



## LEVELS 5/6 ACTIVITY - WHAT WORMS WANT

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### ACTIVITY SUMMARY

Students design an experiment to test environmental factors preferred by worms.

They use their findings to form opinions about adaptations for survival and environments, and share their findings and opinions with the class.

### RESOURCES

Video : *Introduction to worms*

4-5 worms per group

shoe box per group

paper towels

water

black paper

white paper

various textured materials

cellophane

poster paper

### KEY WORDS

experiment, environment, worm, light, dark, moist, dry, texture, adaptation, survival, variable, test, result, prediction

## AUSTRALIAN CURRICULUM LINKS - LEVEL 5/6 SCIENCE

LEARNING AREA	CONTENT DESCRIPTOR ELABORATION
SCIENCE - YEAR 5	<p><a href="#">ACSSU043</a> Explaining how particular adaptations help survival</p> <p><a href="#">ACSSU043</a> Describing and listing adaptations of living things suited for particular Australian environments</p> <p><a href="#">ACSSU043</a> Exploring general adaptations for particular environments</p> <p><a href="#">AC SIS231</a> Exploring the range of questions that can be asked about a problem or phenomena and with guidance, identifying those questions that could be investigated</p> <p><a href="#">AC SIS086</a> Experiencing a range of ways of investigating questions, including experimental testing, internet research, field observations and exploring simulations</p> <p><a href="#">AC SIS086</a> Explaining rules for safe processes and use of equipment</p> <p><a href="#">AC SIS086</a> Discussing the advantages of certain types of investigation for answering certain types of questions</p> <p><a href="#">AC SIS086</a> Considering different ways to approach problem solving, including researching, using trial and error, experimental testing and creating models</p> <p><a href="#">AC SIS087</a> Discussing in groups how investigations can be made as fair as possible</p> <p><a href="#">AC SIS087</a> Recording data in tables and diagrams or electronically as digital images and spreadsheets</p> <p><a href="#">AC SIS218</a> Sharing ideas as to whether observations match predictions, and discussing possible reasons for predictions being incorrect</p> <p><a href="#">AC SIS091</a> Working collaboratively to identify where methods could be improved, including where testing was not fair and practices could be improved</p> <p><a href="#">AC SIS093</a> Constructing multi-modal texts to communicate science ideas</p> <p><a href="#">AC SIS093</a> Using labelled diagrams, including cross-sectional representations, to communicate ideas</p>

## AUSTRALIAN CURRICULUM LINKS - LEVEL 5/6 SCIENCE

LEARNING AREA	CONTENT DESCRIPTOR ELABORATION
SCIENCE - YEAR 6	<p><a href="#">ACSSU094</a> Considering the effects of physical conditions causing migration and hibernation</p> <p><a href="#">ACSHE100</a> Considering how personal and community choices influence our use of sustainable sources of energy</p> <p><a href="#">AC SIS232</a> Refining questions to enable scientific investigation</p> <p><a href="#">AC SIS103</a> Following a procedure to design an experimental or field investigation</p> <p><a href="#">AC SIS103</a> Discussing methods chosen with other students, and refining methods accordingly</p> <p><a href="#">AC SIS103</a> Considering which investigation methods are most suited to answer a particular question or solve a problem</p> <p><a href="#">AC SIS104</a> Using the idea of an independent variable (note: this terminology does not need to be used at this stage) as something that is being investigated by changing it and measuring the effect of this change</p> <p><a href="#">AC SIS104</a> Using digital technologies to make accurate measurements and to record data</p> <p><a href="#">AC SIS22.1</a> Sharing ideas as to whether observations match predictions, and discussing possible reasons for predictions being incorrect</p> <p><a href="#">AC SIS22.1</a> Referring to evidence when explaining the outcomes of an investigation</p> <p><a href="#">AC SIS108</a> Discussing improvements to the methods used, and how these methods would improve the quality of the data obtained</p> <p><a href="#">AC SIS110</a> Using a variety of communication modes, such as reports, explanations, arguments, debates and procedural accounts, to communicate science ideas</p> <p><a href="#">AC SIS110</a> Using labelled diagrams, including cross-sectional representations, to communicate ideas and processes within multi-modal texts</p>

## LESSON PLAN - WHAT WORMS WANT

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### ENGAGE

Watch the video *Introduction to worms*. Discuss with students the kind of environments in which you might find worms. Are there any generalisations they can make about the environmental factors preferred by worms?

Explain the experiment to students. In pairs or groups, students are to design an experiment to test what kind of environment worms prefer. Students can choose their own variable (light/dark, damp/dry, different colours, different soil types etc.) and set up a test environment in a shoe box.

### EXPLORE

Students complete Part A of the experiment worksheet, designing their experiment and considering variables and safety concerns.

Students make predictions, and set up their experiment.

While students are waiting for the experiment, they draw a diagram illustrating their experiment and their predictions.

### EXPLAIN

After 15-20 minutes, students open up their boxes and record the results of their experiment. They then complete Part B of the experiment worksheet, recording their observations and comparing these with their predictions.

### ELABORATE

Students share their findings with the class, and complete a whole class results table outlining the findings of each group. Create a table like the one below on poster paper to be displayed in the classroom.

GROUP	VARIABLE	FINDINGS
1	wet / dry paper	(eg.) Worms prefer a moist environment
2	soil / grass	
3	red light / green light	

### EVALUATE

Students complete Part C of the experiment worksheet reflecting on their findings, and the effectiveness of the experiment.

# WHAT WORMS WANT

## PART A - DESIGNING THE EXPERIMENT

Design an experiment to test the environmental factors preferred by worms.

1. Choose a variable to test. You may like to come up with your own variable. or choose on from the list below:

moist / dry

- o place moist paper towel in half the box. and dry paper towel in the other half

red light/ green light

- o cut a window in each end of the shoe box and cover with different coloured cellophane

light/ dark

- o line half the shoe box with white paper and the other half with black paper

soil/ grass

- o place soil in one half of the shoe box and grass in the other half

2. Once you have chosen your variable. draw a labeled diagram of your experiment in the space below.

A large rectangular area with a dotted border, intended for drawing a labeled diagram of the experiment.



# WHAT WORMS WANT

## PART A - DESIGNING THE EXPERIMENT [continued]

Design an experiment to test the environmental factors preferred by worms.

3. Set up the experiment as you have planned. Place 4-5 worms in the center of the shoe box and close the lid.

4. What do you think the outcome of your experiment will be? Why?

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5. Draw a labeled diagram of your prediction below.

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6. Are there any safety considerations in carrying out your experiment?

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# WHAT WORMS WANT

## PART C - REFLECTIONS AND EVALUATION

1. Did your findings match your predictions? Explain.

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2. What can your observations explain about the anatomy of a worm?  
Do your findings suggest any adaptations of worms to suit their environment?

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3. Do you consider your experiment to be successful? Why/why not?

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4. If you were to repeat the experiment, what changes would you make?  
Why?

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