



**Practical
Science**

Working Scientifically for 6-8 year olds

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

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Published by Ready-Ed Publications (2007)

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ISBN 1 86397 686 8

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This book contains a package of photocopiable worksheets designed to be used to cover the Science learning area of “**Working Scientifically**” with 6-8 year old students.

At this level the students should be able to solve simple problems and carry out investigations using familiar experiences. Their attention should be drawn to the ‘how’ and ‘why’ of the particular situations. In this book the students will develop their skills in testing, making simple written observations, gathering data, illustrating, labelling and making simple graphs. Specific activities focus on light, colour, fingerprints and water. Also included are some investigations into surface friction and floating and sinking.

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

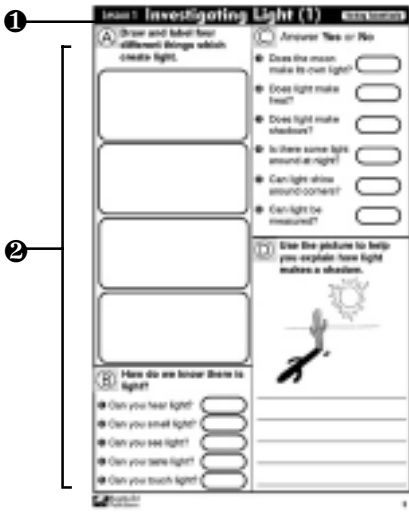
The equipment needed has been kept to a minimum to facilitate ease of planning. It is readily available in schools or is easily acquired.

All lesson sheets are outcome linked to the various curriculum documents (see page 6). Answers are provided where necessary (see page 24).

Other books in the Practical Science series:

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

Lesson Sheets Layout

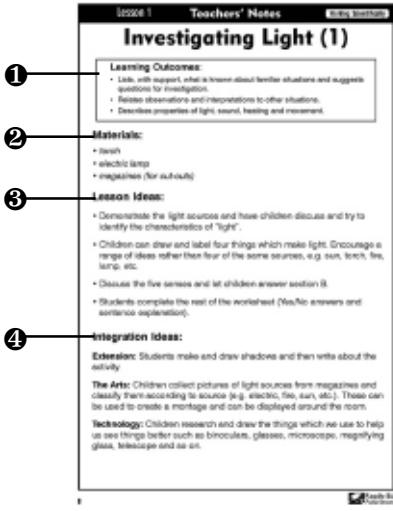


The diagram shows a student lesson sheet titled 'Lesson 1: Investigating Light (1)'. It is divided into two main sections. Section 1, labeled '1', is titled 'Draw and label four different things which create light.' and contains four empty boxes for drawing. Section 2, labeled '2', is titled 'Here are five boxes to help you explore how light makes a situation.' and contains five empty boxes for writing. To the right of these boxes is a list of questions with checkboxes: 'Does the moon make its own light?', 'Does light make heat?', 'Does light make shadows?', 'Is there some light around at night?', 'Can light show around corners?', and 'Can light be measured?'. Below these questions is a small illustration of a hand holding a flashlight. At the bottom right, there is a section titled 'Use five pictures to help you explore how light makes a situation.' with a small illustration of a sun and a hand holding a flashlight.

STUDENT LESSON SHEET

① Lesson title

② Student learning activities



The diagram shows a teachers' notes page titled 'Lesson 1: Investigating Light (1)'. It is divided into four main sections. Section 1, labeled '1', is titled 'Learning Outcomes:' and contains three bullet points. Section 2, labeled '2', is titled 'Materials:' and contains a list of materials. Section 3, labeled '3', is titled 'Lesson Ideas:' and contains three bullet points. Section 4, labeled '4', is titled 'Integration Ideas:' and contains two bullet points. At the bottom, there are two sections: 'The Arts' and 'Technology'.

TEACHERS' NOTES INCLUDE:

(FOR EACH LESSON)

① Outcome links;

② Required materials;

③ Lesson plan ideas including extension ideas and teaching tips;

④ Cross-curricular/integration ideas.

Investigating Light (1)

Learning Outcomes:

- Lists, with support, what is known about familiar situations and suggests questions for investigation.
- Relates observations and interpretations to other situations.
- Describes properties of light, sound, heating and movement.

Materials:

- *torch*
- *electric lamp*
- *magazines (for cut-outs)*

Lesson Ideas:

- Demonstrate the light sources and have children discuss and try to identify the characteristics of "light".
- Children can draw and label four things which make light. Encourage a range of ideas rather than four of the same sources, e.g. sun, torch, fire, lamp, etc.
- Discuss the five senses and let children answer section B.
- Students complete the rest of the worksheet (Yes/No answers and sentence explanation).

Integration Ideas:

Extension: Students make and draw shadows and then write about the activity.

The Arts: Children collect pictures of light sources from magazines and classify them according to source (e.g. electric, fire, sun, etc.). These can be used to create a montage and can be displayed around the room.

Technology: Children research and draw the things which we use to help us see things better such as binoculars, glasses, microscope, magnifying glass, telescope and so on.

A Draw and label four different things which create light.

B How do we know there is light?

- 1 Can you hear light?
- 2 Can you smell light?
- 3 Can you see light?
- 4 Can you taste light?
- 5 Can you feel light?

C Answer **Yes** or **No**

- 1 Does the moon make its own light?
- 2 Does light make heat?
- 3 Does light make shadows?
- 4 Is there some light around at night?
- 5 Can light shine around corners?
- 6 Can light be measured?

D Use the picture to help you explain how light makes a shadow.

