Secondary Science SBE
Lesson Plan Framework

Lesson Title: Moving and Mixing

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:

- learn what diffusion means in particle movements.
- explain diffusion in gases and liquids.
- describe the "smoke cell" experiment and explain what they see.

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

Ks3, Sc3, Exploring Science Text book, topic about Diffusion and the particle theory, page 84 and 85, NC7.

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

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 gases and liquids.	Small white board books	-
10	Setting the starter activity.	As a starter activity pupils will have a game to recap some of the last lessons contents. Teacher will be give the opportunity to students choose a color and answer to the question that matches with the color.	Worksheet White board Game card	Developing science and literacy thinking skills.
10	Going Through power point with a brief explanation.	Pupils will understand what diffusion in gases and liquids is?	Computer Power point	Q+A
15-20	Making a demo and setting instructions for the practical activity.	Pupils need to be paying attention to demonstration about diffusion of gas particles by using a glass tubing. After demo, pupils will be trying to answer questions on a worksheet. Going over the answers for learning.	White board worksheet Note: See risk assessment attached to check materials.	Assessing pupils developing investigative and thinking skills. Q+A ***Note: Making sure that all pupils are on task.***

10	Setting plenary activity	Giving pupils opportunity to match the correct concepts with the descriptions. Going over the answers for learning.	Computer Worksheet Power point	Assessing pupils' answers, being aware by questioning pupils that struggle with the topic. ***Note: Pupils will also cross linking with last lesson about density and expansion of a solid.***
5	Handing in the homework and setting instructions to pupils pack away.	Pupils will clean their desks and move to next lesson.	-	Marking the homework.

Risk Assessment

Title of Practical Activity: Diffusion

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

Substances hazardous to health - Chemicals regulated by COSHH	
1. hydrochloric acid	**6.**
2. ammonia solution	**7.**
3.	**8.**
4.	**9**
5.	**10.**

Hazardous procedure or item of equipment.

Items: HCL, ammonia solution, cotton, glass tubing and gloves

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	Practical demo made by the teacher. Pupils will know that HCL can be corrosive when bigger that 2M.
2	3	3	9	Ammonia solution is acidic and also inheriting. Teacher will use gloves to make demo.