Mathletics

Year 5 White Rose Maths (WRM)
Summer Scheme of Learning, 2018
Alignment with Mathletics

Year 5 – Yearly Overview

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn	Number – Place Value			Number – Addition and Subtraction		Statistics		Number – Multiplication and Division		Perimeter and Area		Consolidation
Spring	Number – Multiplication and Division			Number – Fractions						Number – Decimals & Percentages		Consolidation
Summer	Number – Decimals				Geometry- Properties of Shapes			Geometry- Position and Direction	Measurement- Converting Units		Measures Volume	Consolidation

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

Year 5 White Rose Maths (WRM) Summer Scheme of Learning, 2018

Content

Examples of alignment to Mathletics

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 05 WRM Aligned

Data-Driven Teaching and Learning

Differentiation

Feedback and Reflection

Student Growth

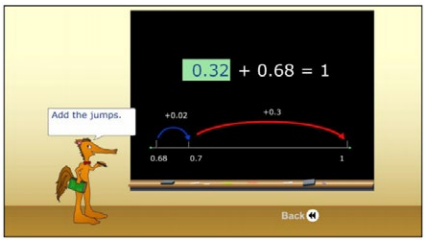
Blended Learning

Year 5 White Rose Maths (WRM) Summer Scheme of Learning, 2018

Examples of alignment to Mathletics
Block 1 (Weeks 1–4) Number: Decimals

National Curriculum Objectives	WRM Small Steps
▸ Solve problems involving number up to three decimal places. ▸ Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000. ▸ Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.	▸ Adding Decimals within 1 ▸ Subtracting Decimals within 1 ▸ Complements to 1 ▸ Adding — Crossing the Whole ▸ Adding — Same Decimal Places ▸ Subtract — Same Decimal Places ▸ Adding — Different D.P ▸ Subtracting — Different D.P ▸ Wholes and Decimals ▸ Decimal Sequences ▸ Multiply by 10, 100 and 1,000 ▸ Divide by 10, 100 and 1,000

Small step: Complements to 1

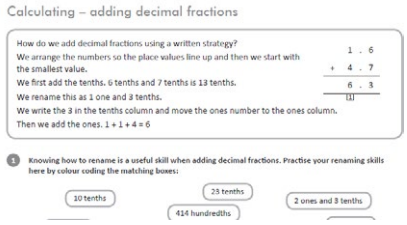


Topic: Decimals

Activity: *Decimal Complements*

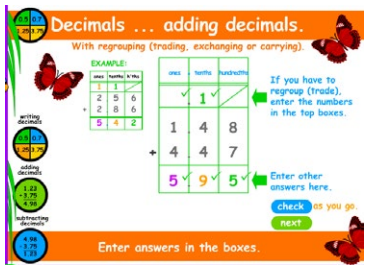
In this activity pupils find pairs of decimals that add to 1 whole. The easier level begins with tenths before moving to hundredths. The support area uses a number line to show pupils the strategy of jumping to the next tenth and then adding tenths to make 1 whole.

Small step: Adding — Crossing the Whole



eBook, F series: Fractions, Decimals and Percentages, page 37

Pupils are shown how to set out a calculation when adding decimals. They complete exercises to practise additions of decimals, including those where the tenths add up to more than 1.



Rainforest Maths — Level D — Decimals —adding decimals

Pupils are shown a completed example of a calculation where decimals are added. Using the prompts to help, they complete examples and check to see if their answers are correct.

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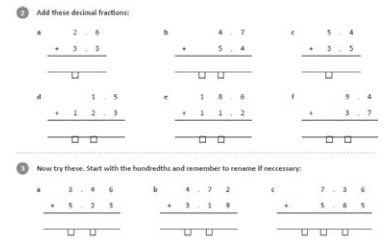
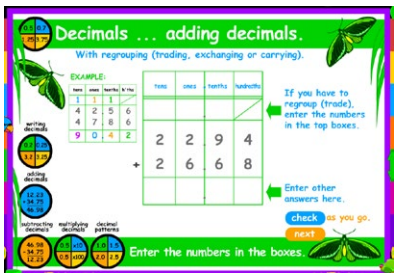
Small step: Adding — Same Decimal Places



eBook, F series: Fractions, Decimals and Percentages, page 37

Calculation exercises are set out for pupils to complete, modelling the importance of lining up digits with the same place value.

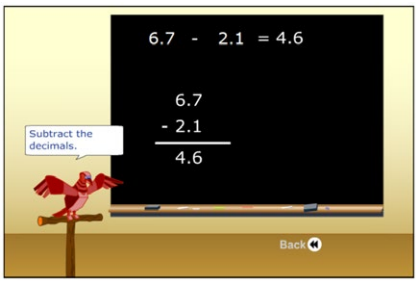
Exercise 3 includes the addition of decimals with tenths and hundredths.



Rainforest Maths — Level E — Decimals — adding decimals

Pupils add 2 numbers with the same number of decimal places (2 decimal places). All questions require making exchanges.

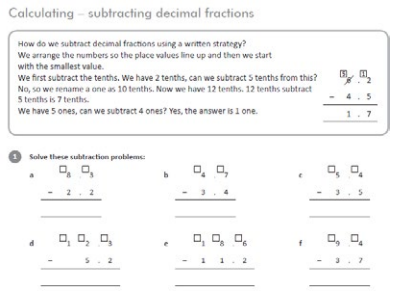
Small step: Subtract — Same Decimal Places



Topic: Decimals

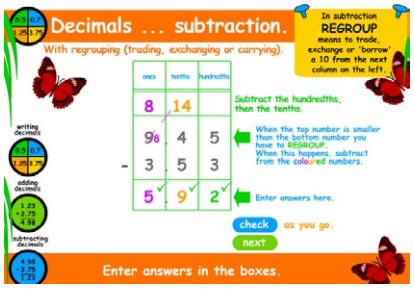
Activity: *Subtract Decimals 1*

Pupils subtract 2 decimals using the written method. All questions involve decimals with the same number of decimal places.



