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| **What will we be learning?**Lights On with solid fill**Light** | **Why this? Why now?**Previous Learning Key stage 2 Science Year 7 Course - Speed, Gravity, Current, Voltage and Resistance, Energy transfers and Energy costsFuture Learning Year 8 Course – Sound, contact forces, Pressure, Magnetism, Wave effects, electromagnetismEnquiry ProcessesIdentify variables, Collect data, Present data, Analyse Patterns, Draw conclusions, Justify opinions and conclusions | **Key Words:**LensVisionDiagramImageConvexConstructReflectMirrorRefract/RefractionUniformlyScatterMaterialMediumSpecularDiffuseFrequency/frequencies |
| **What will we learn?**To describe how lenses may be used to correct vision and how a ray diagram can show how an image will change in different situations with a convex lens.To show how light bends when passing into different materials, such as glass blocks and lensesWhat happens when light meets a different medium and to be able to draw the refraction of lightTo describe the basic properties for light of speed and travel and accurately show how light is reflectedWhat the difference is between specular and diffuse reflectionHow to construct ray diagrams to show how light reflects off mirrors to form imagesHow to predict whether light will reflect uniformly, refract or scatter when it hits the surface of a given materialHow to explain observations for objects viewed in different lightsThat different colours of light have different frequencies**Misconceptions in this topic**Light is reflected away from shiny surfaces, but light is not reflected from other surfaces. Light always passes straight through transparent material (without changing direction). When an object is viewed through a transparent material, the object is seen exactly where it is located.  |
| **What opportunities are there for wider study?**Careers – Astronomy, telecommunications, astrophysics, ophthalmics, orthopticsSTE(A)M – For details of courses and opportunities look at:<https://highcliffe.sharepoint.com/sites/LearnSTEM> |
| **How will I be assessed?****End of topic assessment** |