

Planet Earth in Space

Activities for third and fourth class

- Investigating Shadows & Sunlight ~ Shadow Tracking
 - Having paired the children, bring them out to the yard on a sunny morning. One of the pair must stand so as to create a shadow i.e. blocking the sun.
 - Once this is done their partner draws around the shoes of the child creating the shadow and then draws around the shadow.
 - Get each child to label their pair of shoes with their name.
 - The pairs go back to the same place and the child again stands in the marks that were made around their shoes and their partner again draws the shadow.
 - Repeat this on the hour, every hour.
 - What has happened to the shadow? Does it move? Why?

- Relating sunlight to day and night
 - In a dark room, stand a globe on a table and a lamp shining at it on one side.
 - Imagine the lamp is the sun and the globe is the earth.
 - Which part of the globe is light? Which part is dark?
 - Slowly turn the globe. Children draw their predictions. What happens?
 - Relate to day and night and the rotations of the earth and also the apparent rising and setting of the sun.
 - Refer to previous activity of moving shadows ask again why did the shadows move.

- Link to weather ~ measuring the temperature, contrasting a 'sunny' area to a shaded area. Record and analyse results.

- Sunset
 - As part of their homework children keep a record chart for two weeks showing
 - (a) date (b) sunset time (c) the time street lights are turned on?
 - This chart is kept for two weeks in each term
 - Observe and discuss patterns
 - Analysis in relation to differences in seasonal patterns

- Changing Shadow length
 - On an A4 piece of paper draw a small circle approx 2cm in diameter in the centre.
 - From around the edge of this circle draw numerous lines varying in length and direction [make multiple copies so children can work in groups]
 - In the centre of the circle stand a straw in a blob of blue-tack
 - Now using a torch get the children to try and produce shadows to sit along the lines that are drawn.
 - The height and position at which the torch is held will dictate which shadow is produced, to change the shadow to sit on a new line the position and height/angle at which the torch is held must be adjusted.

- Sun Tracking ~ Investigating the sun's positions at different times of the day
 - Revise the use of compass as covered in graphicacy work.
 - Choose an area of the school grounds that will be sunny for the most part of the day or the activity could be done over a weekly period should cloud hinder investigation. Locate a table here and align it north-south.
 - Tape an A3 piece of card to the middle of the table.
 - Using the compass and chalk get one of the children to draw a north-south reference point to one side of the table's surface.
 - Taking a straw/pencil and a piece of blue tack position the straw onto the card at its south end so that it stands vertically secured by the blob of blue-tack.
 - Get a child to draw the shadow that is produced on the card.
 - Also get another child to measure the length of the shadow and its direction. [include the position of the sun to produce this shadow] Record

these on a record sheet as well as the time at which the observations and notes were made.

- Do this again at repeated intervals e.g. mid-morning, mid-day, afternoon, just before home time.
- Analyse and compare the changing lengths [sun height] and movement/changing direction. Discuss the direction where the sun may rise and set; prove/disprove by repeating the investigation on a number of days.
- Discuss the dangers of sunlight for skin and eyesight. What are the dangers, what precautions should we take etc. Research using the internet
 - Get the children to design a public health information leaflet that informs people re the dangers of sunlight for the skin and eyesight, the dos and the don'ts etc.
 - Survey: What factor sun cream is on my bathroom self?