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 – YEAR 2 SCIENCE

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

Sample 1	Report – Using water
Sample 2	Report – Let's grow a plant
Sample 3	Investigation – Floating and sinking
Sample 4	Investigation – What is it made out of?
Sample 5	Recount – Chick diary
Sample 6	Poster – The Daintree

In this portfolio the student describes changes to the position of objects as a result of applying a push or a pull (WS3) and changes to living things, particularly growth and changes in behaviour (WS2, WS5). The student considers water as a resource and identifies its uses in daily life (WS1). The student investigates the Daintree rainforest as a resource and identifies its uses for a variety of living things (WS6). The student investigates the use of a variety of materials in the classroom and considers how their properties make them useful for particular purposes (WS4).

The student demonstrates the ability to pose questions about personal experiences (WS2) and predict outcomes of investigations (WS3) and uses informal measurements (for example, 'hard to push', 'biggest') when recording and comparing observations. The student conducts investigations, follows teacher instructions to record and represent observations (WS1, WS2, WS3, WS4, WS5) and communicates ideas to others using text and labelled diagrams (WS1, WS2, WS3, WS4, WS5, WS6).

The following aspects of the achievement standard are not evident in this portfolio:

- *describe changes to materials*
- *describe examples of where science is used in people's daily lives.*

Science

Work sample 1:
Report – Using water

Relevant parts of the achievement standard

By the end of Year 2, students describe changes to objects, materials and living things. They identify that certain materials and resources have different uses and describe examples of where science is used in people's daily lives.

Students pose questions about their experiences and predict outcomes of investigations. They use informal measurements to make and compare observations. They follow instructions to record and represent their observations and communicate their ideas to others.

Summary of task

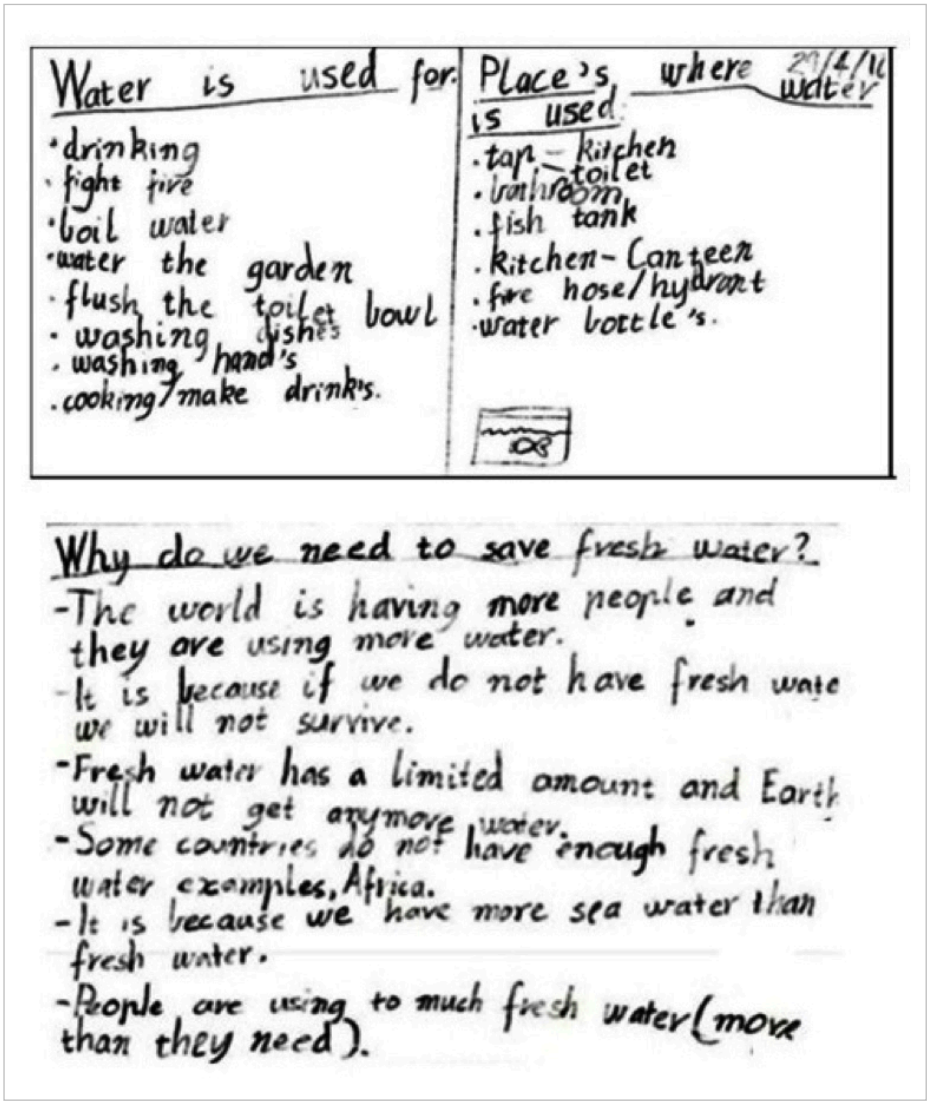
As part of a unit topic on water, students explored how water is used in their daily life and why it is so important to save water.

Students were asked to consider how they used water in their daily lives. They were asked to answer the questions:

- what is water used for?
- where it is used?
- why do we need to save water?

Science

Work sample 1:
Report – Using water



Water is used for.
- drinking
- fight fire
- boil water
- water the garden
- flush the toilet bowl
- washing dishes
- washing hand's
- cooking/make drinks.

Place's where water is used.
- tap - kitchen
- toilet
- bathroom
- fish tank
- Kitchen - Canteen
- fire hose/hydrant
- water bottle's.

Why do we need to save fresh water?
- The world is having more people and they are using more water.
- It is because if we do not have fresh wate we will not survive.
- Fresh water has a limited amount and Earth will not get anymore water.
- Some countries do not have enough fresh water examples, Africa.
- It is because we have more sea water than fresh water.
- People are using to much fresh water (more than they need).

