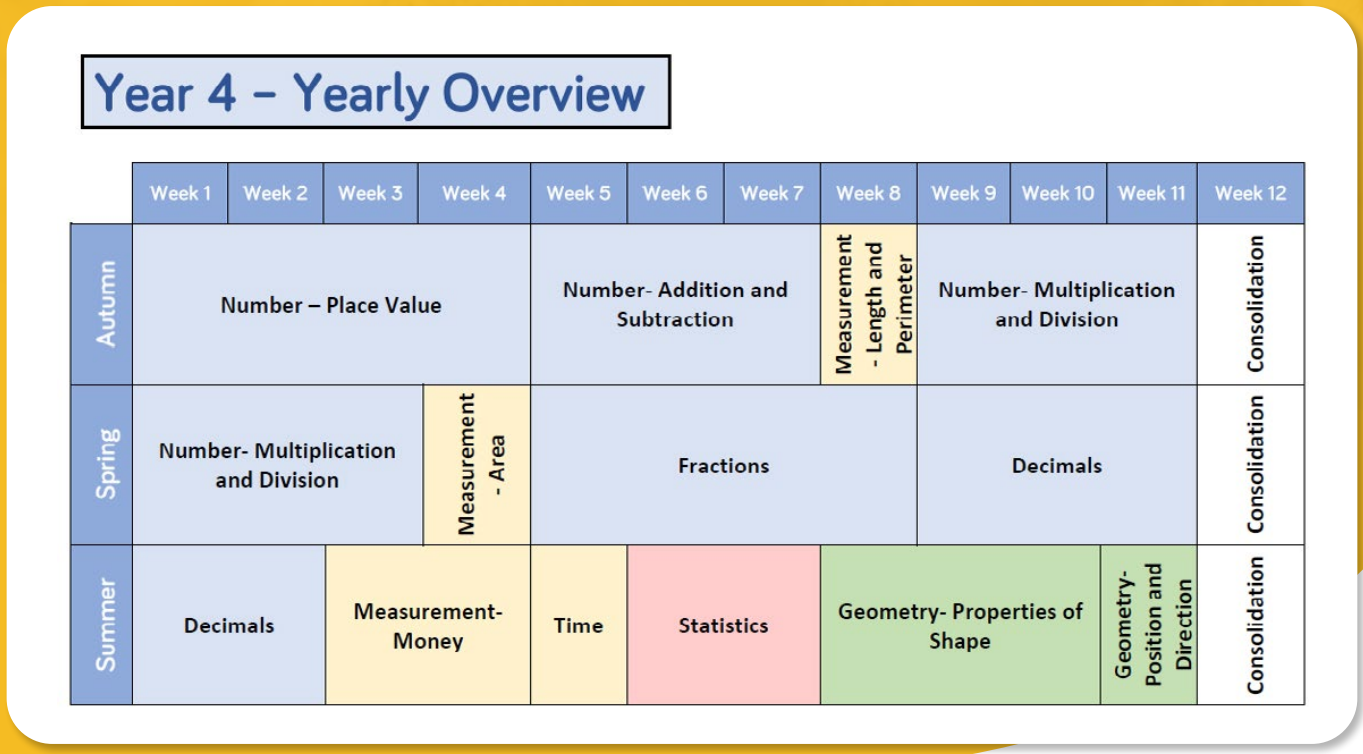
Mathletics

White Rose Maths (WRM) Summer Scheme of Learning, 2018

Alignment with Mathletics



This alignment document has been based on the White Rose Maths (WRM) scheme of learning available on the TES website.

White Rose Maths

Year 4

Mathletics

Year 4 White Rose Maths (WRM)

Summer Scheme of Learning, 2018

Alignment with Mathletics

Contents

Purpose:

The aim of this document is to support Mathletics teachers, who use the WRM scheme of learning, to make full use of the resources available within Mathletics. Whenever possible, activities, pages from the eBooks or learning experiences on Rainforest Maths have been matched to each of the small steps on the WRM scheme of learning.

In Mathletics, many eBooks are available in the student interface, however all eBooks are available to teachers through the teacher console. These topic-based eBooks contain practice and fluency exercises, along with application questions and games. Only a small selection of the relevant pages has been added to the document.

Links to Rainforest Maths, which can be found in the 'Play' area in the Mathletics student interface, have also been included as this resource has great visuals which work well on interactive whiteboards and gives pupils further opportunities to practice their learning online.

Course selection:
A specific Mathletics course has been created in alignment with the WRM Summer scheme of learning. You may wish to set this course for your class/groups.

England Yr 04 WRM Aligned

Data-Driven Teaching and Learning

Differentiation

Feedback and Reflection

Student Growth

Blended Learning

Year 4 White Rose Maths (WRM)

Summer Scheme of Learning, 2018

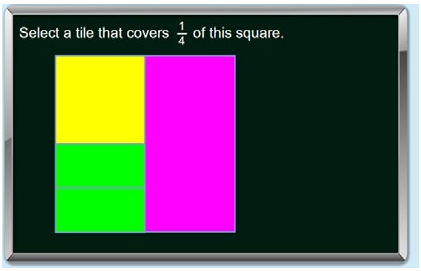
Alignment with Mathletics

Examples of alignment to Mathletics

Block 1 (Weeks 1–3) Number: Fractions

National Curriculum Objectives	WRM Small Steps
▸ Recognise and show, using diagrams, equivalent fractions with small denominators. ▸ Compare and order unit fractions, and fractions with the same denominators. ▸ Add and subtract fractions with the same denominator within one whole [for example $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$.] ▸ Solve problems that involve all of the above.	▸ Equivalent Fractions (1) ▸ Equivalent Fractions (2) ▸ Equivalent Fractions (3) ▸ Compare Fractions ▸ Order Fractions ▸ Add Fractions ▸ Subtract Fractions

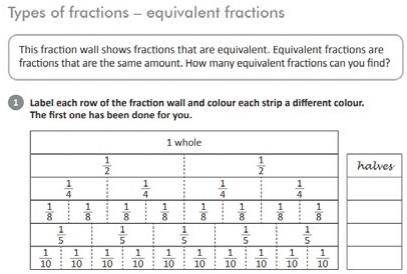
Small step: Equivalent Fractions (1)



Topic: Fractions

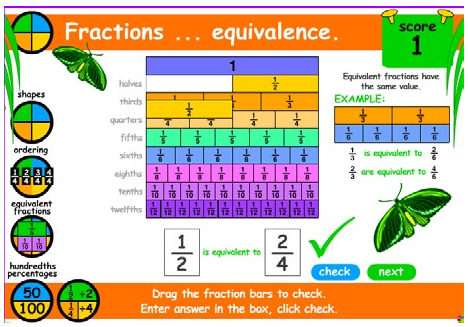
Activity: *Uneven partitioned shapes 1*

Reasoning about unevenly partitioned shapes encourages pupils to think more deeply about the relationship between the part and the whole as well as with other parts.



eBook, D series: Fractions, pages 15–16

Using a fraction wall as a visual, pupils identify pairs of equivalent fractions. In exercise 3, pupils shade equivalent fractions and label them.



