# Lesson Plan

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| **Title:** Technical writing – Light and Mirrors 2 | **Date:** |
| **Learning objective/s:**   * To understand that light reflects off objects. * To understand how we see objects. | **Curriculum links:** |
| **Learning outcomes**  **I want evidence students can:**   * Draw light diagrams. * Explain how we see objects. * Understand the importance of light. | |
| **Notes on students who have exceeded the performance expected:** | **Action to be taken:** |
| **Notes on students who did not achieve the performance expected:** | **Action to be taken:** |
| **Essential vocabulary:**  Light, transparent, translucent, opaque, reflects, reflective, emits | **Possible misconceptions:** |
| **Cross curricular links:**  Science, literacy | |
| **Teacher resources including ICT:**   * Introductory Presentation PowerPoint. * Shoebox darkbox | **Student’s resources including ICT:**   * Variety of opaque objects on tables. |

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| **Organisation and class management:** | **Teaching points:** | **Notes:** |
| **Introduction:**  Whole class discussion | * Using the PowerPoint presentation introduce the idea that light can ‘bounce’ off opaque objects and it is this reflected light that travels to the eye allowing us to see objects. * Using a shoe box, create a ‘dark box’ with a small object inside and allow the children to look into through the ‘spy hole’. They shouldn’t be able to see the object as there is no light. This works even better if the box has a sheet attached to go over the pupil’s head ensuring no light at all can enter the box. * Reveal what the box contained and explain that as it is the light that our eye receives: without light we do not see. |  |
| **Main phase:**  Individual work | * Explain that our diagram earlier was called a ‘light diagram’ and they will now have a go at drawing their own. * Pupils should have a go at drawing a light diagram to explain how they see a variety of objects on their table. * Ask pupils to draw light arrows and next to each one explain what is happening. * EXT: Challenge more able to attempt to include transparent and translucent objects. * Once the pupils have had an initial attempt challenge them to a more complicated problem. Challenge the children to explain how the person can see the Moon. \*Remember to point out that the Moon is not a light source. | Further information and lesson plans are available on the NSO Website, including a workshop looking at what causes day and night:  [https://www.schoolsobservatory.org/](https://www.schoolsobservatory.org/discover/activities/daynight)  [discover/activities/daynight](https://www.schoolsobservatory.org/discover/activities/daynight)  Why not let your pupils use the world’s largest fully robotic telescope to observe the Moon?! It’s easy to do and completely free:  [https://www.schoolsobservatory.org/](https://www.schoolsobservatory.org/obs/go)  [obs/go](https://www.schoolsobservatory.org/obs/go) |
| **Plenary/Conclusion:**  Whole class discussion | * Remind the class of the key concepts, stressing the need for light in order to see objects. |  |