Annotations

Identifies a range of everyday uses of water and locates where it is used.

Follows instructions to record information under specified headings.

Explains why water resources need to be conserved and recognises that fresh and salt water are different.

Communicates ideas to others using text.

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.

Science

Work sample 2:
Report – Let's grow a plant

Relevant parts of the achievement standard

By the end of Year 2, students describe changes to objects, materials and living things. They identify that certain materials and resources have different uses and describe examples of where science is used in people's daily lives.

Students pose questions about their experiences and predict outcomes of investigations. They use informal measurements to make and compare observations. They follow instructions to record and represent their observations and communicate their ideas to others.

Summary of task

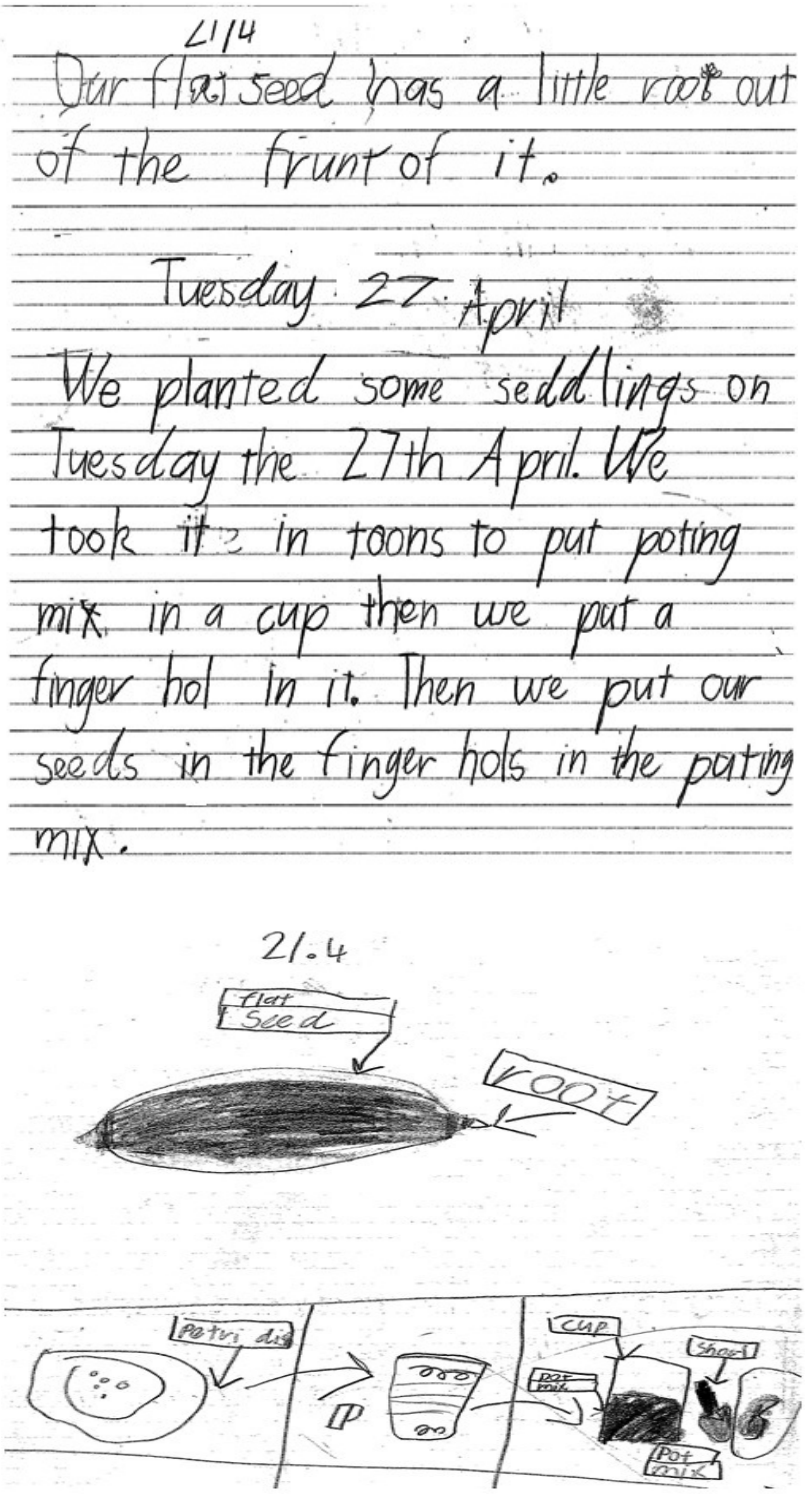
Over a four week period, students observed the growth of a plant.

Students were asked to observe and record the growth of a plant. Throughout the process, they were required to:

- describe the seed prior to planting
- describe and draw the procedure for growing a plant
- observe the plant growing and develop questions and answers to:
  - describe the growth process
  - compare the growth of two plants (a broad bean and a snow pea)
  - identify what plants need to grow.