Rainforest Maths — Level D — Fractions — equivalent fractions

The pieces on this fraction wall can be moved to clearly show equivalent fractions. Pupils enter the equivalent fraction and press 'check' for instant feedback. This visual is ideal for use on an interactive whiteboard and for class discussion of equivalent fractions.

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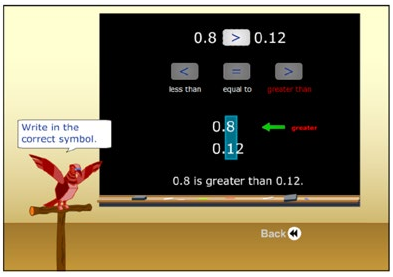
Alignment with Mathletics

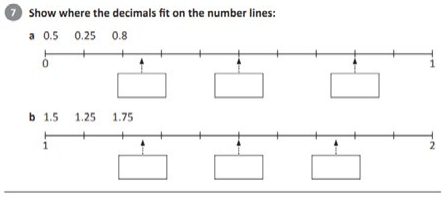


Topic: Decimals

Activity: *Decimal Order 1*

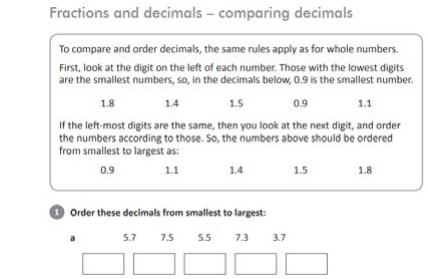
Pupils use their knowledge of place value to compare 2 decimals and select the correct symbol to represent the relationship between the decimals. The easier level compares only tenths, the medium level compares only hundredths and the harder level compares tenths with hundredths.

Small step: Order Decimals



eBook, E series: Fractions, page 23

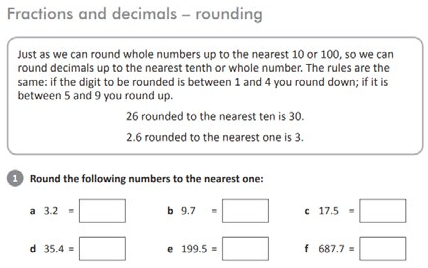
In exercise 7, pupils are asked to order the listed decimals and place them in the appropriate spaces on a number line.



eBook, E series: Fractions, page 26

This page explains the strategy pupils need to follow when ordering decimals. Working from the left, pupils compare the digits in the numbers they are ordering. Pupils apply their learning to a range of exercises where they are asked to compare and then order the decimals.

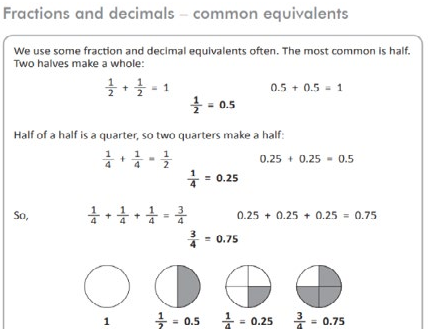
Small step: Round Decimals



eBook, E series: Fractions, page 27

The strategy for rounding decimals is explained to pupils. The exercises that follow give them the opportunity to apply their learning by rounding decimals and identifying which fraction is rounded to a given whole number.

Small step: Halves and Quarters



eBook, E series: Fractions, page 28

Pupils identify the decimals that are equivalent to halves and quarters. They extend this understanding to show the decimal equivalent of $\frac{1}{4}$ and $\frac{3}{4}$. Pupils then identify a shaded fraction of a shape and record both the common fraction and the equivalent decimal.

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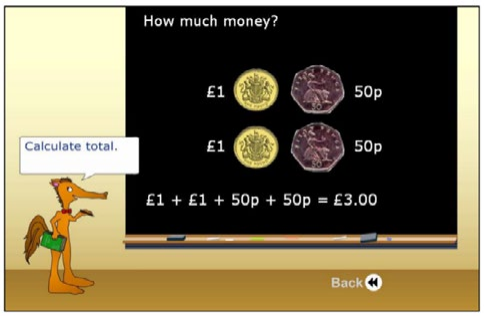
Alignment with Mathletics

Examples of alignment to Mathletics

Block 2 (Weeks 3–4) Measurement: Money

National Curriculum Objectives	WRM Small Steps
▸ Estimate, compare and calculate different measures, including money in pounds and pence. ▸ Solve simple measure and money problems involving fractions and decimals to two decimal places.	▸ Pounds and Pence ▸ Ordering Money ▸ Estimating Money ▸ Four Operations with Money

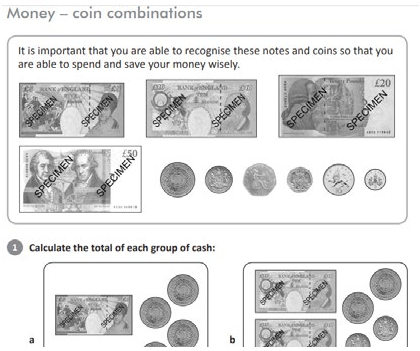
Small step: Pounds and Pence



Topic: Money

Activity: *Money — Who's got it?*

Pupils are shown an amount in pounds and pence using decimal notation and are asked to select the corresponding amount of coins.

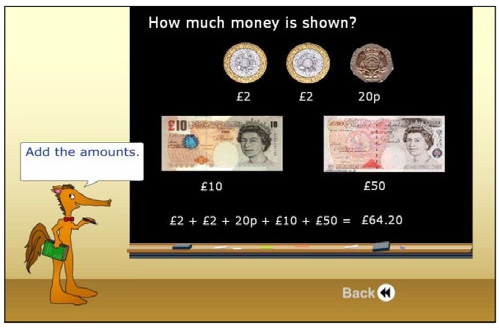


eBook, E series: Addition and Subtraction, page 40

An illustration of the notes and coins used as currency in the UK gives pupils the opportunity to recap their values. Pupils identify the total value of coins and notes shown and use different notes and coins to represent values in a variety of ways.

Note: We are aware that the £5 and £10 notes have been changed and will update these as soon as possible.

Small step: Four Operations with Money



Topic: Decimals

Activity: *Money — Adding (GBP)*

Pupils identify and add notes and coins and then select the corresponding total of pounds and pence written in decimal notation.

Year 4 White Rose Maths (WRM)

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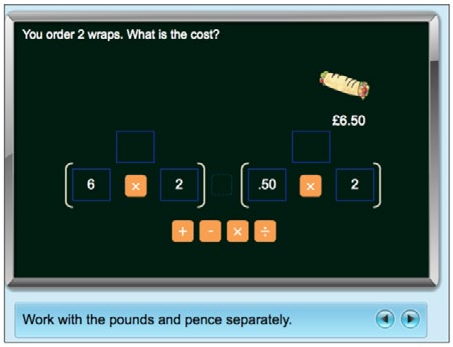
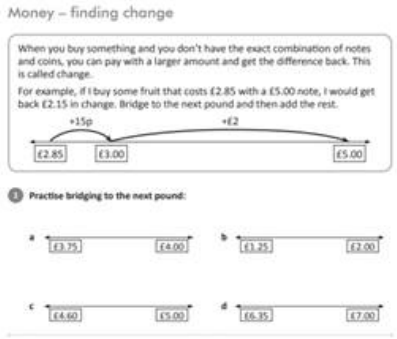
Alignment with Mathletics



Topic: Money

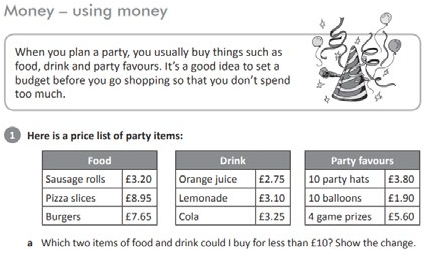
Activity: *Money Problems — Four Operations*

Pupils use one of the four operations to solve problems involving money. Pupils can use mental or written methods, or a combination of both, to solve the problems. The support area suggests working with the whole and decimal numbers separately, but there are multiple solution strategies.



eBook, D series: Addition and Subtraction, pages 48–49

Pupils use a bridging strategy to calculate change by adding rather than subtracting. Pupils are encouraged to use number lines to support their thinking.

