Lesson/Activity Planner

Name: Marianne Quinsee	Date:	Subject: Science	Whole Class	Year Group: 3
Professional Development Focus (PDF): To model recording of the activity carefully so that children know what to do and how to use the equipment.		**Post Lesson Evaluation of PDF:**		
Any other Implications for your teaching from previous evaluations and feedback I will need to review prior learning, and the vocabulary from the last lesson.				
Learning outcome related to the EYFS/NC: **(This may be the same for several lessons)** To notice that light is reflected from some surfaces. **Place of this lesson/activity within the sequence of lessons:** Second lesson in a series about light.				

Learning Objective for this lesson/activity (with context if appropriate):	**Success Criteria**
Identify the reflectiveness of different materials.	Investigate the materials -Work as a group to make a decision about reflectiveness -Record findings -Explain reasons for decisions and groupings
Key Vocabulary: *(consider how you will introduce this, display this and assess its use)* Light, dark, natural, artificial, source, blocked, bright, smooth, transparent, opaque, translucent	**Resources:** (Include health and safety issues, outdoors if appropriate) A variety of materials – (black paper, white paper, yellow paper, mirror, foil, glass, plastic, fabrics, reflector strip), torch, light sensor/data logger, ruler Torches
Potential Misconceptions/Errors We can still see even where there is an absence of any light Eyes 'get used to' the dark Moon and reflective surfaces are light sources Recording errors	**Pupils' Prior Learning for this lesson** All children experienced light and dark last week and began to talk about the amount of light that is blocked by different materials. Some children spoke about mirrors, reflecting light.

Who will you focus your assessment on and how will this be done?

A and B: what is light? Can they explain what the difference is between light and dark?

GD children: Can children identify how the surface influences the amount of light reflected. Same material, different surfaces/shapes. Can they provide examples of this?

Lesson/activity outline - Think about the inclusivity of your lesson and how you are meeting the needs of **all** pupils.				
Learning episode & Time *(for example, retrieval, exposition, repetition, practice)*	**What is your role during the lesson?** *Key teaching points* *Formative assessment including key questions* *How will you manage transitions between the different elements of your lesson which may include children moving around the room?*	**What is the learner doing?** *Consider challenge for all which may include adaptations for those working towards to those working mastery (consider scaffolds and resources/equipment)* *Will the children be working independently, in pairs, groups?*	***What is/are your additional adult(s) doing?*** • *how will you ensure all pupils are supported in their learning?*	**Overall Assessment of Learning**
9.00 RETRIEVAL of PRIOR LEARNING 9.05 EXPOSITION and CHECKING FOR UNDERSTANDING	Introduce learning objective. ***Q: What is light?*** ***What is darkness?*** ***Can you see the sun at night time? Yes/No?*** **Assessment** - Focus on A and B, and ask to explain to check their understanding. Could the children see when there was no light? **What happens when light is *emitted* from a light source?** **Where does it go?** Chn draw their ideas on their whiteboards Watch: https://www.bbc.co.uk/bitesize/topics/zbssgk7/articles/zqdxb82 **What did you notice about the mirror and black wall?** Explain and draw on IWB: • When light from an object is reflected by a surface, it changes direction. • It bounces off the surface at the same angle as it hits it. • Smooth, shiny surfaces such as mirrors and polished metals reflect light well. • Dull and dark surfaces such as dark fabrics do not reflect light well. **Qs:** • **What do you know about reflection?** • **What is reflection?**	Children are sitting on the carpet with TP. Ask children to TTYP before taking responses Some children will draw lines and be able to do this Children on carpet and have whiteboards to draw ideas- AfL	Mrs B is sitting with A and B and supporting TP activity. Referring to WW and key vocabulary. Mrs B records children's ideas on whiteboard. Mrs B checks on understanding of those who I cannot see.	

9.15 EXPOSITION 9.20 PRACTICE 9.28 EXPOSITION 9.35 PRACTICE	• **Can you think of any reflective surfaces?** • **What and where?** Use a range of mirrors and reflective surfaces as prompts, if necessary. Can they make links to real-life situations? Explain we are going to think about reflective and non-reflective surfaces. Show children a range of different materials in a gratnell tray. Explain that they will be looking at different materials and thinking about what happens when they shine light on them. Model how to use the torches With Mrs W, model how to shine light on each material- what do they notice? Organise children into groups of 4 They need to work as a group and each have a go at holding the torch and selecting materials. Model with Mrs W. Give the children a range of different materials and a torch. E.g. tin foil, paper, wood, metal, fabric. Ask them to explain/record/note what happens when they shine the torch on the surface. *Transition children to tables, one group at a time* Give them time to explore the reflectiveness of each material. Bring back as a class after a few minutes and establish that they all now have some findings. '*1, 2, 3 eyes on me'* *While seated at tables, ask:* **What did they notice? What is being 'recorded'?** **How can we RECORD these findings?** **Why do we need to record results in science? What if scientists didn't record anything?** **What could we do**? Explain we need to record findings in a table. Model drawing a table on visualiser (use A4 sheet – these will be kept in floor book) and take responses/findings from each group. Use a ruler and agree on titles for rows and columns. Clarify expectations.	Children may look at the materials and decide if they are reflective or not. TP: think, pair, share. Children on tables in 4s and they share findings – could some be shown on visualiser? Children offer suggestions for ways to record. Children continue to work in groups and record their	Mrs B helps to model activity Mrs B helps to model how to work in groups. Mrs B to distribute gratnell trays while I transition children to tables. Mrs B distributes sheets of A4 paper and rulers to each group. Mrs B goes to support A and B. Draws chart or provides copied record chart. Acts as scribe.	

	Send children off again to complete activity in groups and move between groups. Check for understanding and listen to ideas and vocabulary being used. Give children a 5-minute notice period and remind of SC and expectations. Ask children to return all equipment to trays and leave in centre of tables *Transition back to carpet, with results on sheets. One group at a time* **Plenary** What did the children notice? Ask children to explain what happens when they shine the torch on the surface. Could the recording be done another way? Take suggestions Show: https://explorify.uk/en/activities/what-if/we-didnt-have-mirrors Discuss and share ideas. When do we use mirrors in everyday life? Make vocabulary expectations clear- sentence stems: I know a surface is reflective because… All reflective surfaces…	findings on a sheet of A4 paper, as a group. Children move back to the carpet with results charts Children on carpet with their results. TTYP. TPs share findings with the class.	Mrs B collects charts - to be stuck in floor books after each group feeds back.	
9.50 RETRIEVAL				

What did the children learn? **How do you know?** **Which teaching strategies worked most effectively in this lesson/activity?** **Which teaching strategies were less effective in this lesson/activity?** **Why do you think this was the case?**	**What are the implications, for you as a teacher, for the next lesson/activities?**