Science

Work sample 2:
Report – Let's grow a plant



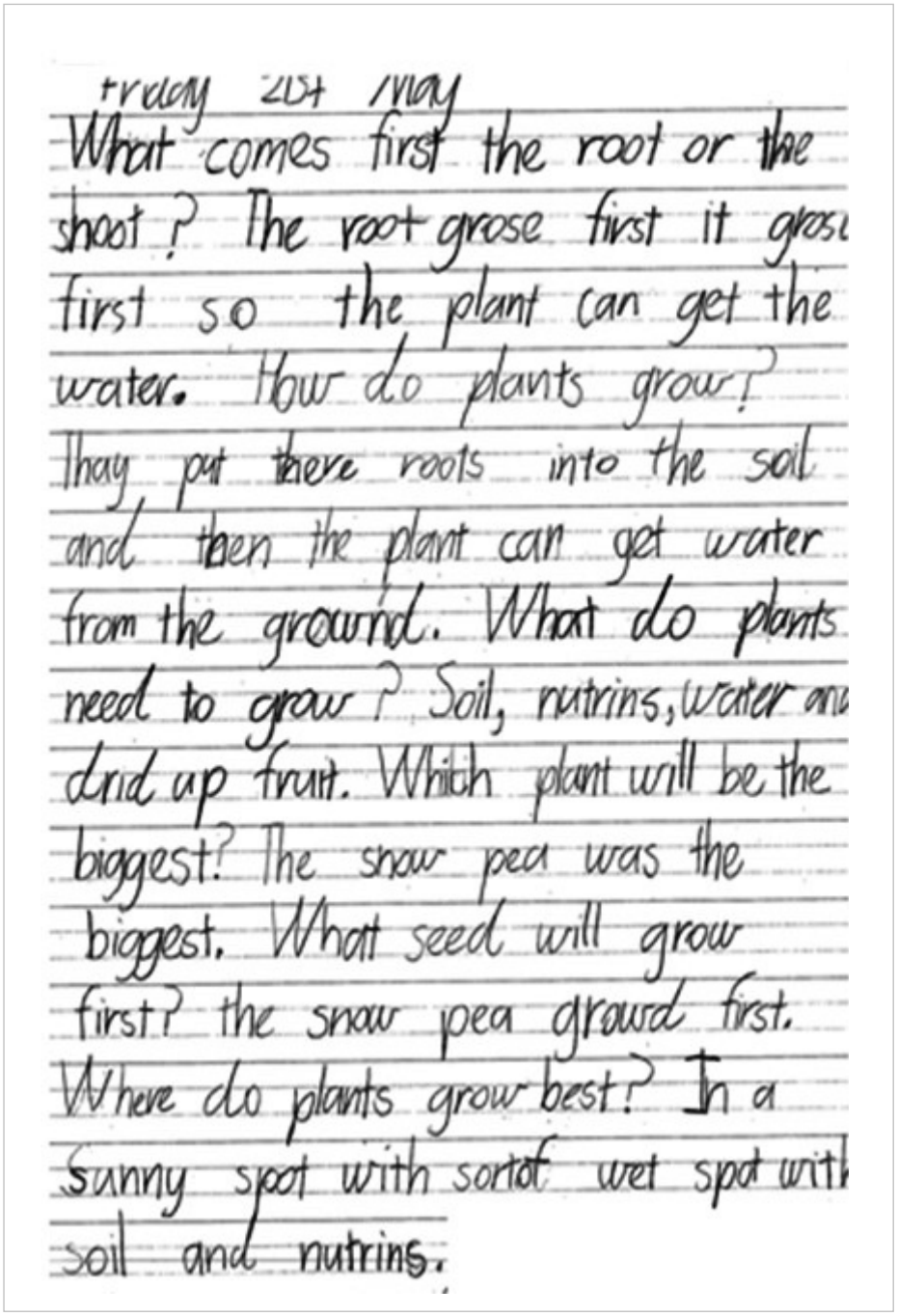
Annotations

Describes the process of planting the seed.

Records observations using labelled diagrams.

Science

Work sample 2:
Report – Let's grow a plant



Friday 25th May

What comes first the root or the shoot? The root grose first it grose first so the plant can get the water. How do plants grow? They put there roots into the soil and then the plant can get water from the grownd. What do plants need to grow? Soil, nutrins, water and drid up fruit. Which plant will be the biggest? The snow pea was the biggest. What seed will grow first? the snow pea grownd first. Where do plants grow best? In a sunny spot with sortof wet spot with soil and nutrins.

Annotations

Constructs questions about the growth of the plants.

Describes observations of how the plant grows and changes over time.

Identifies the needs of the plant for survival.

Uses informal measurements to compare the growth of the broad bean and snow pea plants.

Communicates questions and ideas to others using text.

Acknowledgment
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Science

Work sample 3:
Investigation – Floating and sinking

Relevant parts of the achievement standard

By the end of Year 2, students describe changes to objects, materials and living things. They identify that certain materials and resources have different uses and describe examples of where science is used in people's daily lives.

Students pose questions about their experiences and predict outcomes of investigations. They use informal measurements to make and compare observations. They follow instructions to record and represent their observations and communicate their ideas to others.

Summary of task

The class had been exploring forces with a focus on pushes and pulls. The teacher had discussed floating and sinking, encouraging the students to relate their ideas to previous lessons on forces.

Students were asked to work in groups of three or four to conduct an investigation into floating and sinking. Each group was provided with three different sized balls and a tub of water and asked to push the balls under water. The class were instructed to draw labelled diagrams to show what happened and to complete the recording form provided. The observations about the experiment were completed independently by each student.