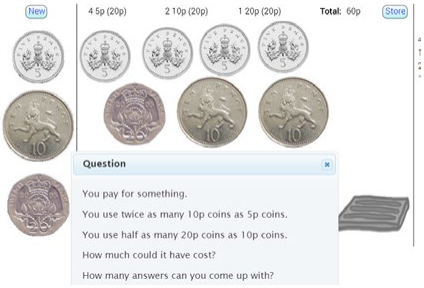


eBook, E series: Addition and Subtraction, pages 42–44

On page 42, pupils use subtraction to find the amount of change required in different shopping scenarios.

On page 43, within the context of shopping for a party, pupils use addition to total the value of items and subtraction to show the change needed.

Page 44 provides a collaborative game in which pupils use addition and subtraction to solve problems involving money.



eBook, E series: Rich Learning Task — Coin Count

This Rich Learning Task draws on pupils' understanding of fractions, values of coins and addition to find total values.

The interactive enables pupils to move the coins across the screen and discuss the different ways to solve the problem. A printable student sheet enables pupils to then complete the task independently.

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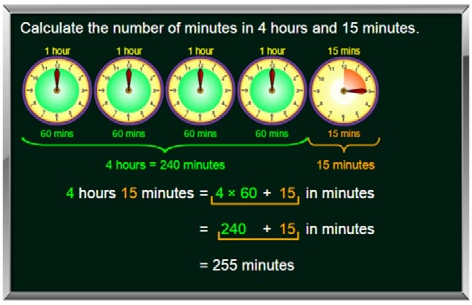
Alignment with Mathletics

Examples of alignment to Mathletics
Block 3 (Week 5) Measurement: Time

National Curriculum Objectives	WRM Small Steps
▸ Read, write and convert time between analogue and digital 12- and 24-hour clocks. ▸ Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days.	▸ Hours, Minutes & Seconds ▸ Years, Months, Weeks & Days ▸ Analogue to Digital – 12 Hour ▸ Analogue to Digital – 24 Hour

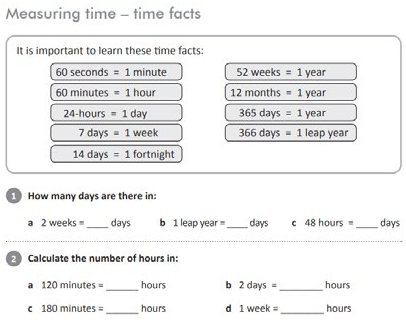
Small step: Hours, Minutes & Seconds
Small step: Years, Months, Weeks & Days



Topic: Time

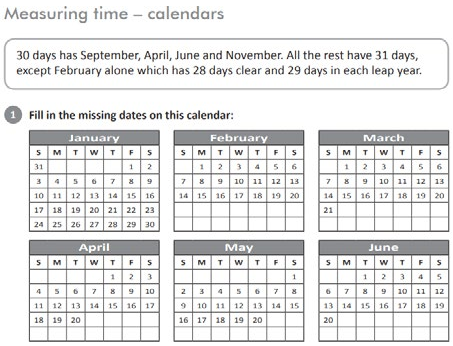
Activity: *Time Conversions: Whole Numbers 2*

In this activity, pupils convert between hours and minutes, minutes and seconds and vice versa.



eBook, E series: Time, page 12

This page gives pupils a list of time facts, showing the relationship between the different unit measures of time. Exercises support pupils in applying these facts to convert between different units and solve time problems.



eBook, E series: Time, pages 15–16

This page supports pupils in knowing the number of days in different months. Students apply this learning by completing a calendar and identifying which day of the week various dates fall on.

On page 16 pupils apply their understanding of time facts to solve a range of problems based on children's birthday dates.

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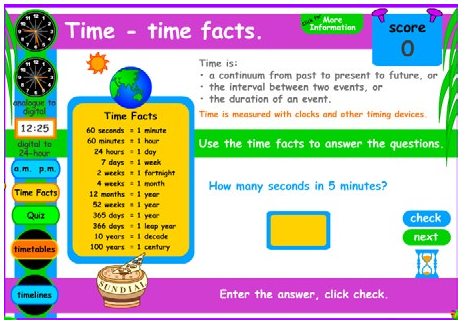
Alignment with Mathletics

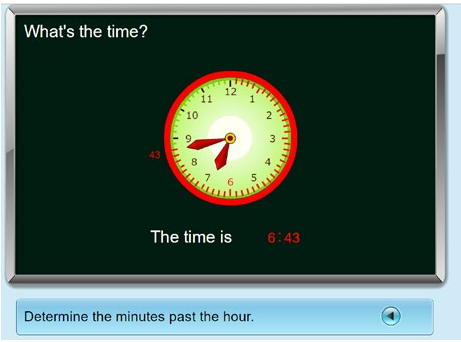


Rainforest Maths — Level F — Time – time facts

This page provides pupils with a useful chart comparing the different units of time. The 'More Information' link at the top of the page, gives pupils further useful information and also shows an analogue and digital clock with the current time displayed in hours, minutes and seconds.

Pupils can complete a series of questions which involve converting between different units of time.

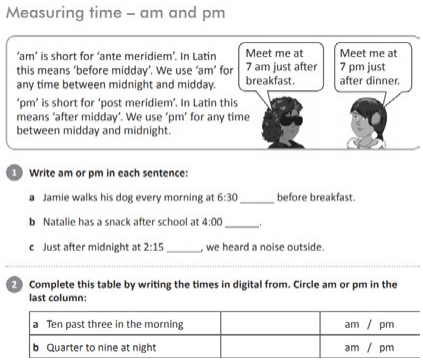
Small step: Analogue to Digital — 12 Hour



Topic: Time

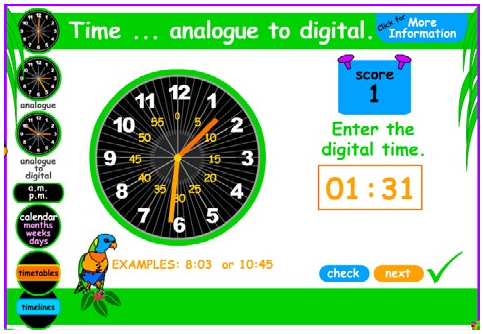
Activity: *What is the Time?*

Pupils identify the time on an analogue clock and convert this to digital time.



eBook, E series: Time, page 11

This page explains to pupils the origin of the terms a.m. and p.m. and how to use them when telling the time. In the following exercises pupils have to record the digital 12-hour time and also identify, from a description of the activity, whether the time needs recording as a.m. or p.m.



