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| Suitable for Lower KS2 | | |
| **Light and Dark** | | |
| **Learning Objectives:** | **Curriculum Links:** | **Resources:** |
| * To recognise that we need light to see things and that dark is an absence of light. * To notice that light is reflected from a surface. * To recognise that shadows are formed when the light from a light source is blocked by a solid object. * To ask relevant questions and use different types of scientific enquiries to answer them. | **Science -** Everyday Materials and light/ dark  **English -** Retelling stories  **D.T. -** To use a range of materials creatively to design and make products.  **R.E. -** To explore a church building. | **Sheet 1**: Can you find 10 light sources or light reflectors?  **Sheet 2**: Window template  **Sheet 3**: Transparent, Translucent and Opaque  Different coloured tissue paper  **Sheet 4:** Light quiz statements  Pencils and pens |
| **Teacher’s Notes** | | |
| **Before your visit** | | |
| * Children will need to understand what light is and where it comes from. * To question what is dark and understand that darkness is an absence of light. * To explore different light sources. Where does light come from? What is the difference between natural and man-made light? * To have had time to experiment with light sources, find objects around school that are light sources and question whether they are natural or man-made light sources? * The children will need to know about the dangers of looking at the sun. Why should we not look directly at the sun? Explain that the sun is the most powerful light source and if you look directly at it you can damage your eyes - that is why we wear sun glasses to protect our eyes. | | |
| **During your visit** | | |
| **Introduction *(10 mins)*:**  Introduction to the church building.  Discuss - Where are we? What is the building used for? Who is likely to use the building? How does the building make you feel? What can you see in the building?  Explain that today we are going to be exploring the topic of light and materials in this church. How would you describe this church? Is it filled with natural light? Or is it dark? Why? | | |
| **Main activity *(40 mins)*:**  Ask groups to move around the church looking for different light sources and materials / objects that reflect light (R1). Discuss the findings. Explain that all the objects in the church reflect light to be seen. However, some materials are better reflectors than others. Show examples of this in the church. Discuss what it would be like if the walls where painted a different colour.  Look at a stained-glass window – this window is filtering light into the church but in different ways. Discuss and compare to a transparent glass window. Explain the vocabulary ‘transparent’, ‘translucent’ and ‘opaque’. (R3) Find examples in the church.  Explain that stained glass windows are used to filter light but also to tell stories using coloured glass making them translucent. Different colours filter through different amounts of light, creating the picture. Experiment with different coloured tissues to see what colours let through the most light and discuss.  Tasks: Design your own stained-glass window based on a story. Think about what colours you are going to use to depict your picture. (R2) Who are characters are in your story? Create one of your characters out of card. Test your card character does it make a shadow on the wall or the floor? | | |
| **Plenary *(10 mins)*:**  Complete the light quiz (R4). Children find statements that have been hidden around the church about light and materials. In groups can they decide whether these are true or false? Discuss and review today’s learning. | | |
| **After your visit** | | |
| * Back in school use your plan to make your own stained glass window of your story. * Use black card to create the background and your objects - remember these will form the shadows and then use coloured tissue paper to add the details which will filter the light and colours. * Review why the tissue paper will let the light through and not the black card? * Share your finished windows / stories with other children in your class and see if they can guess your story from the reflections? | | |
| **Examples of light in a church** | | |
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