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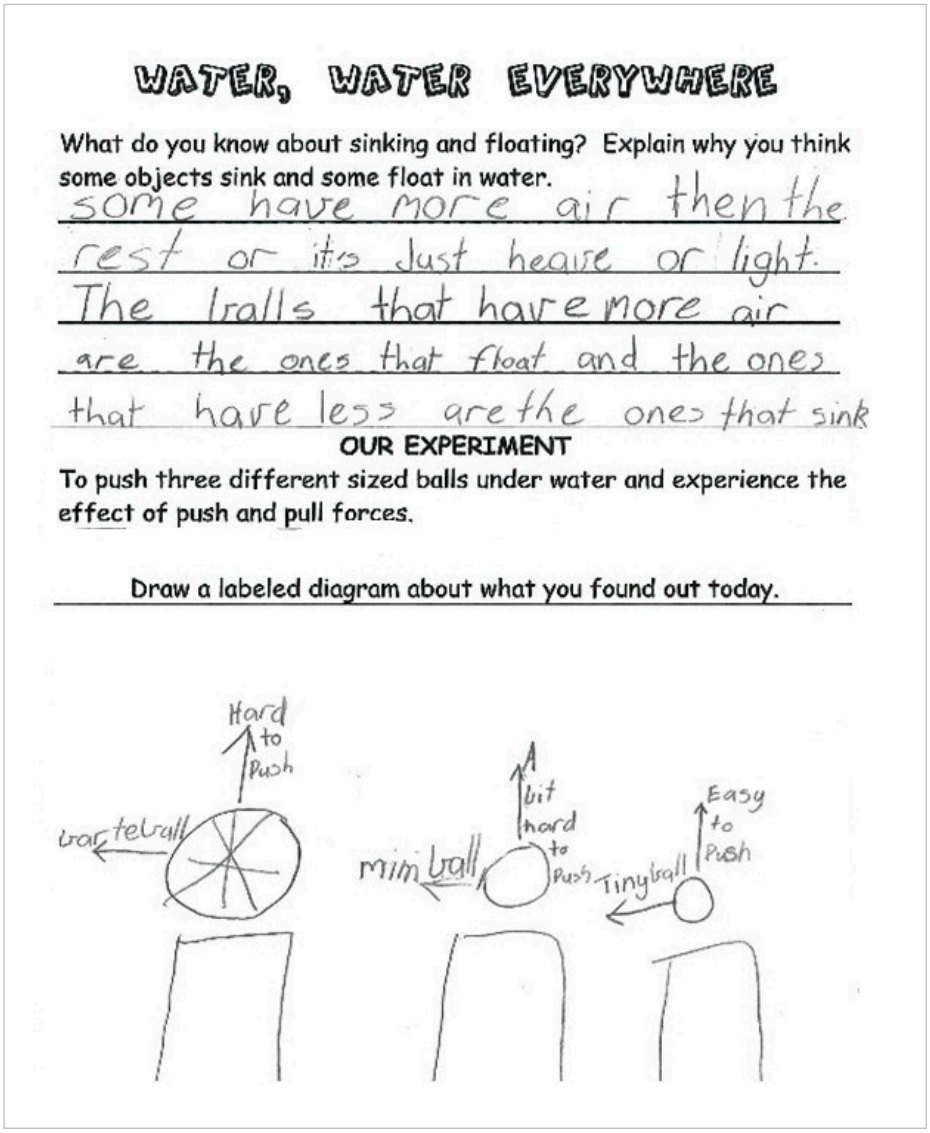
Work sample 3:
Investigation – Floating and sinking



WATER, WATER EVERYWHERE

What do you know about sinking and floating? Explain why you think some objects sink and some float in water.

some have more air then the rest or its just heaire or light. The balls that have more air are the ones that float and the ones that have less are the ones that sink

OUR EXPERIMENT

To push three different sized balls under water and experience the effect of push and pull forces.

Draw a labeled diagram about what you found out today.

Annotations

Predicts which balls will float and which will sink based on the amount of air in the ball.

Uses informal measurements to describe the ball size and the size of the push force required to immerse the ball.

Represents findings using a labelled diagram.

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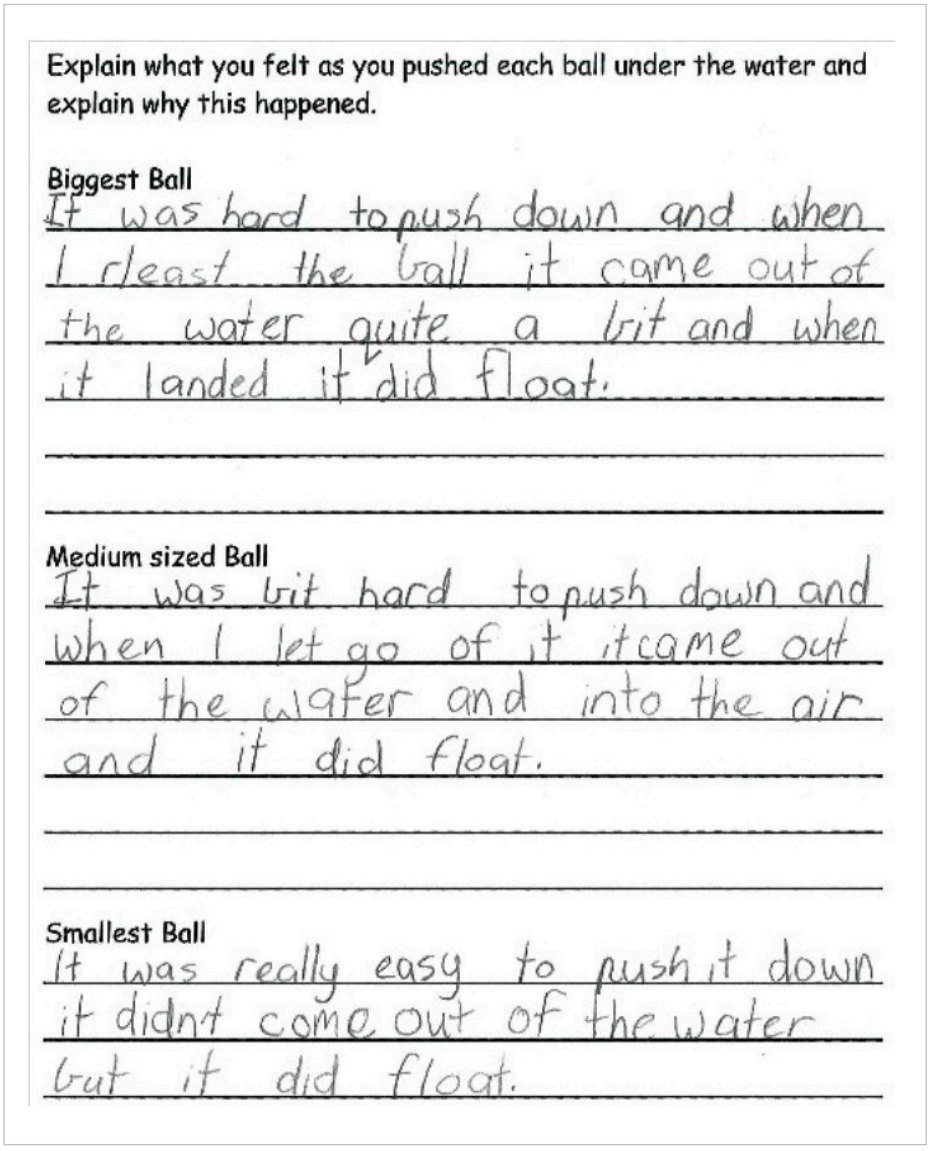
Work sample 3:
Investigation – Floating and sinking