Rainforest Maths — Level E — Time — analogue to digital

Pupils are shown the time on an analogue clock and are asked to enter the time onto a digital clock. The 'More Information' tab shows pupils the current time on both an analogue and a digital clock. It also explains how a.m. and p.m. is used to indicate day or night when recording 12-hour time.

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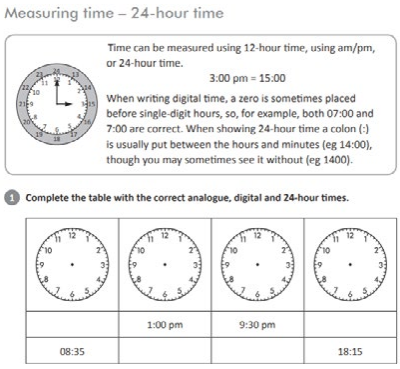
Small step: Analogue to Digital — 24 Hour

Topic: Time

Activity: *What is the Time?*

Although this activity does not involve reading analogue clocks, it does require pupils to convert 24-hour time into 12-hour time and correctly identify whether the time is a.m or p.m.



eBook, E series: Time, pages 6–8

This page explains to pupils how the 24-hour clock is used and the relationship between time shown using 12-hour time with a.m. and p.m. and recording it as 24-hour time. Pupils complete exercises, showing the same time on an analogue clock and then digitally presenting 12-hour and 24-hour time.

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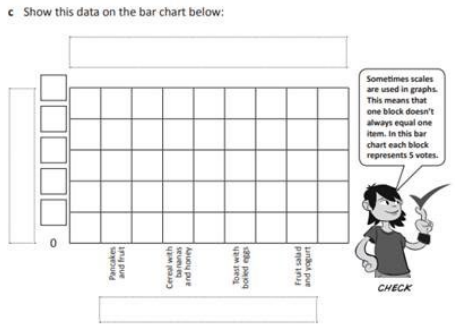
Alignment with Mathletics

Examples of alignment to Mathletics

Block 4 (Weeks 6–7) Statistics

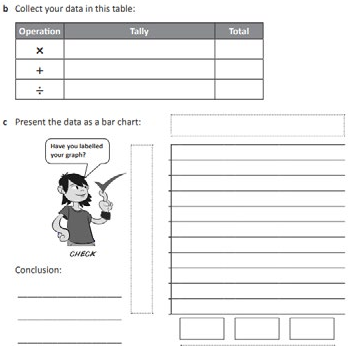
National Curriculum Objectives	WRM Small Steps
▸ Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs. ▸ Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.	▸ Interpret Charts ▸ Comparison, Sum & Difference ▸ Introducing Line Graphs ▸ Line Graphs

Small step: Interpret Charts



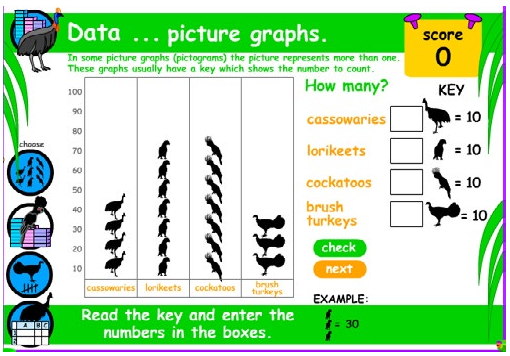
eBook, D series: Statistics, page 5

Pupils interpret data presented in a tally chart and represent the data in a bar chart with a scale of 1:5.



eBook, D series: Statistics, page 12

On this page pupils are asked to collect their own data and record it in a tally chart. They are then asked to represent that data in a bar chart.



Rainforest Maths — Level E — Data — picture graphs

Pupils are shown a pictogram representing birds seen in an area of rainforest in New Zealand. The page also works well on an interactive whiteboard. Pupils could be encouraged to think of questions they could ask a partner using the data shown.

Pupils are asked to read the pictogram with the help of the key provided.

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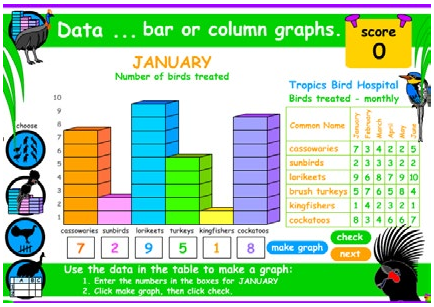
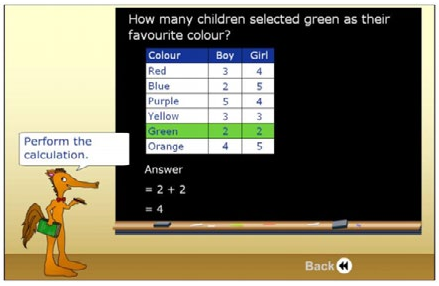


Rainforest Maths — Level E — Data

The option to show bar graphs is selected from the left-hand menu on the Data page. Pupils use the table to enter information about the number of different birds treated each month in a Tropical Bird Hospital. The graph is created as they click on 'make a graph'. Pupils can be challenged to ask their own questions, based on the data shown.

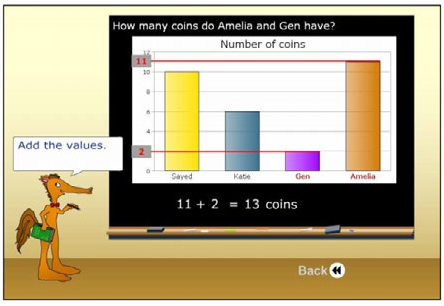
Small step: Comparison, Sum & Difference



Topic: Statistics

Activity: *Interpreting Tables*

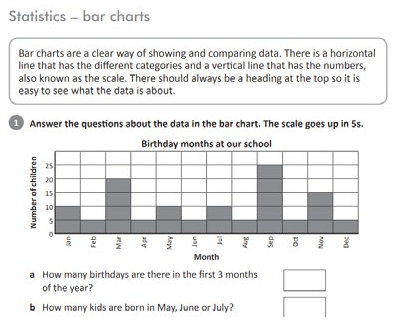
Pupils interpret data presented in a table and solve problems.



Topic: Statistics

Activity: *Bar Chart*

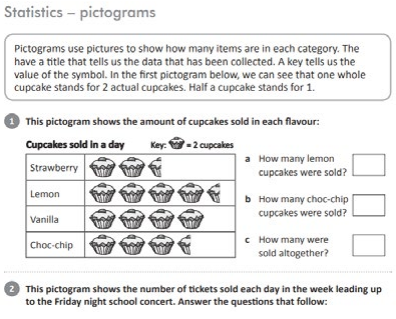
Pupils interpret data presented in a bar chart and solve problems.



eBook, E series: Statistics, pages 4–5

On Page 4 pupils are presented with bar charts, first with vertical bars and then with horizontal bars. Using the information in the charts, pupils answer a range of questions and explain the information they can find when interpreting the charts.

