Secondary Science Scheme of Work Proforma:

Module title / topic ___Light and Colour____ (Topic K)_____ **Duration of scheme**_____9 lessons_____

Year Group _____8_y_____ **Set (if applicable)** _____4/5_____

Title	Learning Objectives	Learning Outcomes	NC ref.	Suggested Activities	Resources	Health & Safety	Links to Other Areas – Numeracy, Literacy, ICT and SMCS	Assessment	H/work
How does light travel?	Pupils will learn… To look at light and how it travels.	Pupils will be able to learn… that light travels from a source. that light travels at a very high speed, much faster than sound. that light travels in a straight line. that the path of light can be represented by rays.	Ks3, Sc4 Physics, Exploring science text book , pages 128-129 , Topic about Sound and Light, NC 5	Pupils will watch a TIM and Moby video about the light and they need to answer to one question (Name some natural sources of light). Pupils will be listening and teacher will make a brief demo showing that the light travels in straight lines by using a smoking box and a laser. As a plenary pupils will be paying attention to complete three main sentences about the lesson main ideas.	Computer Power point Smoking box Laser Light bulb White board	Lesson totally safe for pupils.	Literacy, visual, verbal and kinaesthetic learning styles.	1st lesson introducing the new unit. Last end of unit tests about rocks and weathering was useful to assess pupils knowledge so far.	No homework for this lesson.

Materials and light	Pupils will learn… To look at how light behaves with different materials	Pupils will be able to learn… that materials may be transparent, translucent or opaque. that light may be absorbed, transmitted or reflected when it hits an object.	Ks3, Sc4 Physics, Exploring science text book , Topic about Sound and Light, NC 5	Pupils will pay attention to the slide show and try to answer a true and false quiz recapping last lesson. Pupils will be listening to brief explanation about light and different materials (opaque, translucent and transparent). Paying attention to teacher instructions, pupils will have different objects per bench. They need to dray a table to verify the level of opacity by using ray boxes. Pupils will be paying attention to complete three main sentences about the lesson main ideas. Writing the notes of the plenary activity.	Computer White board Power point Books Worksheets Microscope slides Tissue Colour paper paper	Lesson totally safe for pupils but see risk assessment attached to lesson plan.	Literacy, visual, verbal and kinaesthetic learning styles.	Individual assessment by Q+A Assessing pupils' communicative skills being developed. Assessing pupil's ability of doing a practical by obtaining, observing and analysing. Making sure that all pupils answered the questions, and assessing in particular pupils that normally struggle.	No homework for this lesson.

How do we see things?	Pupils will learn… To learn how we are able to see objects	Pupils will be able to learn… that we see non-luminous objects because light is reflected from them and enters our eyes. to represent the path of light by rays.	Ks3, Sc4 Physics, Exploring science text book , Topic about Sound and Light, NC 5	As a starter and working by groups, pupils will have a practical worksheet, by using plane mirrors pupils need to write down the words as they can see them in the mirror. To be able to understand that light can be reflected and absorbed, pupils will write three questions (what is an eclipse? what is a solar eclipse and what is a lunar eclipse?) having some time to answer it. Going over the answers for learning. Pupils will have a true and false quiz to answer it, writing some notes if necessary.	Computer Plane mirrors White board Power point Books worksheets	Lesson totally safe for pupils but see risk assessment attached to lesson plan.	Literacy, visual, verbal and kinaesthetic learning styles.	Individual assessment by Q+A and evaluating pupils on task during the entrance activity. Assessing pupil's communicative skills being developed. Assessing pupils individually and making sure that all are on task for learning.	Worksheet about how do we see things.

How does light reflect?	Pupils will learn… To predict how light is reflected	Pupils will be able to learn… that light is reflected from plane surfaces in a predictable way. that when light is reflected from plane surfaces an image is formed.	Ks3, Sc4 Physics, Exploring science text book , Topic about Sound and Light, NC 5	As a starter and in silence, each pupil needs to write the answer for the question what is reflection of light? Pupils will be listening to brief explanation what is reflection of light and the importance of the incidence and the reflected angle. Pupils will make a practical activity in groups), carrying out an investigation worksheet about reflection. Hopefully pupils will identify the reflected angle by starting with the incidence angle. As plenary pupils will have a true and false quiz to answer it, writing some notes if necessary.	Computer White board Power point Books Worksheets Ray boxes Power battery supply Plane mirrors Protractors rulers	Lesson totally safe for pupils but see risk assessment attached to lesson plan.	Literacy, numeracy, visual, verbal and kinaesthetic learning styles.	Individual assessment by Q+A and evaluating pupils on task during the entrance activity. Assessing pupil's communicative skills being developed. Assessing pupils developing investigative skills. Assessing pupils individually and making sure that all are on task for learning.	Worksheet recapping the experiment.

Can light be bent?	Pupils will learn… To predict how light changes direction in different mediums	Pupils will be able to learn… that light changes direction at a boundary between two different media. to apply understanding of refraction to everyday situations. that white light can be dispersed to give a range of different colours.	Ks3, Sc4 Physics, Exploring science text book , Topic about Sound and Light, NC 5	As a starter pupils will have a crossword puzzle. *Note: The pupil that finishes first will win some sweets.* Pupils will make a practical activity in groups), carrying out an investigation about predicting and measuring results for the refraction of light within different angles. Writing some notes about it. Pupils will need to take a look to key concepts cards and trying to match them together by describing and giving a definition.	Computer Rectangular glass block White board Power point Books Worksheets Ray boxes Power battery supply Plane mirrors Protractors rulers	Lesson totally safe for pupils but see risk assessment attached to lesson plan.	Literacy, visual, verbal and kinaesthetic learning styles. Developing practical skills by carrying out an investigation.	Assessing pupils' behaviour during task. Assessing pupils developing investigative skills. Assessing pupils individually and making sure that all are on task for learning.	No homework for this lesson.

Can light be bent?	Pupils will learn… to predict how light changes direction in different mediums	Pupils will be able to learn… why the spectrum has seven colours. to use scientific knowledge to suggest reasons for physical phenomena.	Ks3, Sc4 Physics, Exploring science text book , Topic about Sound and Light, NC 5	As a starter pupils will have an interactive game with Q+A recapping the last lessons contents. Making a Newton´s disc. Plenary activity will be a worksheet about the topic.	Computer White board Felt tips Practical material (see risk assessment attached to lesson plan) A3 paper Felt tips Colour pencils String.	Lesson totally safe for pupils but see risk assessment attached to lesson plan.	Literacy, visual, verbal and kinaesthetic learning styles.	Assessing pupils behaviour, literacy subject knowledge, and assessment on pupils developing practical skills by predicting and explaining the experiment results.	No homework for this lesson.

How can we change colour?	Pupils will learn… to look at how coloured filters affect the way we see objects.	Pupils will be able to learn… how coloured filters change white light. to combine knowledge from different sources to explain how coloured filters work. how coloured light can be combined to produce new colours. how coloured objects appear in white light and in different colours of light.	Ks3, Sc4 Physics, Exploring science text book , Topic about Sound and Light, NC 5	As starter pupils will have a quiz about the topic. During main activity pupils will use the colour filters and a prism to understand the different colours of the spectrum. Worksheet. Plenary activity will be pupils building a topic concept map.	Computer Filters Prisms White board worksheet	Lesson totally safe for pupils.	Literacy, visual, verbal and kinaesthetic learning styles.	Assessing pupils behaviour, subject knowledge and pupils developing organisation skills when doing a task like building a concept map.	How can we change colour worksheet.
REVISION									
TEST									