Explain what you felt as you pushed each ball under the water and explain why this happened.

Biggest Ball

It was hard to push down and when I realest the ball it came out of the water quite a bit and when it landed it did float.

Medium sized Ball

It was bit hard to push down and when I let go of it it came out of the water and into the air and it did float.

Smallest Ball

It was really easy to push it down it didnt come out of the water but it did float.

Annotations

Communicates observations using text.

Uses informal measurements to describe the push force required to immerse each ball.

Acknowledgment
ACARA acknowledges the contribution of the Department of Education, Western Australia for providing the tasks and work samples. The annotations are referenced to the Australian Curriculum achievement standards.

Science

Work sample 4:
Investigation – What is it made out of?

Relevant parts of the achievement standard

By the end of Year 2, students describe changes to objects, materials and living things. They identify that certain materials and resources have different uses and describe examples of where science is used in people's daily lives.

Students pose questions about their experiences and predict outcomes of investigations. They use informal measurements to make and compare observations. They follow instructions to record and represent their observations and communicate their ideas to others.

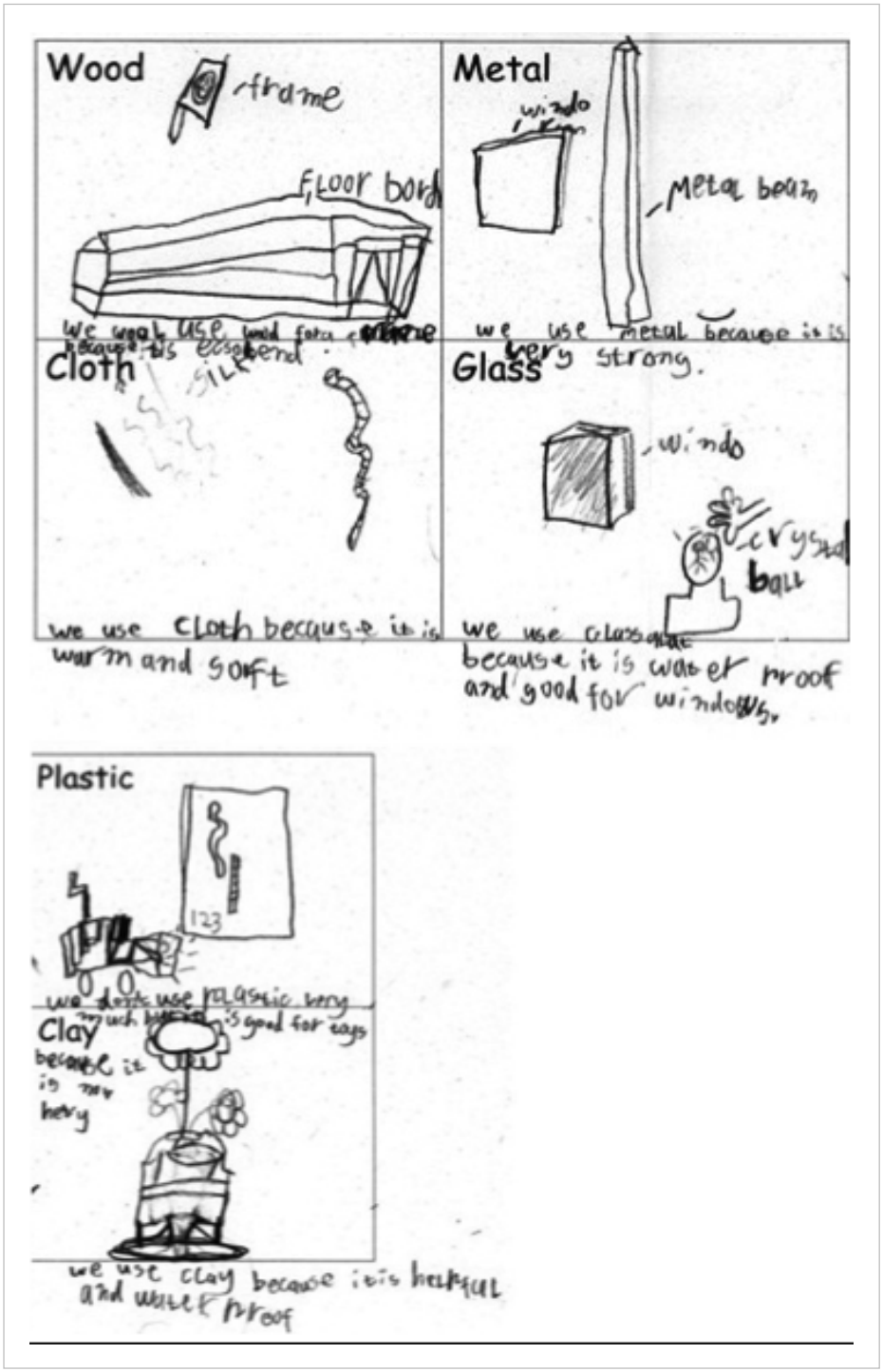
Summary of task

Students had identified some common materials found in objects around the classroom and explored why these materials had been selected for that use.