Page 5 involves pupils in constructing bar charts and then answering questions based on their chart.



eBook, E series: Statistics, page 6

Pupils interpret the pictograms shown on page 6 and use the information to answer a range of questions.

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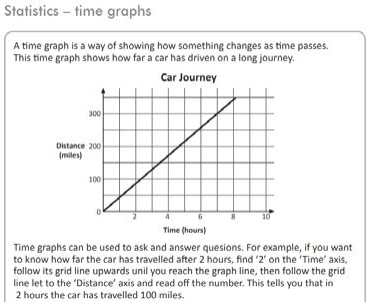
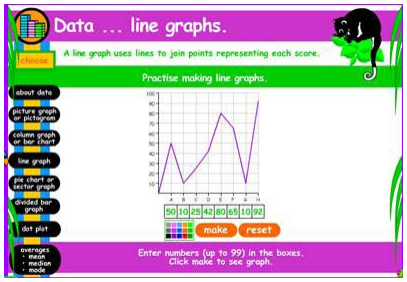
Alignment with Mathletics

Small step: Introducing Line Graphs



eBook, E series: Statistics, page 14

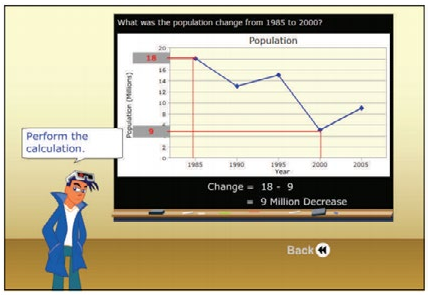
Pupils are introduced to the concept of a line graph to show continuous data. They are shown an example of a car travelling over time. Pupils use the graph to answer a range of questions.



Rainforest Maths — Level F — Data — line graphs

This page allows pupils to enter their own data and instantly create a line graph. The page is ideal to share on an interactive whiteboard, with pupils discussing what the graph could show and suggesting appropriate data. Once the graph is created, pupils can be encouraged to come up with their own set of questions which their graph can answer. The data can be changed and the graph recreated.

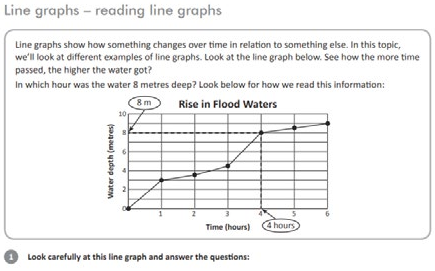
Small step: Line Graphs



Topic: Statistics

Activity: *Line Graphs: Explanation*

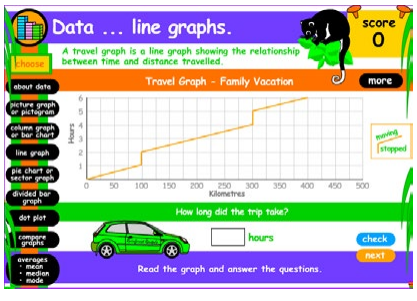
Pupils interpret data represented in a line graph and answer comparison and difference questions. Pupils will need an explanation of range in order to complete this activity.



eBook, F series: Statistics, pages 9–14

Pupils are presented with line graphs showing data from a range of real-life contexts, including temperature, rise of flood waters and travel over time. Pupils use the line graphs, finding the information they need to answer a range of questions.

On page 12, pupils use given data to create a line graph and then answer questions.



Rainforest Maths — Level G —Data — line graphs

Pupils are shown a line graph which represents the kilometres travelled on a family journey. The information shown is used to answer a range of questions. The line graph can be used on an interactive whiteboard and pupils can suggest further questions to challenge each other. Clicking on 'next' brings up the page where a line graph can be created.

Year 4 White Rose Maths (WRM)

Summer Scheme of Learning, 2018

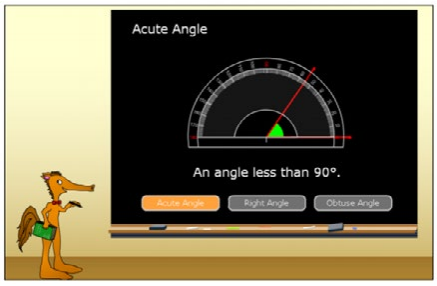
Alignment with Mathletics

Examples of alignment to Mathletics

Block 5 (Weeks 8–10) Geometry: Properties of Shape

National Curriculum Objectives	WRM Small Steps
▸ Identify acute and obtuse angles and compare and order angles up to two right angles by size. ▸ Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes. ▸ Identify lines of symmetry in 2-D shapes presented in different orientations. ▸ Complete a simple symmetric figure with respect to a specific line of symmetry.	▸ Identify Angles ▸ Compare & Order Angles ▸ Triangles ▸ Quadrilaterals ▸ Lines of Symmetry ▸ Symmetric Figures

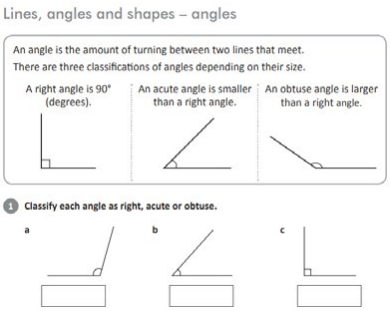
Small step: Identify Angles



Topic: Properties of Shapes

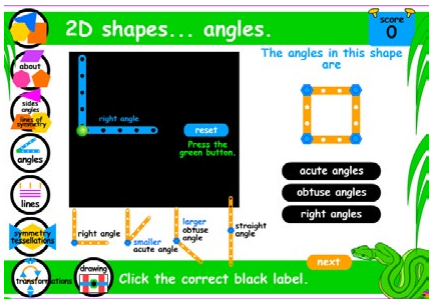
Activity: *What Type of Angle 2?*

Pupils identify a given angle as an acute angle, right angle or obtuse angle. The support area reminds pupils that right angles are exactly 90°, acute angles are between 0° and 90°, while obtuse angles are between 90° and 180°.



eBook, E series: Geometry, page 2

The classifications of angles as acute, right and obtuse are explained and illustrated. Pupils label angles and follow instructions to draw the different types of angles.



Rainforest Maths — Level E— 2D shapes — angles

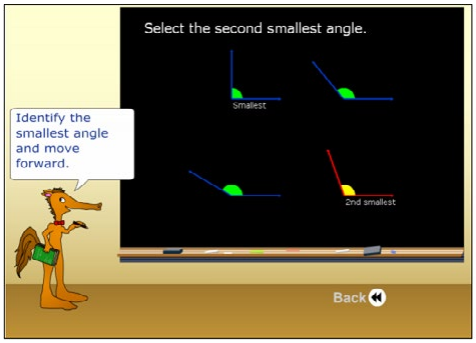
Right, acute and obtuse angles are illustrated and labelled on this page. Pupils identify the angles within a range of shapes.

Year 4 White Rose Maths (WRM)

Summer Scheme of Learning, 2018

Alignment with Mathletics

Small step: Compare & Order Angles

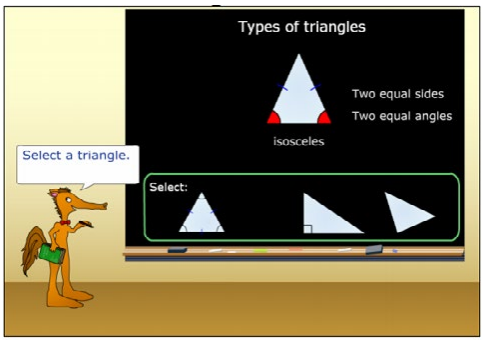


Topic: Properties of Shapes

Activity: *Comparing Angles*

In this activity pupils compare angles based on their size. Terms such as 'largest', 'smallest', '2nd largest' and so on are used.

