**Spring Term Overview Year 4 – Maths**

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| **Tsring Term Book – How to Train Your Dragon** |
| **Topic(s) - Area** | **Guide Time = 1 week** |
| **Assessment:** | White Rose end of unit assessmentsEnd of term assessmentsTeacher judgements | **Very Important Points (VIPs):**Area is the amount of space taken up by a shape or surface.Area is measured using squares.Count the number of squares inside the shape to find the area.Times table facts can be used to calculate the area of rectangles.When drawing rectilinear shapes, the squares need to join at the sides, not just at the corners.Draw shapes accurately using the lines and squares in your book.When comparing area, the same size squares must be used.To compare use greater than >, equal to = and less than <.**Fat Questions:**Does the UK have enough land to grow sufficient food for the population?How can area be used to record changes to the planet? |
| **Links to prior learning (sequencing) and canon book** | **Multiplication and division**In the Autumn term, children looked at finding the perimeter of shapes. Children understand the vocabulary of 2D shape, rectangle and rectilinear. |
| **Links to other learning (cross fertilisation)** | DT- Levers and linkagesEnglish- in depth responses to problem solving and reasoning questions.  |
| **Links to future learning** | The skills taught this half term will be applied and built upon throughout the year. Helping children to build on prior knowledge to use during arithmetic tests, termly tests and to prepare for the following year. **Thematic questions:****The world beyond us:**What is the surface area of the earth, sun, moon?How can maps show area of land when the earht is a sphere?**Modern Britain:**What is the area of the UK? How mauch land is available for new homes for the increasing population?**Healthy bodies, healthy minds:**How much land is available in the UK for food production?What is the area of countryside in the UK?**The world around us:**Do animals have sufficient land available?How much rainforest is being destroyed each year?By how much is the arctic ice sheet reducing each year?**Culture:**Do we have enough shared space for recreation?**Technology in action:**How much land and sea is needed to provide renewable energy for the UK? |
| **Character/Wider Development ('50 things', cultural capital, skills)** | 50 Things are personal to each school. If you can visit a castle – do you see rectilinear shapes? What is the area of the grounds? How could you find out? How would you measure it?If attending a sporting event, see what shapes the playing areas are. What is the size of the plating area? How would you calculate the area? How could you find out what the area is? Do the sports have rules that determine the maximum and minimum size playing areas?If you go ice-skating, what is the size of the ice rink? If the ice rink has rounded corners, would it make it more difficult to work out the area? |

**OVERVIEW OF TEACHING SEQUENCE**

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| **Key Facts/Learning**  | **Learning Focus or Key Question** | **Learning Outcomes (NC)** | **Key Words/****Vocabulary** | **Greater Depth/SEND**  | **Misconceptions** | **Activities and Resources** |
| **Area**(Week 4) | To understand what is meant by area.To find the area by counting squares.To make shapes with a given area.To compare the areas of different shapes. | Find the area of rectilinear shapes by counting squares. | AreaShapeSurface2DSpaceSquaresSquaredUnitsMeasureRectangleRectilinearGreater thanLess thanEqual to | GD: Children to complete challenges linked to reasoning and problem solving showing clear understanding. Clearly showing their methods with written feedback on why and how they have got to an answer.Provide opportunities to investigate new areas in depth.Ensure they manage their own learning using learning tools independently and recognising they need these learning tools independently.Model complex ideas to help encourage deeper thinking.Teaching peers in class.SEND: Allow time to recap and go through previous learning. Access to helpful peers and clear modelling from adults.Children to complete varied fluency questions with opportunity to move onto reasoning and problem solving. | Area and perimeter can sometimes be confused.Children may count half a square as a whole square when counting area.Children may use rulers to measure area.Children may measure the area of shapes using different units.  | Explore the area of a range of shapes using concrete, abstract and pictorial representations.Ensure understanding through reasoning and problem solving.Use obscure shapes to measure the area.Area knowledge organiser. Classroom secrets linked to the NC objective.- [White Rose Maths resources](https://wrm-13b48.kxcdn.com/wp-content/uploads/2020/12/Year-4-Spring-block-2-Area.pdf).Deepening the moment-Kate says that all area can be measured using CM, is she correct?Sarah says that to find the area of a shape you just measure the outside, is she correct. Explain your answer. Paul calculates the area of a shape by counting all of the squares, Jade says that he is wrong because he has counted halves as wholes, who is correct? Justify your answer. Lesson 1-Consolidate previous learning of perimeter and ensure children understanding clearly that area is different. Model expectations and measuring to children using visual representations.Lesson 2-Provide children with squared paper and allow them to measure the area of a variety of shapes. Place some ‘red herrings’ such as ½ squares to check for deeper understanding. Lesson 3-Use a range of familiar and unfamiliar shapes and allow children to make them and measure the area of them. Provide children with and without measurements for a range of shapes.Lesson 4-Consolidate understanding of area by using a wide range of shapes and ask children to compare as an estimate before measuring. |
| 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. As they grow throughout primary education we want them to feel a sense of pride and achievement within this core subject. A subject that will impact their daily lives.A key factor of this will be the positive attitude we have and will pass onto the children as they learn important mathematical concepts during their mathematics learning journey. We include VIPs (Very Important Points) to help retain and repeat important knowledge and skills over time. These are a bank of important skills that all of our children will have access to. Mistakes and misconceptions are a key part of the successes during their learning journey as these moments help to show resilience, perseverance and commitment to learning mathematical concepts. At our school, the majority of children will be taught the content from their year group only. All children will have the opportunity to progress, build on prior knowledge, and have access to reasoning and problem solving questions. These questions help to secure and deepen their thinking and learning with mathematics. Another key factor is cross fertilization at every opportunity. As a whole, the children will spend their time learning, applying and mastering key skills that they will need throughout their life. They will learn new skills that will be incredibly important as they progress through their education. In year 4, they will build on their mathematical knowledge which they can take forward with them as they go into year 5 and beyond. |



**Intent**

**To understand that area is the amount of space taken by a shape or surface. To understand that area is measured in squares. To find the area of a shape, count the number of squares that fit inside it.**

**Year 4 Knowledge Organiser: Area**

**VIPs**

Area is the amount of space taken up by a shape or surface.

Area is measured using squares.

Count the number of squares inside the shape to find the area.

Times table facts can be used to calculate the area of rectangles.

When drawing rectilinear shapes, the squares need to join at the sides, not just at the corners.

Draw shapes accurately using the lines and squares in your book.

When comparing area, the same size squares must be used.

To compare use greater than >, equal to = and less than <.

**Right Angle**

A right angle can be described several ways:

Where two lines meet at 90o.

Where two perpendicular lines meet.

A quarter turn.





**Fat Questions**

Does the UK have enough land to grow sufficient food for the population?

How can area be used to record changes to the planet?

**Key vocabulary**

area, distance, length, perimeter, rectilinear, rectangle, square, right angle, units, space, squares

**Rectangle**

The opposite sides of a rectangle are the same length. The corners are right angles.



**Rectilinear Shapes**

Rectilinear shapes are made of straight lines and right angles.



**Area by Counting Squares**



 8 squares 7 squares 20 squares