Students were asked to independently locate objects made out of a specified material, draw the object and describe why they thought that material had been chosen.

Science

Work sample 4:
Investigation – What is it made out of?



Annotations

Observes a variety of objects that are made of a particular material.

Explains why the materials are used for that purpose with reference to properties of the material.

Uses text and labelled diagrams to communicate ideas to others.

Acknowledgment
ACARA acknowledges the contribution of the Curriculum Council, Western Australia for the tasks and work samples. The annotations are referenced to the Australian Curriculum achievement standards.

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Work sample 5:
Recount – Chick diary

Relevant parts of the achievement standard

By the end of Year 2, students describe changes to objects, materials and living things. They identify that certain materials and resources have different uses and describe examples of where science is used in people's daily lives.

Students pose questions about their experiences and predict outcomes of investigations. They use informal measurements to make and compare observations. They follow instructions to record and represent their observations and communicate their ideas to others.

Summary of task

Students observed the growth and development of a number of chicks. They observed the chicks hatch, identified individual chicks and then observed their growth and behaviour. Students with egg allergies did not handle the eggs or chicks.

Students were asked to make diary entries to record their observations of the chicks. They shared their observations as a class group before they engaged with the writing task.

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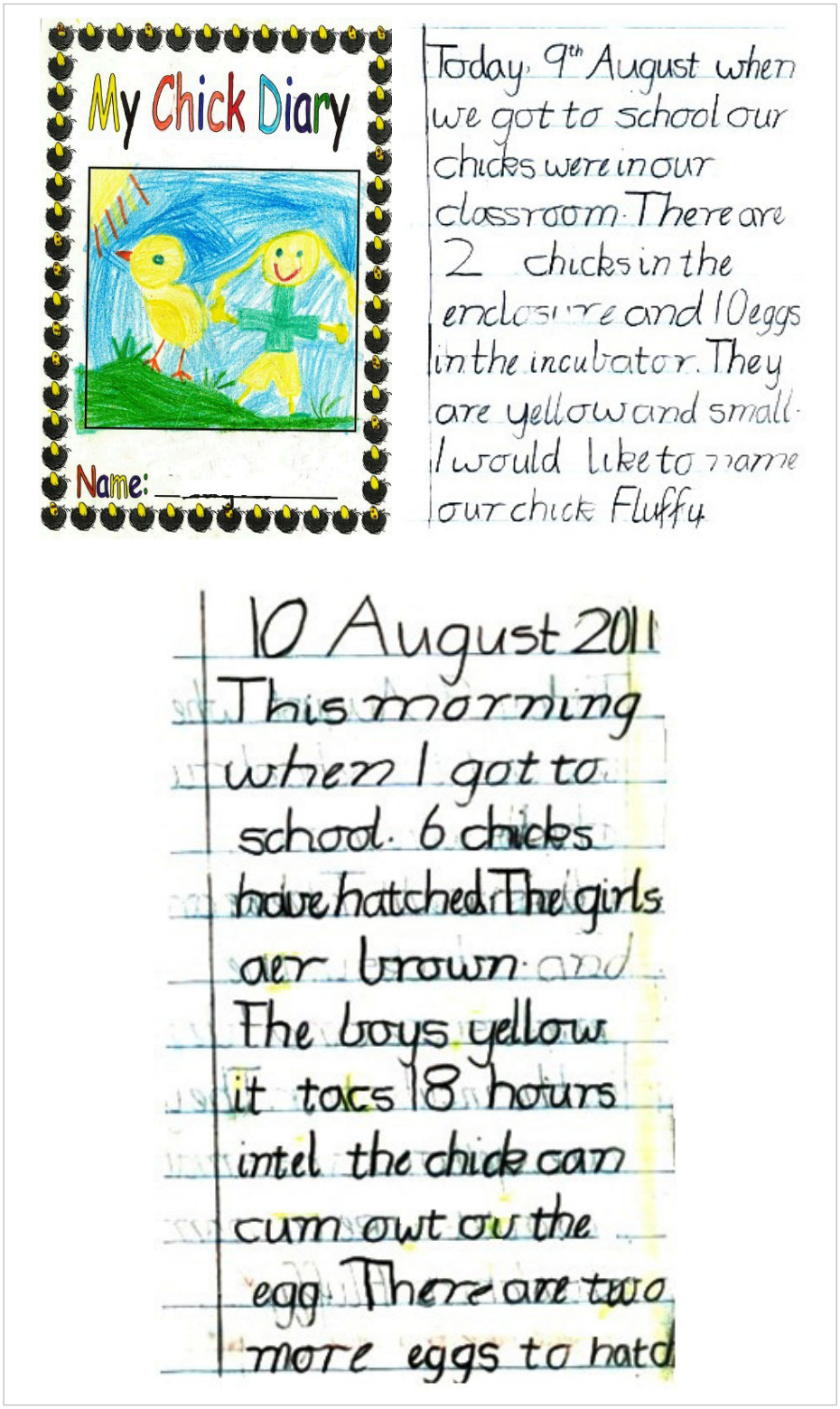
Work sample 5:
Recount – Chick diary