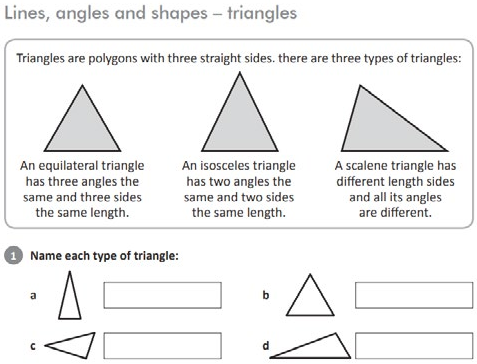
Small step: Triangles



Topic: Properties of Shapes

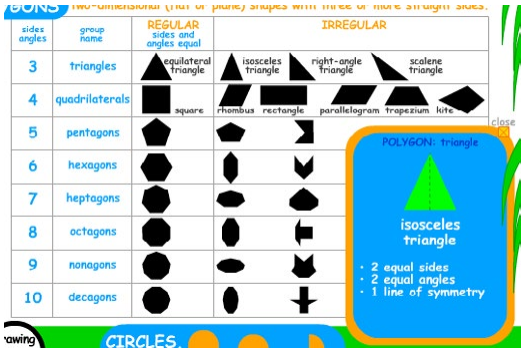
Activity: *Triangle Tasters*

Pupils select the correct triangle given the term 'equilateral', 'isosceles' or 'right angled'. The triangles shown are marked either with equal side lengths or equal angles/right angles.



eBook, E series: Geometry, page 5

The classification of triangles as equilateral, isosceles and scalene is illustrated and explained. Pupils then label a series of triangles as right angled, equivalent, scalene or isosceles. Finally, pupils are asked to draw different types of triangles, including equilateral, isosceles and scalene.



Rainforest Maths — Level E— 2D shapes — about

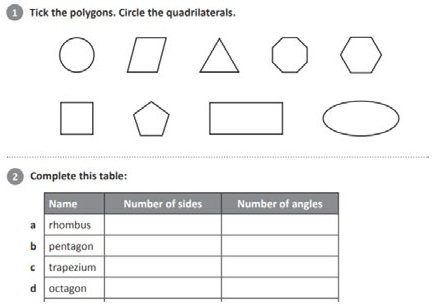
The table on this page illustrates a comprehensive range of 2D shapes. Clicking on the equilateral, isosceles, scalene and right-angled triangles, opens up a further illustration and detailed description of the key features of each triangle.

Year 4 White Rose Maths (WRM)

Summer Scheme of Learning, 2018

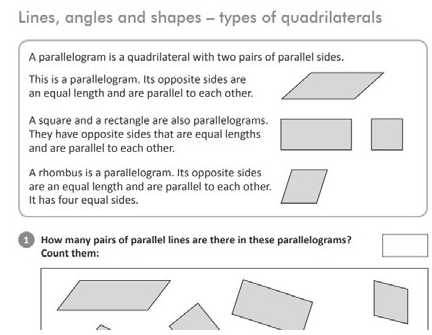
Alignment with Mathletics

Small step: Quadrilaterals



eBook, E series: Geometry, page 4

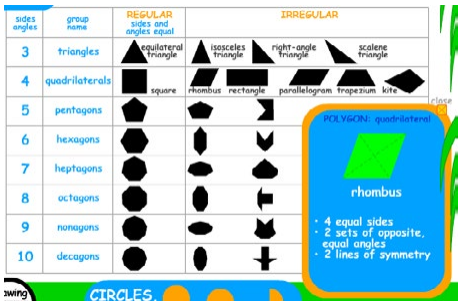
Pupils identify quadrilaterals from a selection of 2D shapes and then complete a table with the number of sides and angles for both quadrilaterals and polygons.



eBook, E series: Geometry, pages 6–7

A range of quadrilaterals, including parallelograms, squares, rectangles and rhombuses are described and illustrated on page 6. Pupils identify these different shapes.

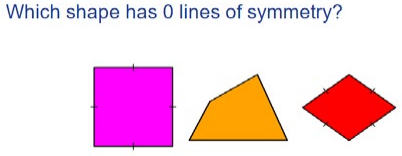
On page 7, a trapezium is described and illustrated. Pupils follow instructions to draw a range of quadrilaterals.



Rainforest Maths — Level E— 2D shapes

The table on this page illustrates and labels a comprehensive range of 2D shapes, including quadrilaterals. Clicking on the square, rhombus, rectangle, parallelogram, trapezium or kite opens up a further small window which provides a more detailed description and illustration of each shape.

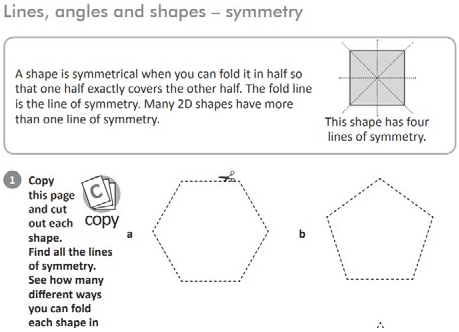
Small step: Lines of Symmetry



Topic: Properties of Shapes

Activity: *Symmetry or Not?*

Pupils identify the shape with the given number of lines of symmetry.



eBook, E series: Geometry, pages 11–12

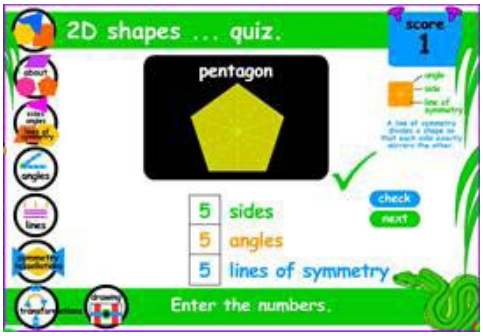
The concept of symmetry is explained and illustrated. Pupils cut out a range of 2D shapes and fold them to identify the number of lines of symmetry.

On page 12, pupils mark the lines of symmetry onto a range of different shapes and identify how many lines of symmetry each shape has.

