

**Secondary Science SBE  
Lesson Plan Framework**

**Lesson Title: Physical Weathering**

**Group: 8 Y    Location:    Date/Time: 24<sup>th</sup> April /9h10 to 10h**

**Learning Objectives: Students should learn:**

- to recap about naming sedimentary, metamorphic and igneous rocks examples.
- to look at how changes in temperature can affect rocks at the earth's surface.

**Learning Outcomes: Most students should be able to:**

- Name sedimentary rocks (sandstone and limestone), metamorphic (marble and slate) and igneous (granite and basalt) rocks.
- Explain how water causes rocks to expand and break up and also understanding the meaning of physical weathering.
- Recognise that continually heating and cooling rocks cause them to break up.

**National Curriculum/Syllabus References (incl. reference to previous KS)**

Ks3 Biology, Exploring science text book (pages 82-83), Rocks and Weathering.  
NC 4.

**Links to other areas**

Literacy, visual, verbal and kinaesthetic learning styles.

**Previous assessment details informing this lesson.**

Discussion with class teacher and previous class observations.

**Differentiation**

By questioning  
By use of stimulus material  
By pace of the lesson and relevant use of starters  
By support  
By guided modelling

**Health and Safety**

Lesson safe for pupils but see risk assessment attached for demonstration.

## Lesson Development

Timing (min)	Teacher activity	Pupil activity	# Resources	Assessment Items
3minutes	Taking the register	Pupils will pay attention to the register.	Teacher planner	worksheet
10 minutes	Sharing lesson aim and making a brief review about different types of rocks.	Class interaction with the teacher, understanding the contents of the rocks homework.	Homework sheets Worksheet Small white board	
10 minutes	Starter activity in silence Checking worksheet correction.	Pupils will start doing the Starter activity individually in silence (Worksheet)		
15 minutes	<b>Activity 1</b> Going through PowerPoint with the pupils about physical weathering	-Pupils will be listening -Pupils will also be writing key information about the topic	Interactive white board Exercise books	Q+A
10 minutes	<b>Activity 2</b> About heating and cooling,,,	-Pupils will pay attention and understand the method for heating and cooling a rock.	white board Exercise books	-
4 minutes	<b>Activity 4</b> As plenary Watching Moby and Dick flash player animation about physical Weathering as a plenary activity as well writing notes about physical weathering meaning.	-Pupils will be participating, listening. Writing notes about what is physical weathering.	-	-
3minutes	Packing away and get ready for next lesson.  Instructions to make again the homework.	Pupils need to start packing and cleaning lab to move to next lesson.	Homework sheet	-

PGCE & BSc. Secondary Science(School based Form)

Risk Assessment

**Title of Practical Activity:** Physical weathering

**Teachers and pupils involved:** teacher, trainee teacher and 14 pupils

Substances hazardous to health - Chemicals regulated by COSHH	
1. Using Bunsen Burner	6.
2.	7.
3.	8.
4.	9
5.	10.

**Hazardous procedure or item of equipment.**

**Items:** rocks examples (limestone and marble), Bunsen burner, a splint and cold water and a tong.

**Risk estimator >10 then risk is unacceptable; rethink control measures)**

Likelihood of occurrence	L Score	Severity of Outcome	O Score
Highly unlikely	1	Slight inconvenience	1
May happen but rare	2	Minor injury	2
Does happen but rare	3	Medical attention required	3
Occurs time to time	4	Major injury leading to hospitalisation	4
Likely to occur often	5	Fatality or serious injury	5

**Practical Risks**

Hazard	L Score	O Score	Total (Lx O)	Control Measures
1	3	3	9	Teacher will aware pupils of risk assessment and will be the only person using the Bunsen burner to make a demo.

## Lesson Evaluation

Lesson Rating – My Performance *(To be completed at the end of every lesson)*

<b>Criteria</b>	<b>Very Good</b>	<b>Good</b>	<b>Satisfactory</b>	<b>Unsatisfactory</b>
Knowledge				
Resources				
Lesson Objectives				
Behaviour Management				
Risk Assessment				
Differentiation				
Feedback to pupils				
Assessment				
Variety & Pace				
Level appropriate				
Visuals – high quality?				

General Comments (Improvements for your teaching and/or pupil learning)

Were your Outcomes Achieved? (Include details of Evidence)

Teachers Lesson Rating – *(To be completed at the end of every lesson)*

<b>Criteria</b>	<b>Very Good</b>	<b>Good</b>	<b>Satisfactory</b>	<b>Unsatisfactory</b>
Knowledge				
Resources				
Lesson Objectives				
Behaviour Management				
Risk Assessment				
Differentiation				
Feedback to pupils				
Assessment				
Variety & Pace				
Level appropriate				
Visuals – high quality?				

Teacher Comments