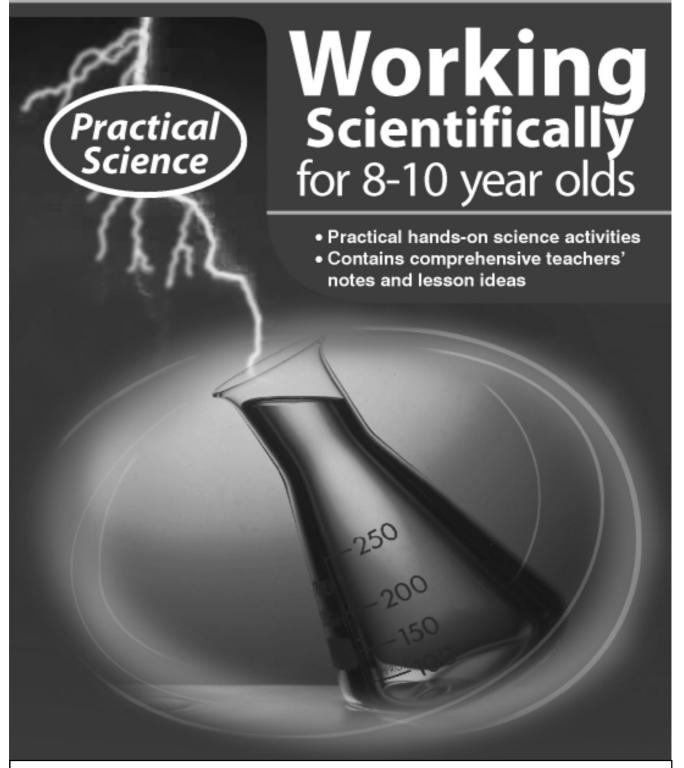


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Teachers' Notes

This book contains a package of photocopiable worksheets designed to be used to cover the Science learning area of "Working Scientifically" with 8-10 year old students.

At this level the students will be involved in conducting simple tests, gathering data, collating information and drawing conclusions. Students will use familiar situations to test ideas and be able to draw their own conclusions. Skills developed include graphing, timing, illustrating, labelling, writing descriptions, designing tests and data tables, questioning the fairness/validity of tests, following written instructions and interpreting results. Specific activities explore magnets, pendulums and bridae construction.

Each lesson has the potential to:

- extend into more than one lesson by having separate parts to the lesson sheet. Some sections of a lesson may need planning on other paper before final copies are transferred to the lesson sheet. Some lessons may be too long for one lesson and could be completed at another time.
- expand into other curriculum areas using a similar theme. There are ideas for crosscurricular integration with other learning areas. Sometimes a whole day's work could be planned around one lesson sheet.

Science Materials and Equipment

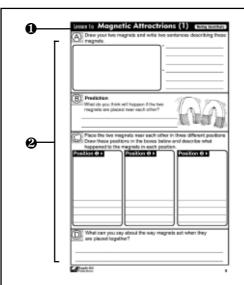
The equipment needed has been kept to a minimum to facilitate ease of planning. It is readily available in schools or is easily acquired.

All lesson sheets are outcome linked to the various curriculum documents (see page 6).

Other books in the Practical Science series:

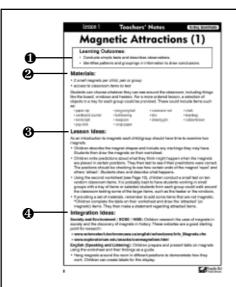
- Energy and Change
- · Life and Living
- · Natural and Processed Materials
- Earth and Beyond

Lesson Sheets Layout



STUDENT LESSON SHEET

- Lesson title
- Student learning activities



TEACHERS' NOTES INCLUDE:

(FOR EACH LESSON)

- Outcome links;
- Required materials;
- Lesson plan ideas including extension ideas and teaching tips;
- ② Cross-curricular/integration ideas.



Magnetic Attractions (1)

Learning Outcomes:

- Conducts simple tests and describes observations.
- Identifies patterns and groupings in information to draw conclusions.

Materials:

- 2 small magnets per child, pair or group
- · access to classroom items to test

Students can choose whatever they can see around the classroom, including things like the board, windows and heaters. For a more ordered lesson, a selection of objects in a tray for each group could be provided. These could include items such as:

paper clip

- ping pong ball
- cuisenaire rod

cardboard counter

- ball bearing
- biro
- drawing pin ubber/eraser

- tennis ball pop stick
- teaspoon scrap paper

Lesson Ideas:

As an introduction to magnets each child/group should have time to examine two magnets.

- Children describe the magnet shapes and include any markings they may have. Students then draw the magnets on their worksheet.
- Children write predictions about what they think might happen when the magnets are placed in certain positions. They then test to see if their predictions were correct. Students draw and describe what happens. Relate to how magnets "repel" and "attract".
- Using the second worksheet (see Page 10), children conduct a small test on ten random classroom items. It is probably best to have students working in small groups with a tray of items, or selected students from each group could walk around the classroom testing some of the larger items, such as the heater or the windows.
- If providing a set of materials, remember to add some items that are *not* magnetic. *Children complete the table on their worksheet and draw the "attracted" (or magnetic) items. They then make a statement regarding attracted items.

Integration Ideas:

Society and Environment / SOSE / HSIE: Children research the uses of magnets in society and the discovery of magnets in history. These websites are a good starting point for research:

- www.sciencetech.technomuses.ca/english/schoolzone/Info Magnets.cfm
- www.exploratorium.edu/snacks/iconmagnetism.html

English (Speaking and Listening): Children prepare and present talks on magnets using the worksheet and their findings as a guide.

 Hang magnets around the room in different positions to demonstrate how they work. Children can create labels for this display.



Lesson 1d Magnetic Attracti	ONS (1) Working Scientifically
Draw your two magnets and write tw magnets.	o sentences describing these
magnets.	•
Prediction What do you think will happen if the two magnets are placed near each other? ———————————————————————————————————	
Place the two magnets near each other depends on the boxes be happened to the magnets in each possible.	elow and describe what
Position ① >	Position ® >
What can you say about the way mage are placed together?	agnets act when they