

**Secondary Science SBE
Lesson Plan Framework**

Lesson Title: Expansion

Group: 7_0 **Location:** M21 **Date/Time:** 25th May /13h15 to 14h15

Learning Objectives: Students should learn:

- to understand the process of diffusion and Brownian motion.

Learning Outcomes: Most students should be able to:

- what diffusion means in particle movement terms.
- to explain diffusion in gases and liquids.

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

Ks3, Sc3, Exploring Science Text book, topic about diffusion and the particle theory, page 84-85, NC5.

Links to other areas

Literacy, kinaesthetic learning styles, and developing science thinking investigative skills.

Previous assessment details informing this lesson.

Last lesson main activity was useful to check if pupils can link some kinaesthetic styles with their learning, as well pupils developing science thinking skills.

Differentiation

By questioning
By support
By modelling
By stimulus

Health and Safety

Lesson safe for pupils but see risk assessment attached.

Lesson Development

Timing (min)	Teacher activity	Pupil activity	# Resources	Assessment Items
3	Taking the register	Pupils will pay attention to the register.	Teacher planner	
2	Sharing lesson aim	Pupils will be listening and writing the lesson aim about diffusion in particles.	Small white board books	-
10	Setting the starter activity.	As starter pupils will have a game to recap last lesson main concepts.	Worksheet White board Card game	Developing science literacy thinking skills.
10	Going Through power point with a brief explanation.	Pupils will understand the importance of diffusion in gases and liquids.	Computer Power point	Q+A
15-20	Making a demo and setting instructions for the practical activity.	<p>Pupils need to be paying attention to demonstration about what is going to happen when two different gases are mixed together.</p> <p>After demo, pupils will be completing a worksheet that reflects all the experiment contents.</p>	<p>White board</p> <p>Note: See risk assessment attached to check materials.</p>	<p>Assessing pupils developing investigative and thinking skills.</p> <p>Q+A</p> <p>Note: Making sure that all pupils are on task.</p>

5	Setting plenary activity	<p>Giving pupils' opportunities to pupils try to match concepts with the correct meanings.</p> <p>Going over the answers for learning.</p>	Worksheet Computer Power point	<p>Assessing pupils' answers, being aware by questioning pupils that struggle with the topic.</p> <p>Note: Pupils will also cross linking with last lessons contents.</p>
5	Handing in the homework and setting instructions to pupils pack away.	Pupils will receive their homework worksheet and clean their desks moving to next lesson.	-	-

PGCE & BSc. Secondary Science(School based Form)

Risk Assessment

Title of Practical Activity: Expansion

Teachers and pupils involved: teacher, trainee teacher and 32 pupils

Substances hazardous to health - Chemicals regulated by COSHH	
1. Get burned with a Bunsen burner	6.
2. Getting hurt with balls and rings metals	7.
3.	8.
4.	9
5.	10.

Hazardous procedure or item of equipment.

Items: Bunsen burner, ball and rings metals and matches.

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	Sharing with pupils that when heating any metal care must be taken so pupils do not touch the hot areas of the activity.
2	1	1	1	Ball and rings metals are heavy materials so pupils need to know how to hold up properly without getting hurt.