

P-2

Inquiry Science

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Light

Electricity

Air

Force and Movement

Water and Weather

Magnets

Colours

Contents

About this book	4
Light	6
Transparent or opaque	6
Shadows	8
Electricity	11
See it light up	11
Static electricity	13
Air	15
Parachutes	15
Helicopters	17
Force and movement	20
Push and pull	20
Gravity	24
Design a toy that moves	27
Water and weather	30
Water and the weather	30
Floating and sinking	32
Sinking the boat	34
Dancing currants	36
Magnets	38
Marvellous magnets	38
Strong or weak magnets	40
Magnetic force	42
Colours	44
Colours in nature	44
Colour wheel	46
Assessment Checklist	48

About this book

Inquiry Science is designed to engage children in investigation and discovery, through hands on, student-centred activities. These easily-resourced learning centre tasks provide opportunities for children to verbalise their observations and make inferences. The children are encouraged to ask questions such as; What just happened? Why do you think it happened? What do you now know? When could you use this information another time?

Each lesson includes:

Gearing up: Guides you through all the preparation you need to engage the children in the task.

Process skills used: The steps, procedures or activities learners employ when engaged in the learning process

Guided discovery: Gives the teacher background information on the topic to help you complete the activity.

Materials needed for each group: A full list of easily-resourced materials to complete the task.

Activity: A clear explanation of an activity that will engage the children in authentic investigations.

Responding to discovery: This section will help children to focus on the experiment and to record and think about the discoveries.

Applications and extensions: Challenge the children to scientifically question their ideas and project their thinking further about their experiments.

Partners in learning: Learning together has a focus on partnerships in learning and the strategies used to support them. This metacognitive thinking enables the child to reach a deeper understanding in their learning.

Reflection: Reflection questions focus attention on using these science concepts in real life situations. Students also reflect on how they learn, and what skills and tools they use to support their learning.

Encourage your children to become effective and skillful thinkers!

How does this book support the curriculum?

The science investigations in this book set the scene and prepare students for higher levels of achievement in science. As students work towards this goal, they are encouraged to perform simple investigations (for example, measuring plant growth), involving observation and measurement and basic procedures including collecting and recording data.

Students are directed to use their senses to explore and record the world around them. For example, activities might involve sorting objects according to size, colour, shape and weight. They are encouraged to begin generalisations based on their data. They should also be made aware of using safe procedures in their activities.

Force and movement

Gravity

Gearing up

Ask the children to bring along toys from home and sort the toys according to how they move. The toys may be battery operated, wind-up toys or push or pull along toys.

Process skills used

- Observing
- Exploring
- Testing
- Recording

Guided discovery

The earth has its own gravity. This is the force that pulls objects toward earth. When a ball is thrown up in the air, gravity will pull it back down to earth.

Materials needed for each group

- Different sized balls
- Pull along toys
- Toys with wheels
- Cylinder shaped objects e.g. soft drink cans.

Activity

Set up three learning centres. Students rotate through them.

Activity 1: Have students find a heavy object in the room and hold it for five to ten minutes with their arms outstretched. Did your arms become fatigued? What did you find yourself wanting to do with the object? Why do you think this happened? Draw and write about the experience.

Activity 2: Using sloping boards and toys that roll, experiment with moving them on the boards. What happens always? Draw and write about the experience. Students could measure how far different things roll using units of measure such as centimeters or informal units like blocks. They could graph their findings and paste comparative statements around the graph.

Activity 3: Have students draw a picture of them going down a slide. Can you explain where the force of gravity helps you get to the bottom of the slide?

Responding to discovery

ICT Make a 2X4 table in word and use clip art pictures to show examples of gravity in the environment. E.g. leaves and rain falling. Also find pictures of examples where things push against the force of gravity E.g. a plane. Students could also use drawings to complete the recording activity sheet on gravity

Applications and extensions

What would happen to us if there was zero gravity? Is the gravity on the moon different? What did this mean for the astronauts?

