**Spring Term Overview – Maths Year 2**

|  |  |  |
| --- | --- | --- |
| **Spring Term Book – One Day On Our Blue Planet** | | |
| **Topic(s) –Multiplication/Division, statistics and shape.** | | **Guide Time = 6 weeks** |
| **Assessment:** | White Rose end of unit assessments  Teacher judgements  Weekly/fortnightly arithmetic tests  Practice SATs | **Very Important Points (VIPs):**  **Multiplication/Division**   * Multiplication can be done in any order, division cannot. * When you multiply the number gets bigger. * Multiplication is the same as repeated addition. * The symbols used for multiplication are x and =. * When you divide the biggest number always goes first. * When you divide the number gets smaller. * Division is the inverse (opposite) of multiplication. * The symbols used for division are ÷ and =. * Even numbers can be shared into 2 equal groups, odd numbers cannot.   **Statistics**   * Tally charts are grouped in 5s. * Every 5th tally is a diagonal line. * Tally charts are used to record data. * Pictograms use pictures to represent numbers. * Half a picture can represent 2. * Charts have headings.   **Shape**   * Vertices are where two edges meet (corner) * Sides are the lines which join 2 vertices * Edges are lines where 2 faces meet * Faces are flat or curved surfaces on 3D shapes * 2D shapes are flat * 3D shapes are 3 dimensional * Symmetry is where one side of a shape s a reflection of another   **Fat Questions:**  What could be different if we didn’t know how to divide?  How do statistics help make the world a better place?  Why don’t we make houses out of 2d shapes?  What would be different if everything was square? |
| **Links to prior learning (sequencing) and canon book** | **Multiplication/Division**  The children will have learnt to count in steps of 2, 5 and 10 in Year 1. The children will have some basic knowledge of multiplication and division.  **Shape**  The children will have learnt to recognise and name common 2D and 3D shapes.  **Statistics**  The children will have learnt to count in groups and compare objects and numbers. |
| **Links to other learning (cross fertilisation)** | Links to PE will be made through Active Maths (AM) activities making physical groups and sharing objects.  Links to science and geography will be made through counting in 1s, 2s, 3s, 5s and 10s in tally charts, block/ bar graphs to collect and input data clearly.  Links to ICT through access to TT Rock stars online and at home where possible. |
| **Links to future learning** | The skills taught this half term will be applied to other units throughout the year. Children will be counting in 2s, 5s and 10s and will be introduced to counting in 3s – these basic skills will be needed when multiplying/dividing, problem solving and fraction work. |
| **Character/Wider Development ('50 things', cultural capital, skills)** | **Thematic Questions:**  **The World Beyond Us:**  Do you think it’s possible to know how many people there are in the world? How do you think people could find this out?  **The World Around Us:**  How are shapes and structures used to support the design of new products and buildings around the world?  **Modern Britain:**  What is the importance of statistics in daily life? What could you find out through a tally chart?  **Healthy Bodies & Healthy Minds:**  How can we use shapes to keep us active?  **Culture:**  Do we all interpret charts and graphs in the same way? How can they support communication between people?  **Technology in Action:** What can be created online using data? |

**OVERVIEW OF TEACHING SEQUENCE**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Key Facts/Learning** | **Learning Focus or Key Question** | **Learning Outcomes**  **(NC)** | **Key Words/**  **Vocabulary** | **Greater Depth/SEND** | **Misconceptions** | **Activities and Resources** |
| **Multiplication/ division**  **(Weeks 1-2)** | Make equal groups – sharing  Make equal groups – grouping  Divide by 2  Odd and even numbers  Divide by 5  Divide by 10 | Recall and use multiplication and division facts for the 2, 5 and 10 times-tables, including recognising odd and even numbers.  Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (x), division (÷) and equals (=) sign.  Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods and multiplication and division facts, including problems in contexts.  Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot. | Equal  Same  Groups  Multiply  Multiplication  Divide  Division  Array  Times  Share  Group  Odd and even | GD:  Children are introduced to 2 step and worded problems, but it is important that the GD focus is on mastery of the skills and their understanding of the terminology and symbols used when multiplying and dividing.  Children continue to complete problem solving and reasoning questions which require sentence responses.  Children are to begin to embed their understanding of how to ‘prove it’ and use the word ‘because’.  SEND:  Activities are made more ‘concrete’ when appropriate and additional resources are used to support visual and kinaesthetic learning.  Children focus first on mastering grouping and sharing before using the division symbol.  Children complete the majority of fluency style questions and complete problem solving as an oral group activity beginning to provide written answers. | Children may not make equal groups.  Children may not recognise the difference between the symbols.  Children may confuse x with +  Children may confuse odd and even numbers.  Children may forget that we divide from the largest number.  Children may not see the links between counting in 2s 5s and 10s and multiplying and dividing by them. | See Y2 folder for slides and resources for sessions linked to learning focus.  Autumn 2 folder has previous multiplication and division resources which can be accessed.  Links to resources and folders  White Rose Maths  Trust Shared folder – Year 2  Classroom Secrets folder  White Rose Maths folder |
