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| **Workshop : Light and shadow****National Curriculum Links**KS2 Science: yr 4 + 6 Light* recognise that light appears to travel in straight lines
* use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye
* explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes
* use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them

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| **Learning objectives** | **Session structure** | **Assessment for learning** |
| **To explore sources of light.****To investigate how light is generated in the sun and how it travels to use here on earth.** **To construct a camera obscura to investigate how light travels****To explore that white light is made from all the colours in the spectrum****To understand that shadows have a similar shape as the object that casts them****To investigate how light travels through water** | **Introduction**We will source of light with a quick 1-minute challenge. As a full class we will focus on the sun and investigate how light is made in the sun and the journey it takes to get to us on Earth through actions and games. **Session activities**Each student will then follow instructions to create their own camera obscura to investigate further how light travels. Using light ray diagrams, we will explain our findings as a class.We will then explore how white light can be split up into the colours of the spectrum and this is how we see the world in colour.Students will investigate shadows through a guess the object quiz. We will explore how shadows are made and the ways in which we can change the shape of shadows. **Plenary**At the end of the session, students will have the opportunity to experiment and explore how light travels through water. | Children will explore themes through class and group experiments and discussions, we will ask questions throughout to check understanding.Children will have opportunities to respond and give feedback throughout the session. There will be opportunities for Q&A at the end of the session.  |
| **Before your visit** | **After your visit** | **Key vocabulary** |
| Make a free teacher pre visit to familiarise yourself with the site- contact learning@discoverymuseum.org.uk Explore the museum virtually using goggle institute:<https://artsandculture.google.com/partner/discovery-museum>  | * Explore our light and shadow experiments <https://discoverymuseum.org.uk/week-13-shadows>
* Create a spectroscope that can be used to split light- <https://youtu.be/3ovn79XpKXw>
* Write instructions to build a camera obscura
 | Source of light, sun, reflect, proton, photon, speed of light, reaction, shadow, refract, straight |