Year 4 White Rose Maths (WRM)

Summer Scheme of Learning, 2018

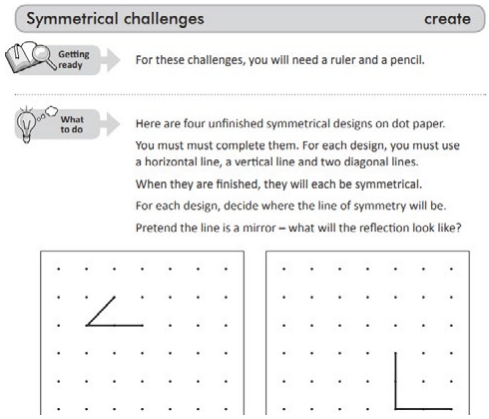
Alignment with Mathletics



Rainforest Maths — Level E— 2D shapes — lines of symmetry

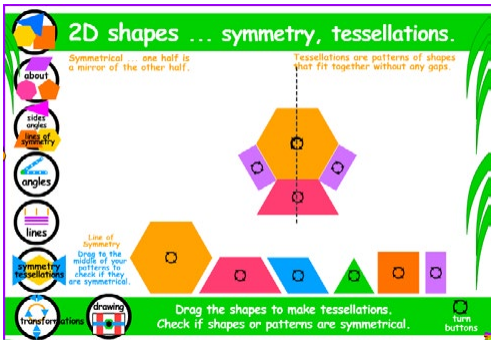
Pupils identify and record the number of sides, angles and lines of symmetry in a range of 2D shapes. This page is ideal for use on an interactive whiteboard and can be extended with discussions comparing shapes and their properties.

Small step: Symmetric Figures



eBook, E series: Geometry, page 13

In this challenge, pupils are given the beginning of drawings. They are required to follow instructions to complete the symmetrical drawings on the dot paper.



Rainforest Maths — Level E— 2D shapes — symmetry, tessellations

This page can be explored by individual pupils or used on the interactive whiteboard to illustrate to the class how to create a symmetrical image. The shapes and the line of symmetry can be moved and rotated.

Year 4 White Rose Maths (WRM)

Summer Scheme of Learning, 2018

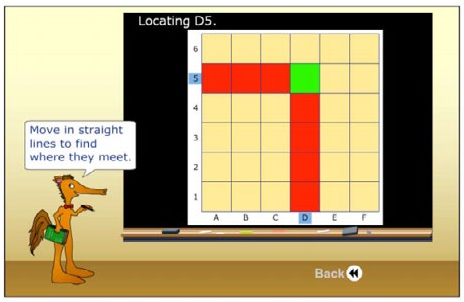
Alignment with Mathletics

Examples of alignment to Mathletics

Block 6 (Week 11) Geometry: Position & Direction

National Curriculum Objectives	WRM Small Steps
▸ Describe positions on a 2-D grid as coordinates in the first quadrant. ▸ Plot specified points and draw sides to complete a given polygon. ▸ Describe movements between positions as translations of a given unit to the left/right and up/down.	▸ Describe Position ▸ Draw on a Grid ▸ Move on a Grid ▸ Describe Movement

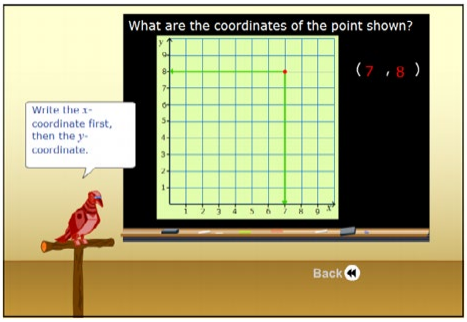
Small step: Describe Position



Topic: Position and Direction

Activity: *Coordinate Graphs: 1st Quadrant*

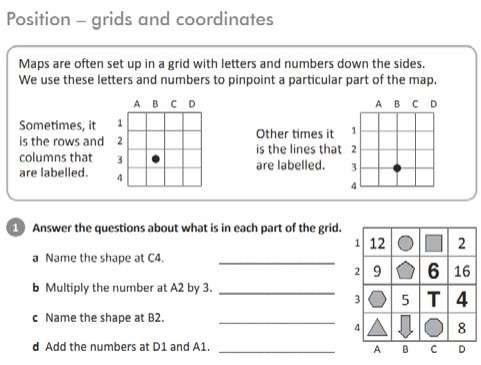
This activity is a good introduction to locating intercepting points by moving in straight lines from the x axis and the y axis. Pupils locate a position on a grid using coordinates in the form of a letter and number, eg, 'D5'.



Topic: Position and Direction

Activity: *Coordinate Graphs: 1st Quadrant*

Pupils record the coordinates for a given point on a coordinate graph. The support area reminds pupils to record the x coordinate before the y coordinate.


Position – grids and coordinates

Maps are often set up in a grid with letters and numbers down the sides. We use these letters and numbers to pinpoint a particular part of the map.

Sometimes, it is the rows and columns that are labelled.

Other times it is the lines that are labelled.

1 Answer the questions about what is in each part of the grid.

a Name the shape at C4. _____

b Multiply the number at A2 by 3. _____

c Name the shape at B2. _____

d Add the numbers at D1 and A1. _____

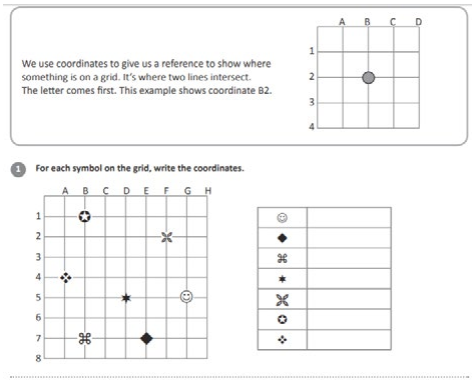
eBook, E series: Geometry, page 21

The concept of using coordinates to describe position on a grid is explained and illustrated. Labelling on the grid lines and on the rows and columns is shown, and pupils identify a range of shapes using coordinates to find their position on a grid.

Year 4 White Rose Maths (WRM)

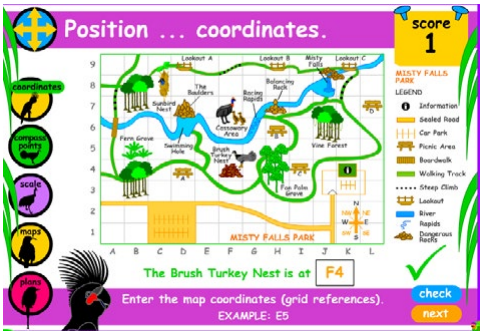
Summer Scheme of Learning, 2018

Alignment with Mathletics



eBook, F series: Geometry, page 31

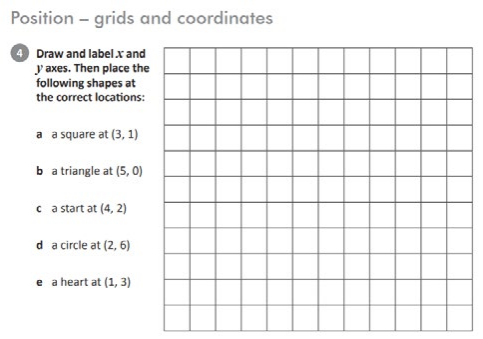
Pupils record the coordinates of shapes on a grid using a letter and a number as the coordinates.



Rainforest Maths — Level F — position — coordinates

Pupils describe the position of given places on a map by recording the coordinates. This page would work well on an interactive whiteboard where pupils could also describe the location of different features by giving the coordinates.