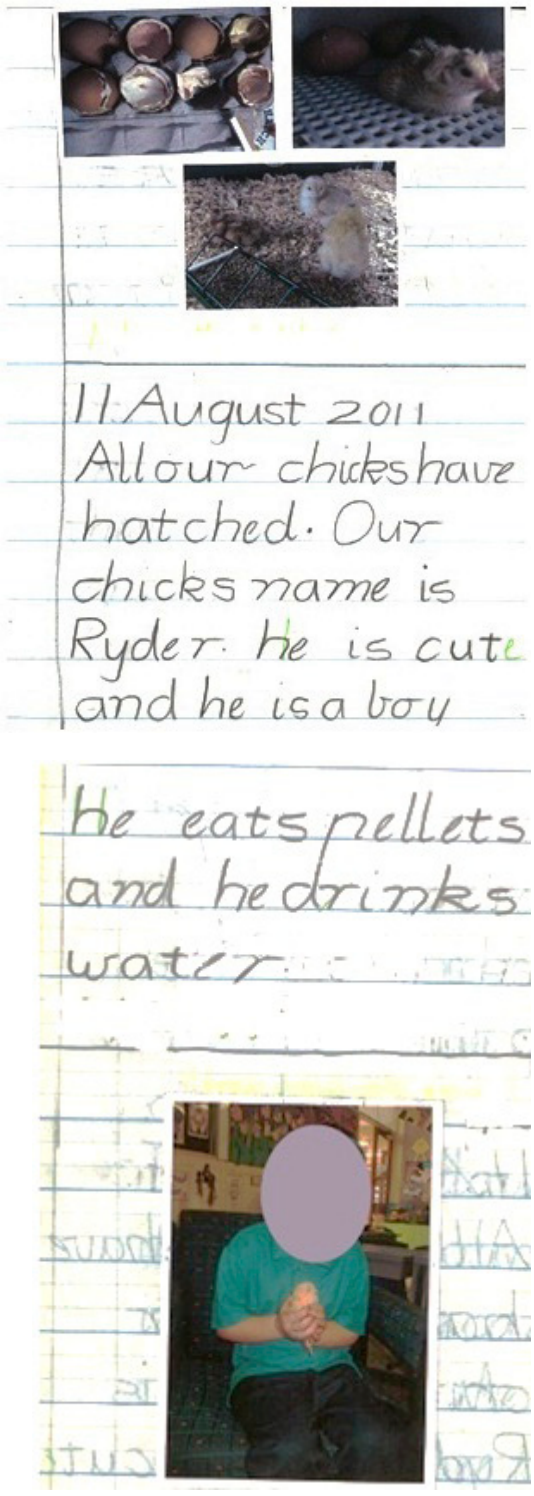


Annotations

Makes and communicates observations of growth and change using text.

Science

Work sample 5:
Recount – Chick diary

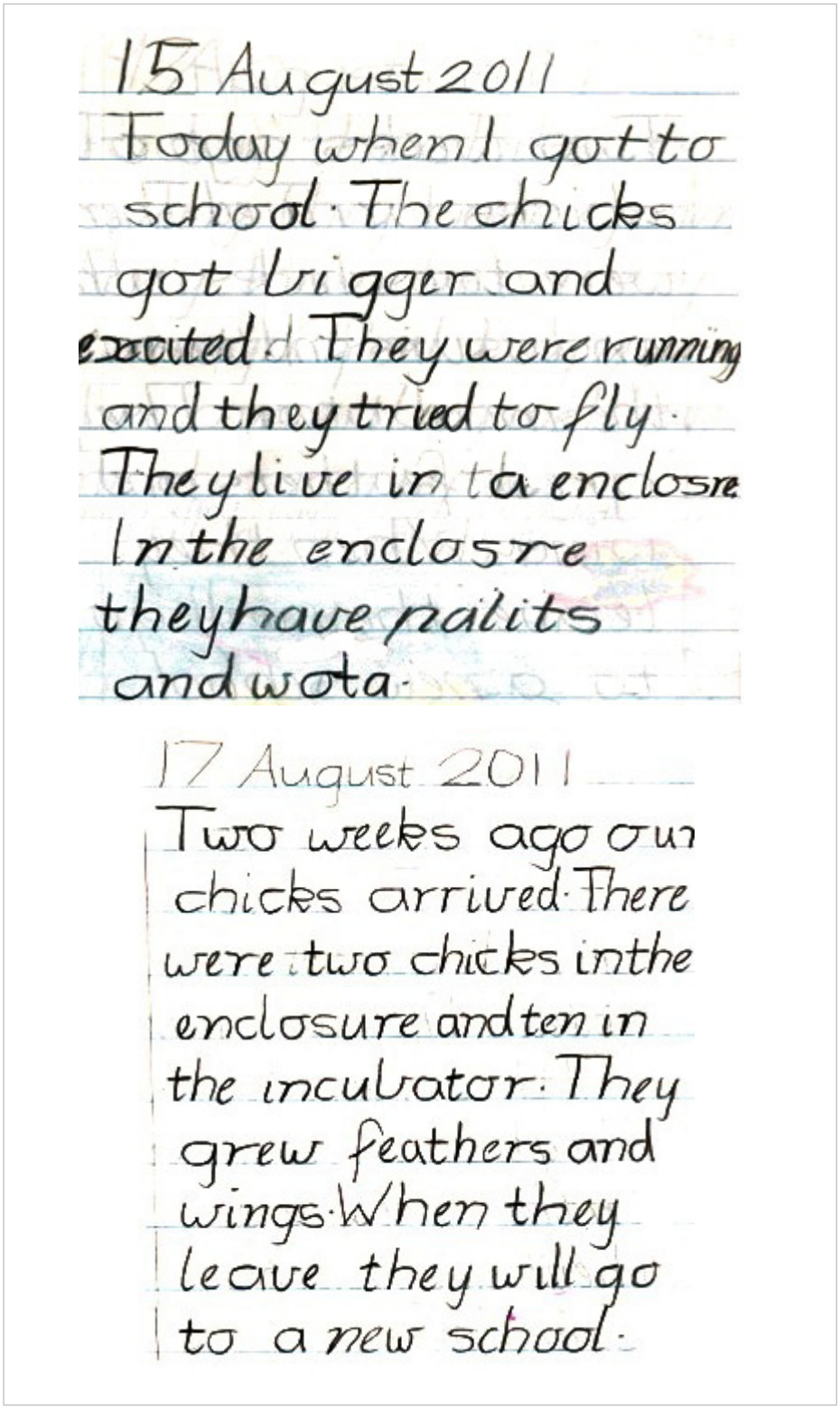


Annotations

Makes and communicates observations of growth, change and behaviour using photographs and text.

