

**Secondary Science SBE
Lesson Plan Framework**

Lesson Title: Physical Weathering

Group: 8 Y Location: Date/Time: 27th April /14h15 to 15h15

Learning Objectives: Students should learn:

- to look at how changes in temperature can affect rocks at the earth's surface.

Learning Outcomes: Most students should be able to:

- 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	
2minutes	Pupils should hand in the homework sheets.	Pupils will hand in the homework to teacher.	Homework sheets	Homework sheet
10 minutes	Sharing lesson aim and making a brief review about different types of rocks.	Class interaction with the teacher, understanding and recapping the contents of the rocks homework.	Small white board	Q+A by assessing pupils knowledge about the different types of rocks.
10 minutes	Setting the entrance activity. TIM & Moby flash animation about physical and chemical weathering.	Pupils need to be listening the flash animation and write the question and answer for What is physical or mechanical weathering?	TIM & MOBY flash animation Computer Speakers	
10 minutes	Activity 1 Going through PowerPoint with the pupils about physical weathering	-Pupils will be listening -Pupils will also be writing key information about the topic	white board Exercise books Computer Power point	Q+A
15 minutes	Activity 2 Practical about heating and cooling,,,	-Pupils will pay attention to teacher demonstration about physical weathering. Some rocks examples (sandstone, limestone and granite) will be heated and put in cold water. Pupils will draw a table and record the results and write the conclusion.	white board Exercise books Computer Note: See risk assessment attached	Assessing pupils' behaviour and effort by participating into practical activity.
6 minutes	Plenary activity As plenary pupils will answer a worksheet about physical weathering ideas.	Pupils need to be listen teacher instructions to start doing the worksheet consolidating and reinforcing topic main ideas.	Worksheet	Worksheet
3 minutes	Packing away and get ready for next lesson.	Pupils need to start packing and cleaning lab to move to next lesson.	-	-

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)*

Criteria	Very Good	Good	Satisfactory	Unsatisfactory
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)*

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

Teacher Comments

