Ready-Ed Publications

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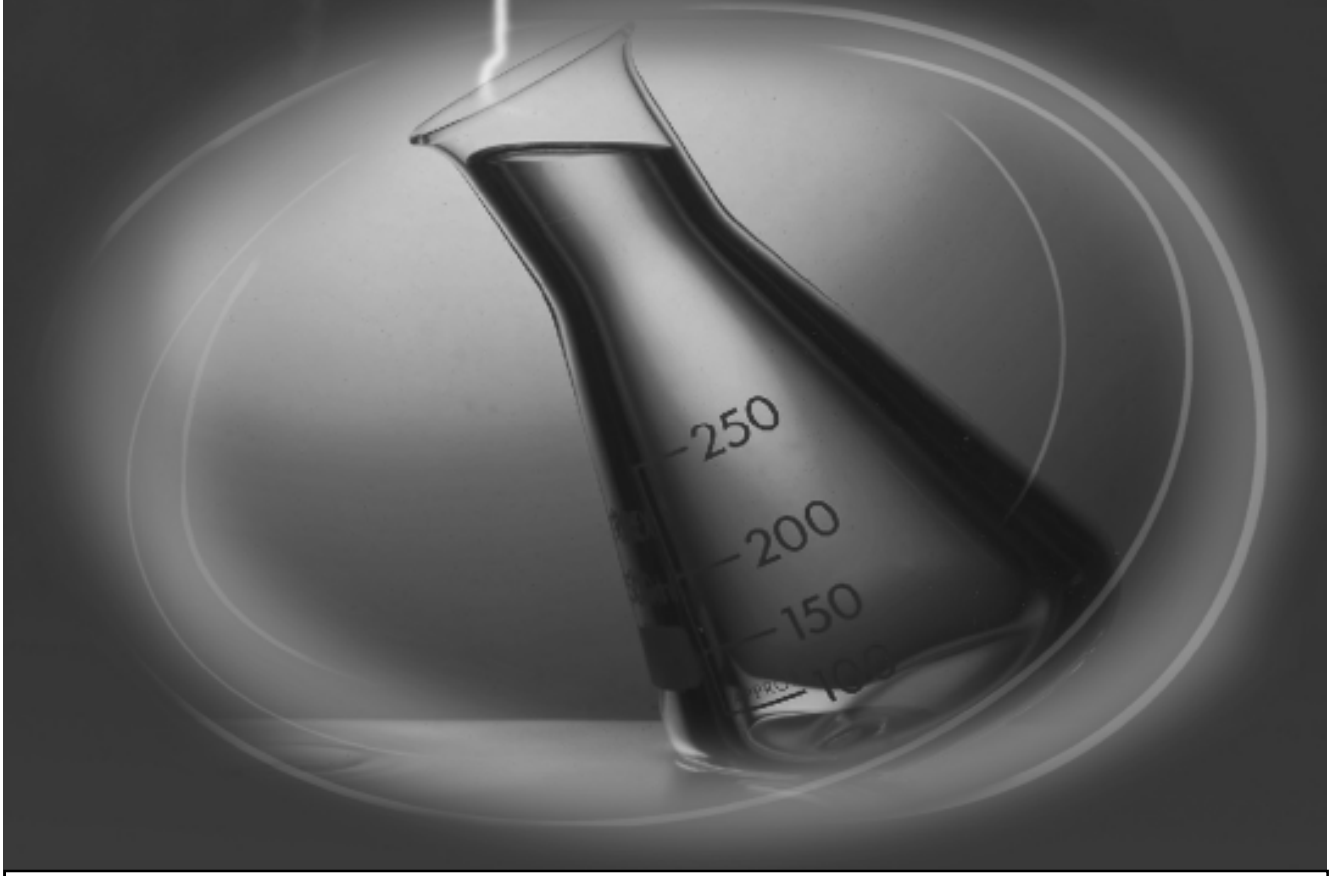
PHOTOCOPY MASTERS

Practical Science

Working Scientifically for 8-10 year olds

- Practical hands-on science activities
- Contains comprehensive teachers' notes and lesson ideas



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Contents

Teachers' Notes

Working Scientifically

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 bridge 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 cross-curricular integration with other learning areas. Sometimes a whole day's work could be planned around one lesson sheet.

Science Materials and Equipment

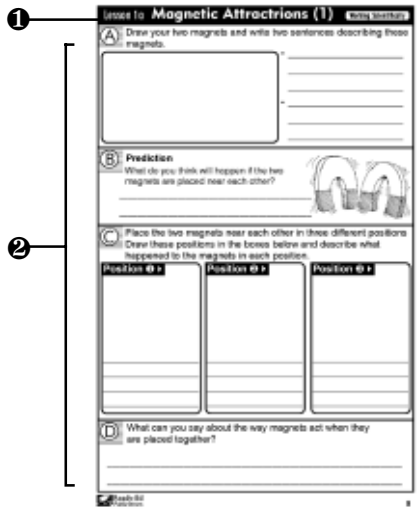
The equipment needed has been kept to a minimum to facilitate ease of planning. It is readily available in schools or is easily acquired.

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*

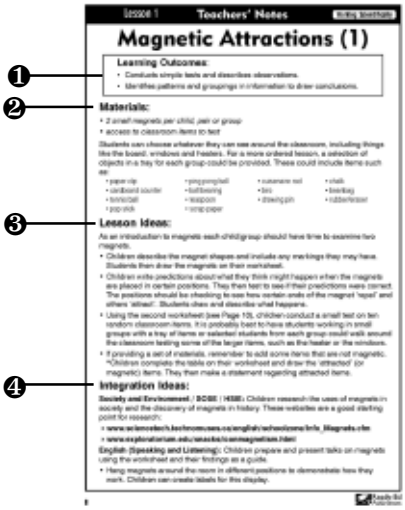
Lesson Sheets Layout



STUDENT LESSON SHEET

❶ Lesson title

❷ Student learning activities



TEACHERS' NOTES INCLUDE:

(FOR EACH LESSON)

❶ Outcome links;

❷ Required materials;

❸ Lesson plan ideas including extension ideas and teaching tips;

❹ Cross-curricular/integration ideas.

Ready-Ed Publications

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
- cardboard counter
- tennis ball
- pop stick
- ping pong ball
- ball bearing
- teaspoon
- scrap paper
- cuisenaire rod
- biro
- drawing pin
- chalk
- beanbag
- rubber/eraser

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 1a Magnetic Attractions (1)

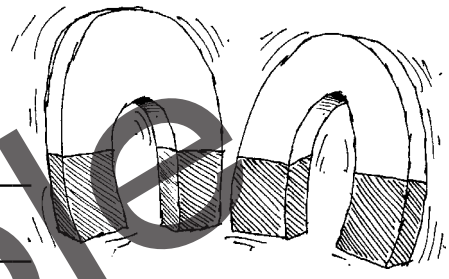
Working Scientifically

A Draw your two magnets and write two sentences describing these magnets.

- _____
- _____

B **Prediction**

What do you think will happen if the two magnets are placed near each other?



_____

_____

C Place the two magnets near each other in three different positions. Draw these positions in the boxes below and describe what happened to the magnets in each position.

Position ❶ ▸	Position ❷ ▸	Position ❸ ▸

D What can you say about the way magnets act when they are placed together?

_____

_____