



Sample assessment task

Year level	3
Learning area	Science
Subject	Physical Sciences
Title of task	Heat transfer

Task details

Description of task	Students will conduct the Sunlight and Shade investigation with appropriate teacher guidance and support (http://www.palms.edu.au/course/view.php?id=33) Students will independently complete the short answer component.
Type of assessment	Formative and summative
Purpose of assessment	The investigation task is used to inform teacher judgement about student achievement and assist with planning. The picture prompt and short answer component is used to assess science understanding.
Assessment strategy	Observation of student engagement. Observation of group work. Short answer responses.
Evidence to be collected	Investigation activity work Worksheet
Suggested time	3 x 1 hour lessons

Content description

Content from the Western Australian Curriculum	<p>Science understanding Heat can be produced in many ways and can move from one object to another</p> <p>Science as a human endeavor Science knowledge helps people to understand the effect of their actions</p> <p>Science inquiry skills With guidance, plan and conduct scientific investigations to find answers to questions, considering the safe use of appropriate materials and equipment Consider the elements of fair tests and use formal measurements and digital technologies as appropriate, to make and record observations accurately Use a range of methods including tables and simple column graphs to represent data and to identify patterns and trends Compare results with predictions, suggesting possible reasons for findings Reflect on investigations, including whether a test was fair or not Represent and communicate observations, ideas and findings using formal and informal representation</p>
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Task preparation

Prior learning	Students are familiar with various heat sources and heat transfer. They have a general understanding of some of the methods by which heat may be transferred. Students are able to use relevant scientific language to communicate their observations and explanations.
Assessment differentiation	Teachers should differentiate their teaching and assessment to meet the specific learning needs of their students, based on their level of readiness to learn and their need to be challenged.

	Where appropriate, teachers may either scaffold or extend the scope of the assessment tasks.
Assessment task	
Assessment conditions	Varied
Resources	<ul style="list-style-type: none"> • Teacher support information http://www.bbc.co.uk/schools/gcsebitesize/science/aqa_pre_2011/energy/heatrev1.shtml • PALMS (Primary Australian Literacy Mathematics and Science) site. Investigation titled <i>Sunlight and Shade</i> (teacher notes). • Student worksheet available titled <i>Heat from the sun</i>. http://www.palms.edu.au/course/view.php?id=33

Instructions for teacher

Lesson 1 - optional

1. Teachers may review that the sun is a source of heat.
2. Complete Heat from the Sun worksheet (available from the PALMS website, refer to Resources).

Lesson 2 - investigation task

1. Engage students with the investigation process as appropriate. See Sunlight and Shade – Teacher’s notes (available from the PALMS website, refer to Resources).
2. Teacher to use investigation templates that students are familiar with.
3. 2-3 lessons may be required.

Lesson 3 - short answer responses

1. Advise students that they will be completing this final task independently.
2. The written activity requires students to apply their science language and understanding.
3. Review the activities that have been conducted, use the relevant science language and allow students to discuss the concepts. If these are not raised, the teacher may introduce them into the discussion.
4. Discuss with students the following words to help unpack the information required in the answer.
Describe; to provide characteristics and features.
Explain; relate cause and effect; make the relationship between things evident; provide why and/or how.
5. The teacher may read each question as it appears on the page.
6. Review the keywords that form the question (so that students understand the requirements).
7. Allow students to complete the task independently. If required, the teacher may read the question to the student.

Sample marking key

Description	Marks
Investigation	
Accurately follows the procedure and conducts the investigation. Clearly identifies a relationship between variables. Specifies how the variables will be changed and measured and refers to 'fair test'.	5-6
Follows the procedure and conducts the investigation. Identifies variables. Identifies variables to be measured.	3-4
With guidance conducts the investigation. Lists variables.	1-2
Subtotal	6
Description	Marks
Short answer with picture stimulus	
Collects and organises results in the template provided (may develop own table / method of recording). Identifies improvements to the method used. Describes how changes would improve the results.	3
Records results in the template provided. Identifies improvements.	2
With support organises data and results collected. States issues or problems in conducting the task.	1
Subtotal	3
Description	Marks
Short answer with picture stimulus	
Accurately identifies the heat source (and makes reference to power/turning on the oven). Clearly explains the movement or transfer of heat. Describes the safety risks and safety measures in the picture. (Wearing the gloves to stop the person's hands burning as the heat has been conducted to make the metal tray very hot).	5-6
Identifies the heat source as the oven. Explains briefly that the oven makes the tray hot. Identifies safety risks and safety measures taken in the picture. (The gloves are protecting the person's hands.)	3-4
States that the oven has made the tray hot. States the tray is hot and that the person would burn their hands.	1-2
Subtotal	6
Total	15

ACKNOWLEDGEMENTS

Image page 3

Renierveldman. (2015). [Photograph of baker putting bread into oven]. Retrieved August, 2017, from <https://pixabay.com/en/baking-gloves-oven-fresh-bread-1371964/>