



Sample assessment task				
Year level	8			
Learning area	Science			
Subject	Earth and Space Sciences			
Title of task	Soil activity and rock formation			
Task details				
Description of task	Students will do a short practical activity and then answer questions about different types of rocks and their formation.			
Type of assessment	Group activity and test			
Suggested time	1 hour			
Content description				
Content from the Western Australian Curriculum	Science understanding Sedimentary, igneous and metamorphic rocks contain minerals and are formed by processes that occur within Earth over a variety of timescales Science inquiry skills Summarise data, from students' own investigations and secondary sources, and use scientific understanding to identify relationships and draw conclusions			
Task preparation				
Prior learning	Students have looked at different types of rocks and understand the difference between sedimentary, igneous and metamorphic rocks.			
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	The activity is done in pairs or a small group. The questions are answered under test conditions.			

# Soil activity and rock formation

#### Student name \_\_\_\_\_

## Part 1: Soil activity: conduct this activity in your group

## Equipment

screw top jar

soil sample (sample should have a variety of grain sizes: clay, sand, pebbles and some organic matter)

water

tablespoon or scoop

#### Procedure

- 1. Add 4 spoonfuls of soil to the jar.
- 2. Fill the jar 2/3 full with water.
- 3. Tightly close the jar.
- 4. Shake the jar for 30 seconds, then leave it to settle.
- 5. Tidy up your work area.

## Results: answer the following questions by yourself

1. Draw a diagram of the jar and its contents after it has been allowed to settle for 3 minutes. Observe the contents of the jar carefully and label the layers in your diagram.

(6 marks)

2. Describe what you observe in the jar and explain why it settles like this.

(2 marks)

# Part 2: Answer the following questions about rocks and rock formation.

Question 3

Jack climbs a hill and observes that the rocks under his feet are rough white rock. When he looks closer, he can see sand grains and small pieces of shell in the rock.

a. Describe how this rock could have been formed.

b. Is this rock sedimentary, igneous or metamorphic?

(1 mark)

(3 marks)

c. What does this rock tell us about the area where Jack found it?

(3 marks)

Science | Earth and Space Sciences | Year 8

Question 4

Some types of igneous rocks are formed by volcanoes.

a. Name an igneous rock and describe how this type of rock could be formed by a volcano. (4 marks)

b. We can usually tell the difference between igneous and sedimentary rocks by looking at them.

What differences would we notice between the rough white rock in question 3a and the igneous rock in question 4a?

Enter your answers in the table below.

(6 marks)

Description	Rough white rock	Igneous rock
colour		
texture		
type of particles in rock		

Sample marking key		
Description	Marks	
Part 1: Activity on sediments		
1. Diagram is comprehensive with each layer labelled	1–6	
2. Explains that heaviest particles are on bottom	1–2	
Because they settle before lighter particles.		
Subtotal	8	
Description	Marks	
Question 3		
a. Comprehensively describes the formation of the rock.	1_2	
Describes the environment of deposition, the components, and cementation process.	1-5	
b. sedimentary	1	
c. was originally under the sea	1	
area has been lifted up	1	
by earth movements	1	
Subtotal	7	
Description	Marks	
Question 4		
a. Names an igneous rock	1	
Comprehensively describes how this rock can be formed including where it solidifies	1–3	
b. Fills out table correctly	1–6	
Subtotal	10	
Total	25	