Year 3
Science
w/c 22.06.20

Overview

This half of term our theme for Science is LIGHT. You will be learning about different sources of light, the dangers of looking directly at the sun, how shadows are created and how they can change and finally conducting your own experiment.

We hope you will enjoy it all.

Science – Lesson 3 – Benefits and dangers of the sun

LEARNING INTENTION:

- To recognise that light from the sun can be dangerous and that there are ways to protect our eyes by designing and advertising a pair of sunglasses.

SUCCESS CRITERIA:

- I can explain the benefits and dangers of the sun.
- I can explain about UV light and its dangers.
- I can describe ways to protect our eyes from the sun.


Sun Safety
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The Sun: Good or Bad?

Have you ever been told not to look at the sun?
Is the sun good or bad?

The statements below are all things that the sun does.
For each statement, discuss with a partner whether it describes something GOOD or something BAD.

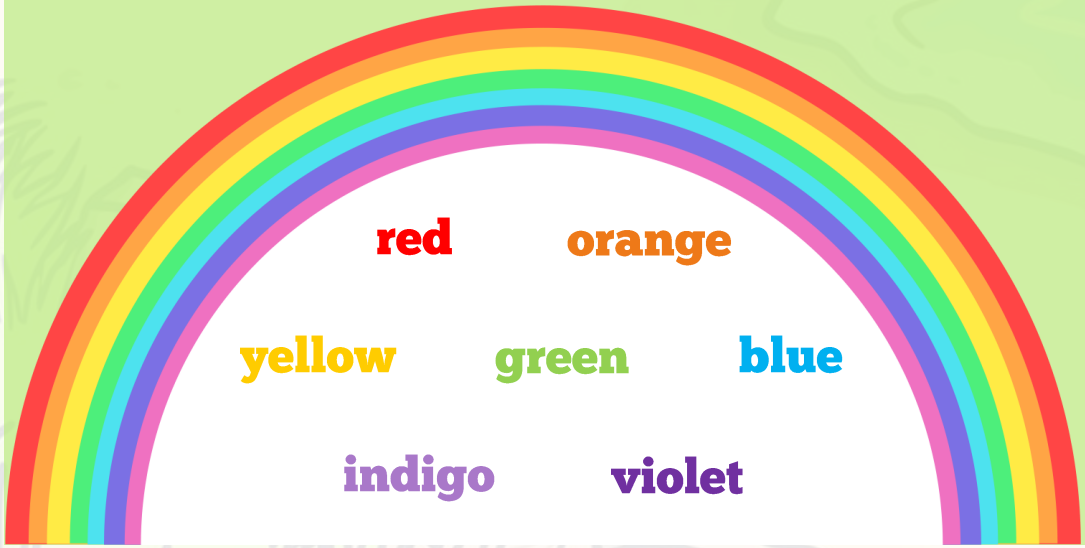
Causes sunburn.	Helps people make Vitamin D.	Provides warmth.
Causes wrinkles.	Helps plants make food.	Makes people feel happier.
Damages the eyes.	Can cause skin cancer.	Is a source of light.

UV Light

The sun emits (gives out) rays of light.

We can't see all the types of light that come from the sun.

The visible spectrum is the name for the light that we can see, and is made up of the colours of the rainbow:



Another type of light that the sun emits is called **UV light**.

UV light is invisible to humans, but we can see and feel its effects.

UV Light

Some UV rays are blocked by the ozone layer, but most of the UV light from the sun reaches us on earth.

The amount of UV light that reaches us depends on different things.

It is stronger at midday and in the summer.

If there are no clouds there is more UV light.

It also gets stronger nearer to the equator.

The location can make a difference too - water, sand and snow all reflect UV light, making it stronger.

UV light causes sun burn, wrinkles and skin cancer, damages the eyes and can change the colour of some materials.

‘Seeing’ UV Light

The eye is made to let light in; this is how we see.

Look in a mirror. **Can you identify your pupil?** It looks like a black circle.

Light enters the eye through the pupil.

Look closely at your pupil in a mirror. Close your eyes for 30 seconds, then open them and look at your pupil. **What do you notice?**

The pupil grows bigger in the dark to allow more light to enter the eye, and gets smaller in bright light.

The Eye

If too much light comes through the pupil, it can damage the retina.

It causes pain, so that you instantly close your eyes, or turn away from a bright light.

It is very important that you never look directly at the sun, as the light can damage your eyes very quickly.

Bright lights indoors can also damage your eyes, so you should never look at them, or shine lights into anyone's eyes.

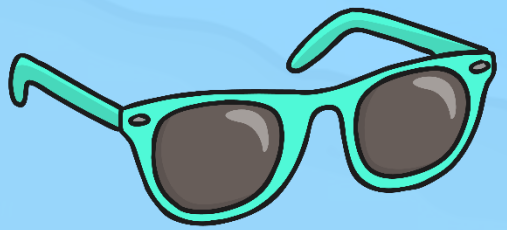
Protecting Your Eyes

To protect your skin from UV rays, you can cover up or wear sun cream.
But what can you do to protect your eyes?

There are several things you should do to protect your eyes from the sun or other bright lights.

- You should wear sunglasses when out in the sun. Sunglasses have a UV rating to show how well they block UV rays. Make sure you get sunglasses with a high UV rating.

- Some sunglasses don't have a UV rating - these are really just toy sunglasses and don't protect your eyes. In fact, because they have dark lenses but no UV filter, the pupil opens wider, actually letting in more UV rays!



Protecting Your Eyes

- Wrap around sunglasses are best, as they cover more of the eye.
- You can also wear a hat with a wide brim to shade you eyes.
- Make sure you have regular eye tests to check your eyes.
- Even if you are wearing sunglasses and a hat, you should still never look directly at the sun.

Design Your Own!

Now you know how the sun can damage your eyes, and how to protect your eyes.

You have <u>two</u> tasks:

1. **Design a pair of sunglasses** that will protect someone's eyes from the harmful effects of the sun.

2. **Write an advertisement** for your sunglasses.
   - Tell your customers **why they need to buy** your sunglasses.
   - Explain about the **effects of the sun**, and **how your sunglasses can help protect against them.**