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| ***Words to know and spell (Tier 2 Vocabulary)*** | | |
| Angle | Bright | Dark |
| Dim | Light | Mirror |
| Emit | Opaque | Reflect |
| Shadow | Surface | Torch |
| Source | Translucent | Transparent |
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| ***Words to understand and spell (Tier 3 Vocabulary)*** | |
| **Periscope** | A long, vertical tube containing a set of mirrors that gives you a view of what is above you when you look through the bottom of the tube. |
| **Focus** | If you focus your eyes, you try to look directly at an object so that you can see it more clearly. |
| **Retina** | The area at the back of the eye that receives light and sends pictures of what the eye sees to the brain. |

** Year 3 – Science KCV – Light**

• Know that energy comes in different forms and can be neither created nor destroyed, only changed from one form to another

• Know that light travels in straight lines

• Know that light is reflected when it travels from a light source and then ‘bounces’ off an object

• Know that everything that we can see is either a light source or something that is reflecting light from a light source into our eyes

• Know that the Sun is a light source, but that the Moon is not and is merely reflecting light from the Sun

• Know that many light sources give off light and heat

• Know that opaque objects block light creating shadows and that light passes easily through transparent objects

• Know that opacity/transparency and reflectiveness are properties of a material

• Know that sunglasses can protect eyes from sunlight but looking at the Sun directly – even with sunglasses – can damage the eyes

• Know that as objects move towards a light source, the size of the shadow increases

• Know how to show the changing of shadow size by drawing a diagram with straight lines representing light

• Know that Hasan Ibn al-Haytham was the first to explain that we see objects because light reflects from objects into our eyes

***Key facts to learn:***

• Set up simple practical enquiries, comparative and fair tests

• Make systematic and careful observations and, where appropriate, take accurate measurements using standard units

• Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables

• Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions

* • Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions

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***Key skills to do:***

***Concept check questions. Test yourself:***

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| What would happen if the sun stopped producing light?  How are shadows formed?  How do we see things?  How does light travel? |
| **Opportunities for Investigation:**  **Fair Testing:** How does the distance between a shadow puppet and the screen affect the size of the shadow? |
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**Year 3 – Science – Summer 1 – Heyford Park School**

**Year 5 – Science – Autumn 1 – Heyford Park School**