Partners in learning

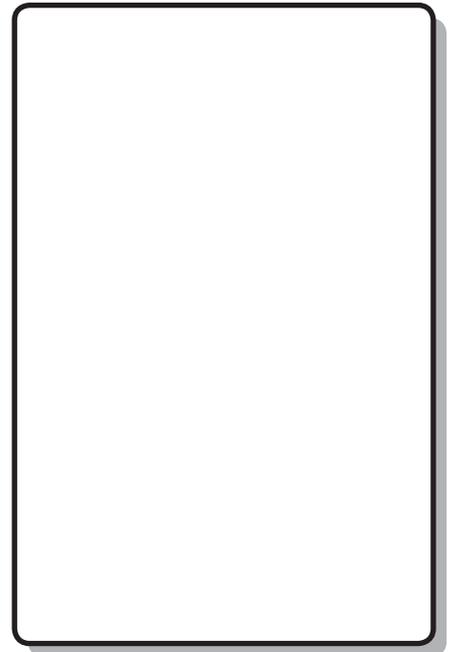
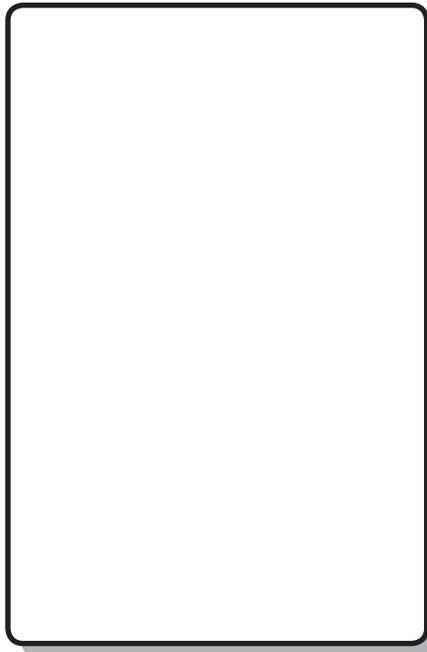
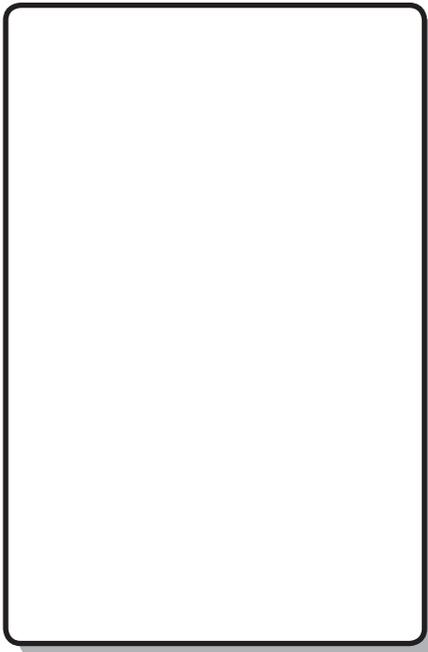
What was something you explained or shared with your partner?

Reflection

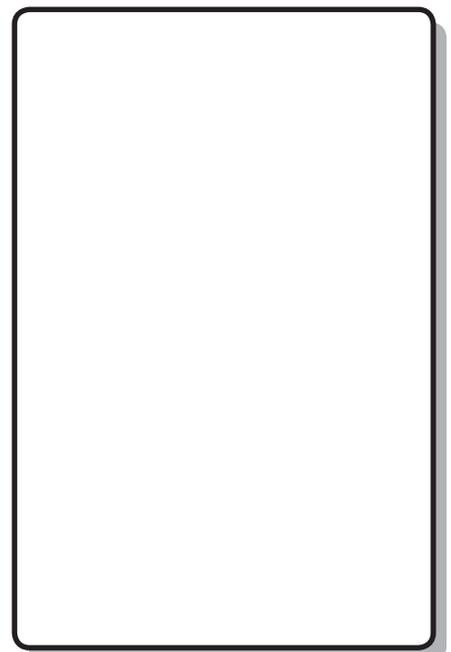
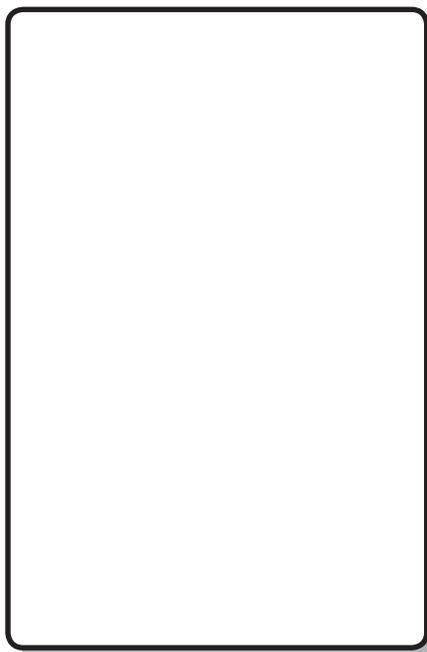
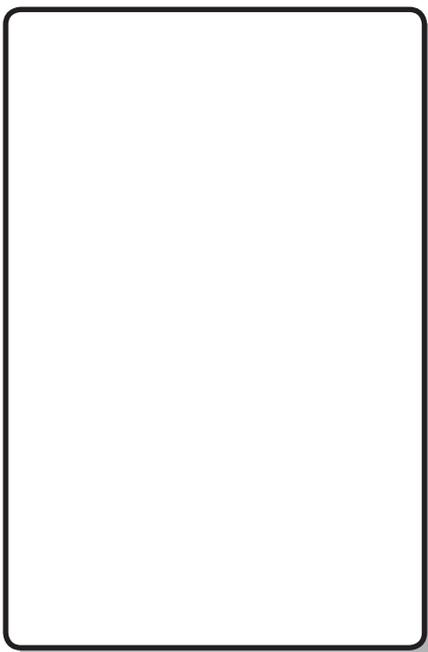
How does the force of gravity work when you are enjoying playing on a slide, swing or seesaw?