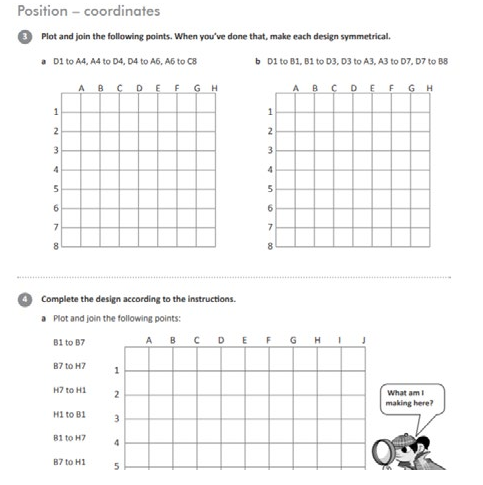
Small step: Draw on a Grid



eBook, E series: Geometry, page 23

In this exercise pupils use the given coordinates to locate and draw a range of shapes.

In exercise 5, pupils mark coordinates onto the grid and then use a ruler to join them, creating 2D shapes.



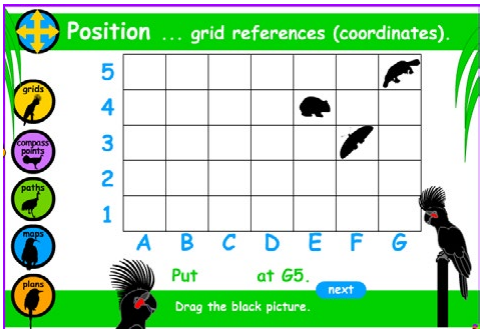
eBook, F series: Geometry, page 32

Pupils plot and join coordinate points on a grid to create a symmetrical design and 2D shapes.

Year 4 White Rose Maths (WRM)

Summer Scheme of Learning, 2018

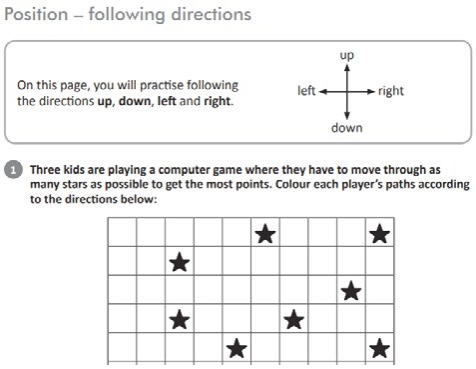
Alignment with Mathletics



Rainforest Maths — Level E — position — grid references

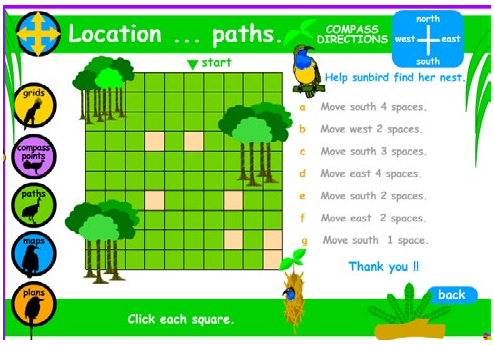
Pupils drag a range of animals onto a grid using the given coordinates.

Small step: Move on a Grid



eBook, E series: Geometry, page 19

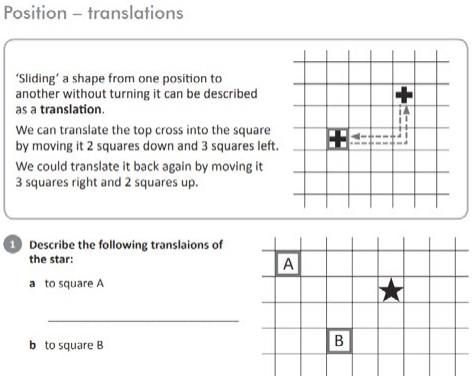
Pupils follow directions, moving up, down, left and right across a grid to mark paths followed on a computer game.



Rainforest Maths — Level E — position — paths

Pupils use compass directions, north, south, east and west, to mark a path on a grid. Pupils click the appropriate square after each move and are reassured that their move is correct, before moving on to the next instruction.

Small step: Describe Movement



Rainforest Maths — Level E — position — paths

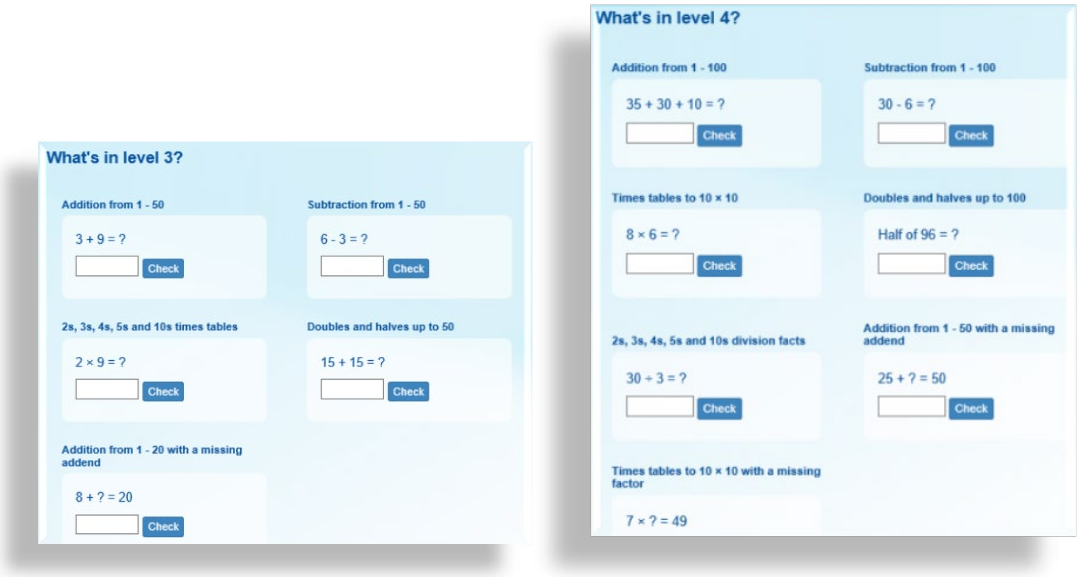
Pupils are shown how to describe movement on a grid using up, down, left and right. Exercise 1 gives pupils the opportunity further this skill as they describe the path from the star to different locations marked on a grid.

Year 4 White Rose Maths (WRM)

Summer Scheme of Learning, 2018

Alignment with Mathletics

Live Mathletics



Live Mathletics engages pupils in 60-second real-time games, testing speed and accuracy of maths facts.

To support progress in Year 3, challenge pupils to use **Level 3** and **Level 4** of Live Mathletics.

Teachers can set minimum levels on Live Mathletics by clicking the 'switch to old Mathletics' button, selecting **Results** and selecting **Minimum levels** on the left-hand side of the page. Students can still access higher levels once you set a minimum level, so encourage students to challenge themselves and move on to the next level when they are ready.

(**Note**: Live Mathletics levels are a sliding scale, with no relationship to classes or old National Curriculum levels. As a resource which is also used in secondary schools, the levels from 6 upwards are intended for older students.)

When assigning activities with calculations that do not have spaces for recording any working out, consider getting pupils to record their thinking strategies in their Maths books or on a whiteboard, before answering the question in Mathletics. Pupils can then self-mark their work after each question. If they have made a mistake, they can correct their work using the support feature in the activities. Instant feedback and learning!

Mathletics

For more information about Mathletics,
contact our friendly team.

www.mathletics.com/contact

A 3P Learning Product