Science

Work sample 5:
Recount – Chick diary



15 August 2011
Today when I got to school. The chicks got bigger and excited. They were running and they tried to fly. They live in a enclosre In the enclosre they have palits and wota.

17 August 2011
Two weeks ago our chicks arrived. There were two chicks in the enclosure and ten in the incubator. They grew feathers and wings. When they leave they will go to a new school.

Annotations

Describes changes to the chicks' size and behaviour.

Identifies the growth of feathers and wings as changes to the chicks.

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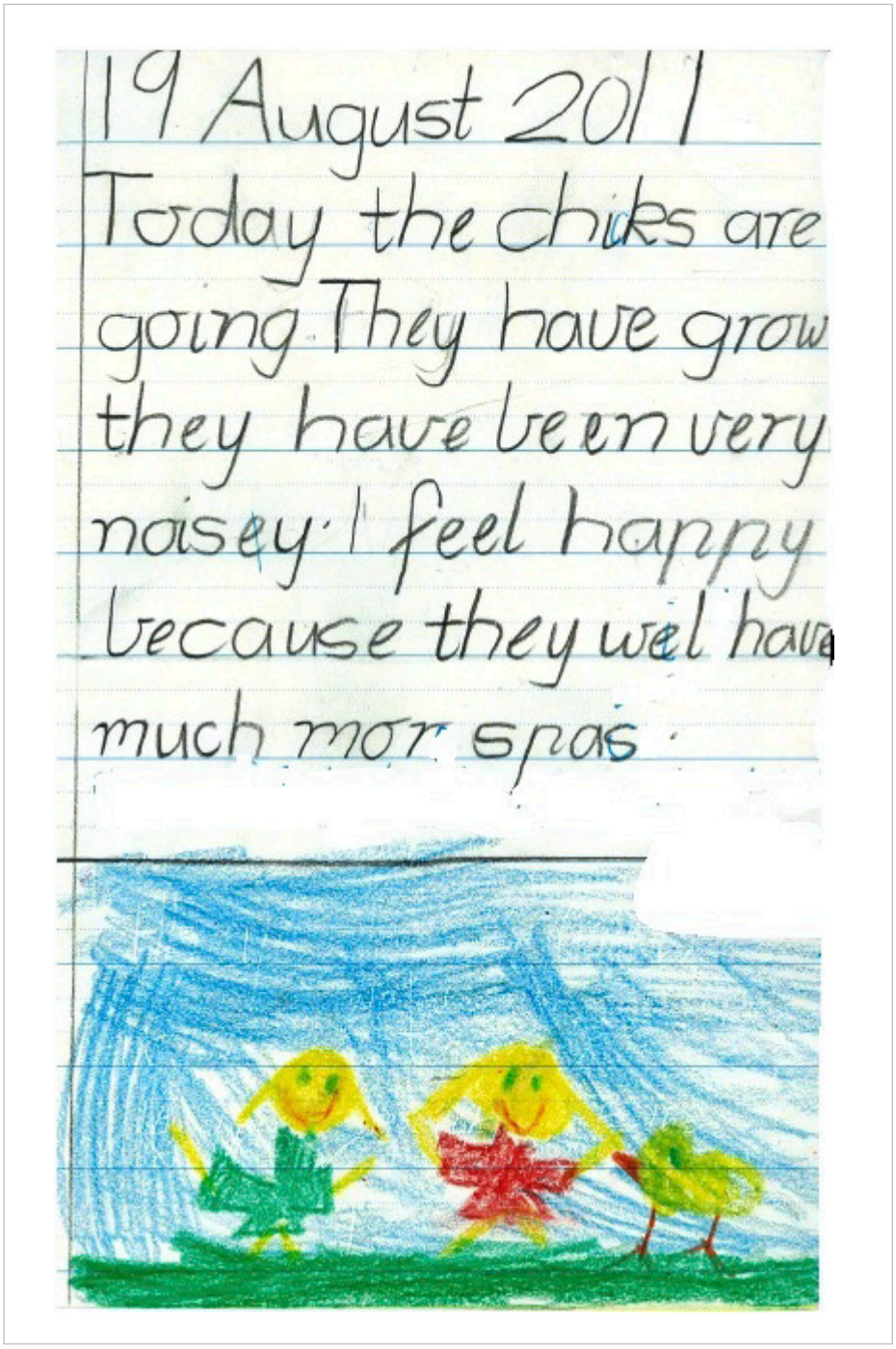
Work sample 5:
Recount – Chick diary



Annotations

Identifies that living things require more space as they grow.

Communicates ideas using text and drawing.

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

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Work sample 6:
Poster – The Daintree

Relevant parts of the achievement standard

By the end of Year 2, students describe changes to objects, materials and living things. They identify that certain materials and resources have different uses and describe examples of where science is used in people's daily lives.

Students pose questions about their experiences and predict outcomes of investigations. They use informal measurements to make and compare observations. They follow instructions to record and represent their observations and communicate their ideas to others.

Summary of task

As a response to a report that a large area of the Daintree rainforest was to be cleared to enable the construction of a large resort, the students brainstormed ideas about the effect of this action on living things.

Students were asked to produce a poster, an aeroplane banner or an interview for a current affairs TV show to publicise their concerns.

Science

Work sample 6:
Poster – The Daintree

Annotations

Identifies the Daintree rainforest as a valuable resource.

Identifies that the rainforest provides a range of resources for a variety of living things.

Annotations (Overview)

The student communicates their ideas through text and illustrations.

Acknowledgment
ACARA acknowledges the contribution of Education and Training Directorate, ACT for providing the tasks and work samples. The annotations are referenced to the Australian Curriculum achievement standards.