Gravity

Draw things in the environment where you can see the effects of the force of gravity.

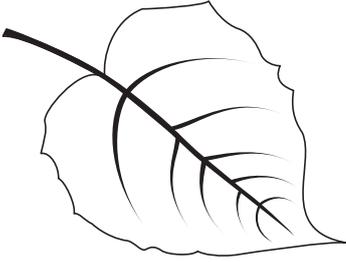
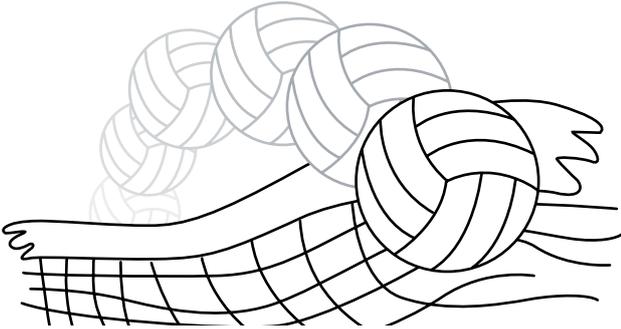
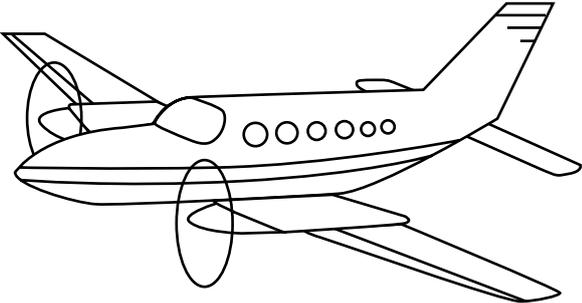
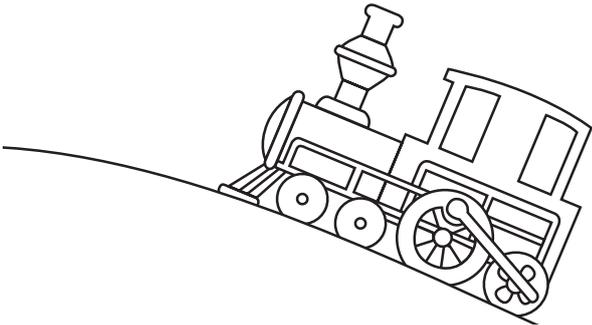


Draw things in the environment that push against the force of gravity.



Gravity

The following is an example of how students could use a word program and set up a 2 x 4 table. Students insert pictures and write next to them how gravity works in our everyday lives.

	<p>A leaf falling from a tree shows the force of gravity.</p>
	<p>A ball going over the net and bouncing down again shows the force of gravity.</p>
	<p>A plane pushes against the force of gravity.</p>
	<p>A train going uphill pushes against the force of gravity.</p>