

**Secondary Science SBE  
Lesson Plan Framework**

**Lesson Title:** Refraction 2

**Group:** 8\_y    **Location:** Lab 1    **Date/Time:** 4<sup>th</sup> June/10h10 to 11h10

**Learning Objectives:** Pupils should learn:

- to predict how light changes in different mediums.

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

- explain why the spectrum has seven colours.
- to use scientific knowledge to suggest reasons for physical phenomena.

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

Ks3, Sc4 Physics, Exploring science text book, Topic about light refraction, NC 5

**Links to other areas**

Literacy, visual, verbal and kinaesthetic learning styles.

**Previous assessment details informing this lesson.**

Last lesson was used to introduce the reflection idea by making a practical activity about investigating light refraction. Pupils developed investigative skills.

**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.

## Lesson Development

Timing (min)	Teacher activity	Pupil activity	# Resources	Assessment Items
3	Taking the register	Pupils will pay attention to the register.	Teacher planner	
5-10	Sharing lesson aim And introducing starter activity.	Pupils will be listening and write down the lesson aim about investigating light refraction related with the spectrum colours.  As a starter pupils will have an interactive game with Q+A recapping the last lessons contents.	Computer Books	Assessing pupils' behaviour during starter.
10	Going over power point with a brief explanation establishing a link with the entrance activity.	Pupils will be listening to brief explanation about the importance of understand how can the light bent.  Pupils will also understand why the existence of the spectrum colours.  Hopefully pupils will interact with the teacher to develop further knowledge.	Computer Power point White board Board works	Q+A  Assessing pupil's communicative skills being developed.
15-20	Setting a practical investigative work.	Pupils will make a practical activity by building a Newton's disc to investigate the colours of the spectrum.	Books Computer Power point Paper cards String Felt tips Colour pencils	Assessing pupils developing investigative skills.

Secondary Science at Edge Hill

10	Setting a plenary activity.	Pupils will need to take a look to the spectrum and be able to write all the colours with the right sequence.	White board Computer Power point books	Assessing pupils individually and making sure that all are on task for learning.  Pupils will be developing literacy knowledge.
5	<b>Hand in lesson homework.</b>  Setting instructions to pack away.	Receiving the homework.  All pupils should clean their desk, pack away and move to next lesson.	Planner Homework sheet	Marking the homework

PGCE & BSc. Secondary Science(School based Form)

Risk Assessment

**Title of Practical Activity:** Colour

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

<b>Substances hazardous to health - Chemicals regulated by COSHH</b>	
1. using ray boxes	6.
2. using glass prisms	7.
3.	8.
4.	9
5.	10.

**Hazardous procedure or item of equipment.**

**- Ray boxes, rulers, power battery, paper, prisms, colour pencils, string and scissors**

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

<b>Likelihood of occurrence</b>	<b>L Score</b>	<b>Severity of Outcome</b>	<b>O Score</b>
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**

<b>Hazard</b>	<b>L Score</b>	<b>O Score</b>	<b>Total (Lx O)</b>	<b>Control Measures</b>
1	1	1	1	Teachers will aware pupils of all risk assessment and will explain what they need to do with the ray boxes having careful with all the material.
2	2	2	4	Teacher will be aware of pupils being careful with glass equipment.

