Sample assessment task

Year level	4
Learning area	Science
Subject	Earth and Space Sciences
Title of task	Wave action

Task details

Description of task	Students will conduct a science activity to simulate the effects of erosion. They will record information, using diagrams and tables. Students will communicate results, using both formal and informal methods.
Type of assessment	Formative
Purpose of assessment	This task may be used to guide teacher planning. Student reflections and conclusions may be used as a summative assessment tool.
Assessment strategy	Teacher observation, group activities, written work
Evidence to be collected	Teacher observation and discussion during practical tasks Written activity may be completed and assessed at the end of practical task, if appropriate
Suggested time	Initial set-up, questions 1-7 - suggested 40 minutes Conduct and record information, questions 8-11 – 60 minutes

Content description

Content from the Western Australian Curriculum	**Science understanding** Earth's surface changes over time as a result of natural processes and human activity **Science as a human endeavour** Science knowledge helps people to understand the effect of their actions **Science inquiry skills** With guidance, plan and conduct scientific investigations to find answers to questions, considering the safe use of appropriate materials and equipment Use a range of methods, including tables and simple column graphs, to represent data and to identify patterns and trends Represent and communicate observations, ideas and findings, using formal and informal representations

Task preparation

Prior learning	Students have an understanding of how and why erosion happens (support materials available in resources). Teachers have explicitly taught students how to collect and record information in relevant and appropriate ways to science. Teachers may choose to view experiment conducted in below link: https://www.youtube.com/watch?v=ZNJe6hrdL3M Teachers to discuss information that students will be required to collect and develop a table/data collection tool in collaboration with students (may be imported to worksheet)

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	Activity is performed in small groups, with students recording information as they work. Teacher may choose to model some parts of the activity to ensure the activity is executed correctly, and results provide appropriate information to students. Final written components of task are completed independently.
Resources	**Background material and teacher resources** ScienceWeb Australia Unit 3 Shaping the Earth's surface http://scienceweb.asta.edu.au/years-3-4/unit3/lesson-two/yr34-unit3-lesson-two.html Being a soil scientist (Queensland Comparable Assessment Tasks) https://www.qcaa.qld.edu.au/downloads/p_10/ac_science_yr4_qcat_12_student_booklet.pdf Energy of Water: Erosion http://www.cpalms.org/Public/PreviewResourceLesson/Preview/15099 Weathering and Erosion http://www.education.vic.gov.au/school/teachers/teachingresources/discipline/science/samples/Pages/weathering.aspx **Videos** Erosion Lab (wave simulation shoreline erosion) https://www.youtube.com/watch?v=ZNJe6hrdL3M BTN storms and flooding (relates directly to this task and learning concept) http://www.abc.net.au/btn/story/s4478709.htm Wave eroding sand experiment https://www.youtube.com/watch?v=TXzZHZS3_14

Title: Wave action Name_____

1. Draw and label your first ‘beach’ sketch BEFORE any erosion takes place.

2. Explain what are you trying to find out?

3. Explain what may happen and why?

4. Describe the safety issues we need to think about?

5. Design a table to support your results that includes the measurements of the height of the sand at different times.

6. List the equipment you will need to complete this activity?

7. Method: What are the steps you will take to complete the activity? In what order do you need to complete them?

8. Draw and label the 'after erosion' diagram of the beach. Explain how it is different to the first diagram.

9. Results: Explain what happened and why?

10. Conclusion: Was your prediction about what would happen correct? Why/Why not?

11. Give an example of erosion in your environment and why it is happening?

12. Explain how can we make this activity better?

Sample marking key

Description	Marks
Conduct the activity, Questions 1,4	
Follows instructions correctly to ensure results are apparent. Collects detailed diagrams and results that support understanding of concept. Is aware of safe practices and provides reasons for these practices.	5-6
Follows instructions, requiring some guidance and assistance to ensure results are apparent. Collects information that is mostly correct and accurate, with some teacher assistance. Uses equipment safely.	2-4
Follows some instructions. Relies on teacher to provide results.	0-2
Subtotal	**6**
Description	**Marks**
Collects and records relevant information, questions 5, 9	
Correctly labels and organises data into tables and/or graphs. Identifies patterns, give plausible reasons and applies science understanding when explaining results.	4-5
Labels and organises most data into a table and/or graphs. Identify some patterns in data collected and applies some science understanding.	2-3
Uses provided template to organise some data into tables or column graphs.	1-2
Subtotal	**5**
Description	**Marks**
Results and conclusions, Questions 9, 10, 11	
Explains results and applies knowledge to examples of erosion in the environment. Compares results with predictions. 13. Provides reasons why test was fair or not, making reference to results. Suggests ways to improve the activity and why these improvements are necessary.	4-5
Explains results, with reference to the information collected from the activity. Suggests reasons for results. Provides reasons why test was fair or not. States whether the activity was successful or not.	2-3
Explains what happened to the sand during the activity. States if the prediction was correct or not. Suggests ways to improve the activity.	0-1
Subtotal	**5**
Total	**16**