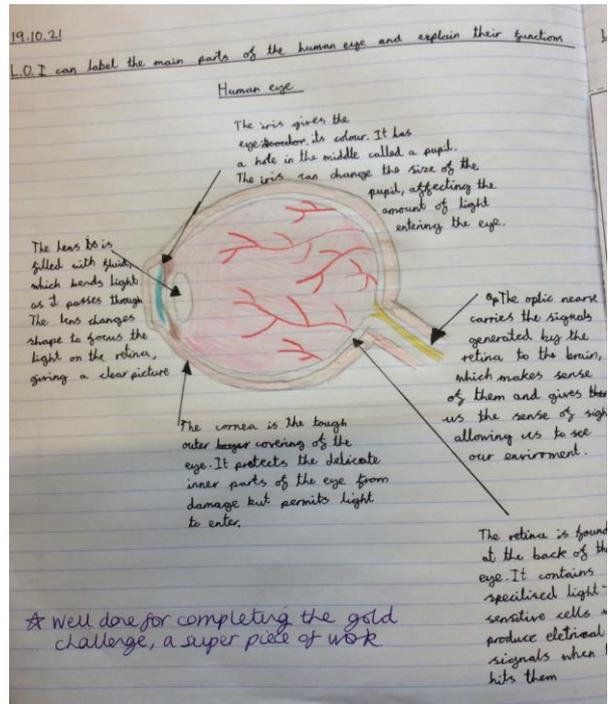


Emerald Class

Emerald Class have been working on their science topic LIGHT. They have been learning about the eye and explaining its function.

They have also conducted an experiment where they investigated how moving an object could change the size of its shadow.



23.11.21

Learning Objective
I can explain how moving an object changes the size of its shadow.

Equipment: torch, basketball, wall, metre stick

Light source (torch) **Basketball** **Wall** **Shadow**

Method
We set up the equipment as shown above in the diagram. Then we put the torch 70cm away from the object and measured the shadow it cast at its widest point. Once we had measured the shadow, we moved the basketball 10cm closer to the torch and measured the shadow again. We repeated this six times.

Fair testing
We are trying to make our test fair by only changing one thing at a time.
This is the object that we are using: **A basketball**
This is the starting distance between the light source and the object: **70cm**
This is the starting distance between the object and the wall: **3.5m**

Results
Table showing the size of shadow cast on a wall

Distance between light source and object (cm)	Width of shadow at its widest point (cm)	
	Prediction	Measurement
70cm	13cm	28cm
60cm	3.5cm	30cm
50cm	3.2cm	36cm
40cm	4.0cm	45cm
30cm	5.3cm	58cm
20cm	9.8cm	81cm

Line graph showing the relationship between the distance between a light source and an object and the size of the shadow cast on a wall

Conclusion:
My middle four predictions weren't far off, but only the first and last were not accurate. The fact that it didn't go up in a nice pattern surprised me. The shadow got bigger as we moved it towards the torch because it blocked the light more the closer it got.

★ A clear write up, well done

Recycle Your Ink Cartridges Here

The school has a box where you can send in used printer cartridges without packaging or new, unopened and out of date ink cartridges with packaging.

Please do not send in laser/toner cartridges.

Thank you.