

# Science

## WORK SAMPLE PORTFOLIOS

These work sample portfolios have been designed to illustrate satisfactory achievement in the relevant aspects of the achievement standard.

The December 2011 work sample portfolios are a resource to support planning and implementation of the Foundation to Year 10 Australian Curriculum in English, Mathematics, Science and History during 2012. They comprise collections of different students' work annotated to highlight evidence of student learning of different aspects of the achievement standard.

The work samples vary in terms of how much time was available to complete the task or the degree of scaffolding provided by the teacher.

There is no pre-determined number of samples required in a portfolio nor are the work samples sequenced in any particular order. These initial work sample portfolios do not constitute a complete set of work samples - they provide evidence of most (but not necessarily all) aspects of the achievement standard.

As the Australian Curriculum in English, Mathematics, Science and History is implemented by schools in 2012, the work sample portfolios will be reviewed and enhanced by drawing on classroom practice and will reflect a more systematic collection of evidence from teaching and learning programs.

## THIS PORTFOLIO – FOUNDATION YEAR SCIENCE

This portfolio comprises a number of work samples drawn from a range of assessment tasks, namely:

- Sample 1 Investigation - Observing beans growing
- Sample 2 Drawing - Basic needs
- Sample 3 Investigation - Looking at materials
- Sample 4 Report - My favourite weather

This portfolio of student work demonstrates an ability to describe the properties of familiar materials (WS3) and the behavior of familiar living things (for example, growth of plants) (WS1). The student explains how the environment affects them and their needs in different environments (WS4, WS2) and suggests how the environment affects other living things (WS1). With teacher guidance, the student demonstrates an ability to share observations of familiar objects through verbal descriptions, drawing and text (WS1, WS2, WS3, WS4).

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## Work sample 1: **Investigation – Observing beans growing**

### Relevant parts of the achievement standard

*By the end of the Foundation year, students describe the properties and behaviour of familiar objects. They suggest how the environment affects them and other living things.*

*Students share observations of familiar objects and events.*

### Summary of task

Students have been studying living things. In this activity students carried out an investigation over a three week period to study the effect of water and sunlight on plant growth.

Students participated in a guided investigation comprising the following steps:

- students planted a bean seed in soil, placed it in a warm, sunny location and watered it each day
- they observed the growth of the bean seed over 3 weeks
- they recorded the growth they observed through pictures
- they were then asked to conclude what a plant needs to grow.

Some of the student responses were transcribed by the teacher.

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Work sample 1:  
Investigation – Observing beans growing

Week one bean seed

Week 2

Week 3

My plant needs water, sun to survive. First my plant was a seed and it grew a stem. Then it got two leaves and then a flower.

SUN  
WATER  
seed soil

Annotations

Uses a diagram to describe features of the bean seed and the plant.

Describes the behaviour (growth) of the seed by sequencing pictures of the seed germination.

Identifies that water, soil and the sun are required for the survival of the bean plant.

Acknowledgment

ACARA acknowledges the contribution of trial school teachers and students for providing the tasks and work samples. The annotations are referenced to the Australian Curriculum achievement standards.

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## Work sample 2: Drawing – Basic needs

### Relevant parts of the achievement standard

*By the end of the Foundation year, students describe the properties and behaviour of familiar objects. They suggest how the environment affects them and other living things.*

*Students share observations of familiar objects and events.*

### Summary of task

Students had been introduced to the idea of different environments having different conditions; and the idea that people need to be prepared for these conditions.

Students were asked to draw a picture of their family in a familiar place. They were asked what they needed in their chosen place. The teacher annotated the student's verbal description of their drawing.

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## Work sample 2: Drawing – Basic needs



### Annotations

*Identifies food and water as basic needs of living things.*

*Identifies the need for shelter in a beach environment.*

*Uses drawing and verbal explanation to share ideas.*

#### Acknowledgment

ACARA acknowledges the contribution of trial school teachers and students for providing the tasks and work samples. The annotations are referenced to the Australian Curriculum achievement standards.

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## Work sample 3: **Investigation – Looking at materials**

### **Relevant parts of the achievement standard**

*By the end of the Foundation year, students describe the properties and behaviour of familiar objects. They suggest how the environment affects them and other living things.*

*Students share observations of familiar objects.*

### **Summary of task**








Students had been learning about materials and developing vocabulary to name materials and describe their properties.

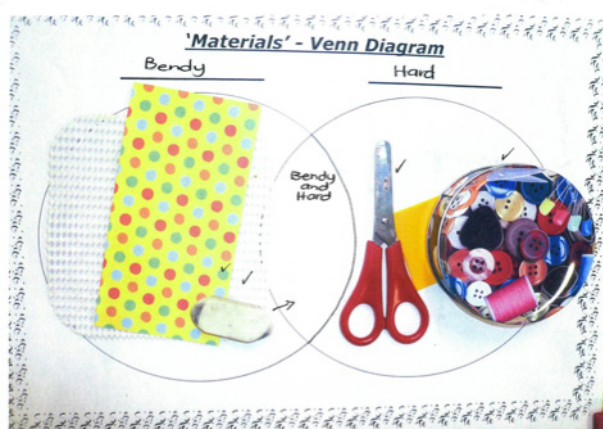
Students were asked to randomly select everyday materials from the classroom and sort the objects according to the materials they are made from (their responses were scribed). They then chose two properties with which to compare the materials and used a Venn diagram to show their classification.

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## Work sample 3: Investigation – Looking at materials

Looking At 'Materials'

Item • Name or drawing	Material • What is it made from?	Properties • Can you describe it?
 scissors	metal. plastic	light smooth red and silver
 pop stick	wood paint	light smooth orange
 envelope	paper	light white rectangle smooth
 eraser	glue	light rough white and grey oval
 circle shape	plastic	smooth light circle shape red colour
 square block	plastic	light square sharp corners blue circle in the middle
 spotty paper	paper	light smooth blue green yellow one side and different spots on the other



### Annotations

*Describes the materials that comprise different classroom items.*

*Describes the properties of materials found in classroom items.*

*Uses provided table and a Venn diagram to share their observations.*

#### Acknowledgment

ACARA acknowledges the contribution of trial school teachers and students for providing the tasks and work samples. The annotations are referenced to the Australian Curriculum achievement standards.

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## Work sample 4: **Report – My favourite weather**

### **Relevant parts of the achievement standard**

*By the end of the Foundation year, students describe the properties and behaviour of familiar objects. They suggest how the environment affects them and other living things.*

*Students share observations of familiar objects and events.*

### **Summary of task**

Students had shared, in a class discussion, all the different types of weather and developed a vocabulary list to describe weather.

Students were asked to describe their favourite type of weather, the types of activities they could do in this type of weather, and the type of clothing they would wear.



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Work sample 4:  
Report – My favourite weather

My favourite weather is Snowy and cold

In this kind of weather I can:

1. Build a snowman

2. Have snowball fights.

3. Drink hot chocolate in bed and watching T.V.

This is a picture of what I could wear.



Annotations

Describes how the weather affects their everyday life, including what they do, and what they eat.

Describes how they dress in a cold environment.

Uses a labelled diagram to share their ideas.

Acknowledgment

ACARA acknowledges the Catholic Education Office, Western Australia for providing the tasks and work samples. The annotations are referenced to the Australian Curriculum achievement standards.