| **Statistics**  **(Weeks 3-4)** | Make tally charts  Draw pictograms  Interpret pictograms  Draw pictograms 2, 5 and 10s  Interpret pictograms 2, 5 and 10s  Block diagrams | Interpret and construct simple pictograms, tally charts, block diagrams and simple tables.  Ask and answer simple questions by counting the number of objects in each category and sorting categories by quantity.  Ask and answer questions about totalling and comparing categorical data. | Tally chart  Pictogram  Block diagram  Data  Quantity  Compare  Total  Altogether  Difference  Count  Interpret | GD:  Children are introduced to 2 step problems as well as interpreting data from different sources. They are to focus on deepening their understanding of the skills and their purpose. Giving them opportunities to conduct their own research and cross fertilise their skills.  Children use problem solving and reasoning questions which require sentence responses.  Children continue to use ‘prove it’ and use the word ‘because’.  SEND:  Activities are made more ‘concrete’ when appropriate and additional resources are used to support visual and kinaesthetic learning.  Children focus on interpreting data counting in 1s and move onto 2s, 5s and 10s with support and additional resources.  Children complete a majority of fluency style questions and are introduced to problem solving as an oral group activity. Adults model how to verbally use the word ‘because’. | Children may not cross the 5th tally.  Children may count tally’s in 1s and not recognise the relationship between a tally of 5.  Children may not recognise when a pictogram is counting in 2s, 5s and 10s.  Children may not be confident in counting in 2s, 5s and 10s.  Children may not find the difference due to miscounting.  Children may not find totals due to miscounting. | See Y2 folder for slides and resources for 6 lessons.  Links to resources and folders  White Rose Maths  Trust Shared folder – Year 2  Classroom Secrets folder  White Rose Maths folder |
| **Geometry- Properties of shape**  **(Weeks 5-6)** | Recognise 2-D and 3-D shapes  Count sides on 2-D shapes  Count vertices on 2d shapes  Draw 2-D shapes  Lines of symmetry  Sort 2-D shapes  Make patterns with 2-D shapes  Count faces on 3-D shapes  Count edges on 3-D shapes  Count vertices on 3-D shapes  Sort 3-D shapes  Make patterns with 3-D shapes | Identify and describe properties of 2d shapes including the number of sides, lines of symmetry in a vertical line.  Identify and describe properties of 3d shapes including the number of edges, vertices and faces.  Identify 2d shapes on the surface of 3d shapes (For example a circle on a cylinder).  Compare and sort common 2d and 3d shapes and everyday objects. | Shape  Properties  Vertices  Edges  Faces  Surfaces  Compare  Symmetry | GD:  Children are introduced to irregular shapes where appropriate. But it is important that the GD focus is on mastery of the skills rather than moving onto the next stage of learning quicker.  Children are to continue to access problem solving and reasoning questions which require sentence responses.  Children continue to ‘prove it’ and use the word ‘because’.  SEND:  Activities are made more ‘concrete’ when appropriate and additional resources are used to support visual and kinaesthetic learning. Shapes to be given and mirrors used.  Children focus simple shapes and mastering the key facts about their shapes.  Children complete a majority of fluency style questions and are introduced to problem solving as an oral group activity. Adults model how to verbally use the word ‘because’. | Children may get confused which shapes are 2-D and 3-D.  Children may get confused between vertices, edges and faces.  Children may not find lines of symmetry accurately.  Children may sort shapes into colour or amount rather than their properties. | See Y2 folder for slides and resources for 11 lessons.  Links to resources and folders  White Rose Maths  Trust Shared folder – Year 2  Classroom Secrets folder  White Rose Maths folder |
| **Context (big picture learning)**  Mathematics is an important, creative discipline that helps us to understand and change the world. We want all of our children within the Pontefract Academies Trust to experience all that mathematics has to offer and to develop a sense of curiosity about the subject with a clear understanding. When they leave us we want them to continue their love of maths and use it continuously and positively in their future lives.  We foster a positive ‘growth mind-set’ attitude and we promote the fact that we believe that all children can achieve in mathematics. We teach for secure and deep understanding of mathematical concepts through manageable, bespoke steps and cross fertilize at every opportunity. VIPs (Very Important Points) are implemented in every lesson to ensure knowledge and skills are revisited and retained over time.  We use mistakes and misconceptions as an essential part of learning and provide challenge through rich and sophisticated reasoning and problem-solving activities. At our school, the majority of children will be taught the content from their year group only. They will spend time becoming true masters of content, applying and being creative with new knowledge in multiple ways.  Place Value teaches the children the meaning of numbers. Children consolidate their understanding that the position of a digit within a number, shows its value. They also work towards partitioning numbers, firstly within 100 and then beyond as the children progress through Key Stage Two. Children need to have a thorough understanding of comparing and sequencing numbers that they are confident with (within 100) so they are able to apply these skills as they learn to tackle bigger numbers. Children need to consolidate the basic concept of addition and subtraction (within as well as crossing 10s to move on to 100s (KS2)) and the related maths symbols. They will then apply these skills across future units and cross-fertilise these skills in other subjects. As they grow up they will use these skills in their everyday life. For example: when shopping and handling money and wages; when writing cheques; working out test scores; measuring and weighing within the workplace… | | | | | | |