Maths opportunities linked to topics – Autumn 1 & 2 Year 5
Topic – Earth and Space

Maths Learning across autumn term (White Rose scheme)

- Number: Place Value - 3 weeks
- Number: Addition & subtraction - 2 weeks
- Statistics – 2 weeks
- Number: Multiplication & Division – 2 weeks
- Measurement: Perimeter & Area - 2 weeks

Consolidation week

<u>Number & calculation</u>

- Ordering e.g. sizes of the different planets in our solar system from largest to smallest, distances from the Earth of each planet (order from nearest to furthest).
- Find out about the temperatures of different planets and order these from hottest to coolest. How many planets have temperatures below zero? Above zero?
- If a space shuttle uses 500 000 gallons of fuel. How much would it cost to re-fuel if the price of fuel was £5.50 a gallon?
- Neil Armstrong and Buzz Aldrin landed on the moon in 1969 – how many years ago was this? How many months ago was this?
- About 71% of the Earth's surface is water. How much is not water and can this be expressed as a fraction fractions
- The radius of Earth is about 6371km. What is the diameter?

<u>Data collection</u>

- Explore how long the planets in the Solar System take to complete an orbit. Present this information in a chart or table. Challenge the children to group planets e.g. less than a year, between 1 year and 10 years, more than 10 years etc.
- Investigate speed at which objects e.g. paper parachute falls to the ground. Can the speed be altered? How? Time speeds, record in tables and plot the results on a graph(gravity)

<u>Measurement</u>

- Explore how far the moon is from Earth in km. Convert to metres and cm.
- Investigate space travel to other planets - how long does it take? Encourage children to find out how many days it would take to travel to each. Can you calculate the number of hours each journey might take?
- Use ratio & scale to make simple model of the solar system. Can you make a model of the solar system, so that both the sizes of the planets and their distances from each other and the Sun are all to scale? (see Nrich: Make your own solar system)
- Explore how vast distances are measured in the solar system where km are too small(i.e. astronomical units & light years)

<u>Position & Movement</u>

- Plot planets as points in the 1st quadrant on a coordinate grid. Reflect each point in 4 quadrants.
- Explore images and photographs of planets. Cut each into half, reflect and draw how each looks in order to create symmetrical planets. How do these differ from the original images?
- Investigate the axis tilt of other planets e.g. the planet Earth has an axis tilt of about 24 degrees. Order planets from 'most acute tilt' to 'least acute tilt'.