# Lesson Plan

|  |  |
| --- | --- |
| **Title:** Technical writing – Light and Mirrors 3 | **Date:** |
| **Learning objective/s:*** To understand how mirrors are used to see objects.
 | **Curriculum links:** |
| **Learning outcomes****I want evidence students can:*** Understand that mirrors reflect all light that hits them.
* Draw light diagrams involving mirrors.
* Understand that mirrors are not the light source.
 |
| **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, opaque, reflects, reflective, emits, mirror | **Possible misconceptions:**The light is reflected by the mirror it is not the light source. A light source is still required to see objects. |
| **Cross curricular links:** Science, literacy |
| **Teacher resources including ICT:** * Introductory Presentation PowerPoint.
 | **Student’s resources including ICT:** * Mirrors
* Torches
* Balls (or other opaque objects)
 |

|  |  |  |
| --- | --- | --- |
| **Organisation and class management:** | **Teaching points:** | **Notes:** |
| **Introduction:** Whole class discussion | * Using the PowerPoint presentation, remind the students about how light reflects off opaque objects allowing us to see the object.
* Explain that mirrors are reflective objects that allow all the light to reflect, we therefore see clear images in them.
 |   |
| **Main phase:**In small groups | * Provide each table with a mirror, a torch and a ball.
* Ask the students to investigate how they can use the mirror to see the ball from around a corner.
* Challenge the groups to attempt a light diagram (from the previous lesson) explaining how we can see the ball from around a corner. Consider asking the students to do this on whiteboards.
* Remind the students that we only see objects when light reflects off them, so their light diagram should have light reflecting off the object, then off the mirror, then into the eye.
* Working individually, the students should be given time to draw their light diagrams, encourage them to label them with what is happening to the light. Remind them of the need to use scientific vocabulary, e.g. reflect, opaque, etc.
 |  If your pupils have been inspired by this lesson there are plenty more available at our website, plus a whole range of shorter activities aimed at STEM Clubs. One of these activities involves using the light from the Sun to tell the time: [https://www.schoolsobservatory.org/](https://www.schoolsobservatory.org/discover/stem-clubs/sundial)[discover/stem-clubs/sundial](https://www.schoolsobservatory.org/discover/stem-clubs/sundial) |
| **Plenary/Conclusion:**Whole class discussion  | * As a class consider what happens to the light if the angle of the mirror is changed. Let the students know this is our next step.
 |  |