth unit, the Year 2 students will inquire into Science strand "**Forces and Energy**." The students will be investigating the concepts of *forces* and *motion* through the central idea, "**Forces affect objects around us.**" Through this unit students will gain an understanding of the different types of forces in our world and how these forces affect objects by changing their speed, direction of motion, or shape. During the investigations students will discover how forces are part of our daily lives and that every time you move something or change it's shape, a force is being applied. Students will investigate these science concepts through engaging experiments. They will be able to see how the scientific process works, to think like scientists, and find out how forces can be measured accurately. Throughout the inquiry students will develop their understanding of what it means to be **curious** about the world around them as well as the disposition of being an **inquirer**. These will be discussed as they find out about real scientists and how those scientists made their discoveries and conducted their experiments. Students will also gain the thinking skill of **acquisition of knowledge** as many new science terms are introduced and used throughout the unit. The research skill, **planning** will be taught as students need to not only participate in experiments but also expected to plan and conduct their own.

You may wish to support your child at home in the following ways:

Developing vocabulary:

Key vocabulary used in this unit will be:
gravity, magnetic, push, pull, friction, velocity, shape, mass, motion, force, position, direction, pattern, function, mass, volume, capacity

Please consider using your Mother Tongue to develop your child's understanding of these words.

Conceptual questions:

This unit will be addressed through the lens of **connection, causation** and **reflection.** Over the next few weeks try to ask your child questions to develop the concept of connection (how is it connected to other things?) How can you make an object move? How can we control a force to get an object to do what we want it to do? To develop the concept of causation (why is it like it is?) look at toys with moving parts. What force is acting upon them to make them move? What does the saying 'what goes up, must come down' mean? How is it linked to forces? To develop the concept of reflection try doing your own experiments at home using the scientific inquiry cycle – how our reflections help us know what happened and how improve our 'experiment'?

Fun things to do together:

Be a forces detective - have a walk around your neighbourhood and identify different examples of forces acting upon objects to make them move – eg child's foot pushing against the ground to make their scooter move. Make your own plahdoh and see how many different ways you can change the shape. Investigate the different ways you can make a toy car move without pushing it with your finger. Take a trip to the science museum and explore the 'Motion' section.

Look for action:

ACTION is a key element of the Primary Years Programme. We are always looking to see how children take their learning and apply it independently. This can take many forms - from a discussion about the Unit of Inquiry at home initiated by your child, role-play or even a request to bring a book or artifact in to school because it relates to the work we have been doing in school. Now that you know what the unit is all about please keep your eyes open for evidence of action and let us know!
Any action that you tell us about will be kept as part of your child's records.

"Success for Every Child"

Alongside the key concepts, attitudes, learner profile attributes and action elements of the Primary Years Programme there is a body of knowledge that will be taught during the course of each unit. The main learning outcomes are outlined below for your reference. The children's understanding of each objective is assessed before each planned learning experience in order for us to pitch the work according to your child's ability and needs:

ENGLISH:

Alongside developing their ability to decode texts with increasing confidence, students will develop their ability to make predictions when reading texts. They will also continue to work on the reading strategy of summarising the main idea of a text. When writing we will be learning about the genre of text called explanations. Students will be asked to write explanations to accompany some of the science experiments they do including creating diagrams to match their own written text. As students learn more about forces they will gain new scientific vocabulary that they can then apply in their writing.

MATHS

Over the next few weeks we will be developing our ability to measure during our scientific investigations. Students will be comparing and measuring the mass of objects using non-standard units as well as estimating, comparing and measuring the length of objects using standard units.

To support the number work we've been doing we will continue to model addition and subtraction of whole numbers and recall addition facts of multiples of ten to at least 100 and related subtraction facts.

Students will begin a unit on fractions. In that unit they will learn to find equal parts of shapes and collections as well as use the language of fractions, for example, half, whole, equal.

SCIENCE and SOCIAL STUDIES

As students explore the science strand '***Forces and Energy'*** they will work towards the following outcomes:

- Forces can be exerted by one object on another through direct contact or from a distance (causation)
- Forces can cause changes in speed or direction of motion (causation)
- Forces can cause changes in position and the shape of an object (causation)
- How quickly an object's motion is changed depends on the force acting and the object's mass. The greater the mass of an object, the longer it takes to speed it up or slow it down, a property of mass described as inertia. (causation)

Your child will learn best of all when school and home work as a team. If you have any questions at all please do not hesitate to contact us.

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