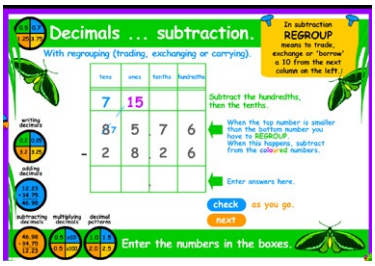
eBook, F series: Fractions, Decimals and Percentages, page 39

Pupils are shown an example of a subtraction calculation with decimals, where a 1 needs to be exchanged to tenths to complete the answer. Pupils then complete exercises to practise this concept.



Rainforest Maths — Level D — Decimals — subtracting

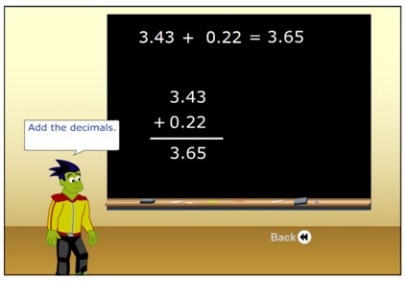
Pupils are shown an example of a calculation where decimals are being subtracted. They are prompted to show where regrouping, trading or exchanging is needed as they complete the answer. By selecting 'check', each digit in the answer is ticked, enabling students to pinpoint their errors.



Rainforest Maths — Level E — Decimals — subtracting

Pupils can select to view exercises where the regrouping, trading or exchanging is already shown, or choose to work on examples where they have to enter this themselves. Pupils can check their answer in stages, to help them recognise at which point an error occurs.

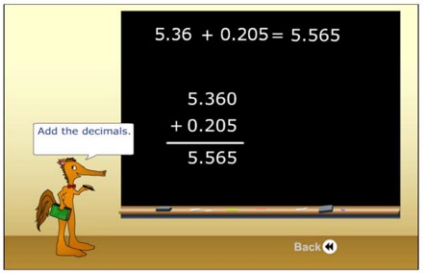
Small step: Adding — Different D.P



Topic: Decimals

Activity: *Add Decimals 1*

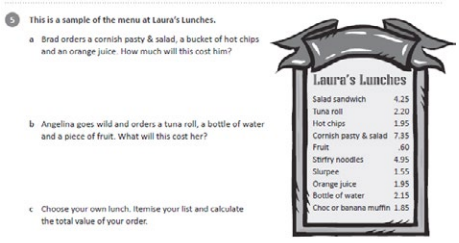
Pupils add 2 decimals using the written method. Harder questions involve adding decimals with a different number of decimal places.



Topic: Decimals

Activity: *Adding Decimals*

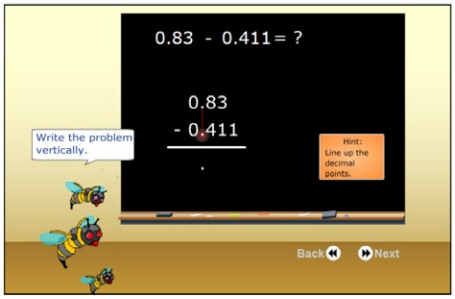
Pupils add 2 decimals using the written method. Harder questions involve adding decimals with a different number of decimal places.



eBook, F series: Fractions, Decimals and Percentages, page 38

Exercise 5 gives pupils a real-life example of when decimals are added. They are asked to choose items from a menu and calculate the total cost. Pupils will need to set out their work carefully to work through the calculations.

Small step: Subtracting — Different D.P



Topic: Decimals

Activity: *Subtract Decimals 2*

Pupils use the written method to subtract 2 decimals, including decimals with a different number of decimal places. The support area reinforces the need to line up the decimal points.

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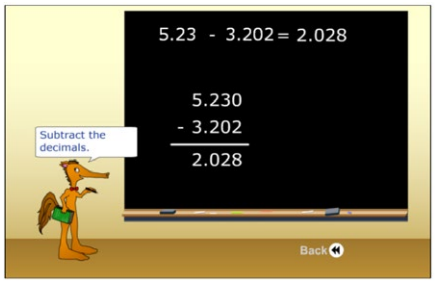
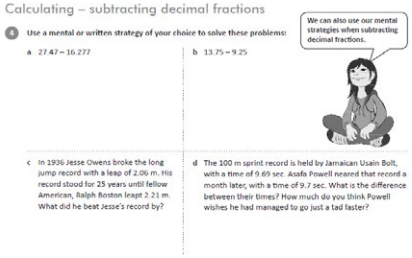


Topic: Decimals

Activity: *Subtracting Decimals*

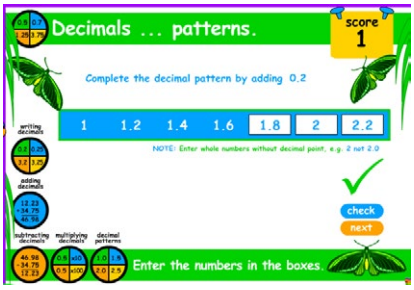
Pupils use the written method to subtract 2 decimals, including decimals with a different number of decimal places. The support area reinforces the need to line up the decimal points.



eBook, F series: Fractions, Decimals and Percentages, pages 39–40

In exercise 4, pupils complete questions that involve subtracting decimals with different numbers of place values. Pupils also answer questions presented as word problems to further apply their understanding.

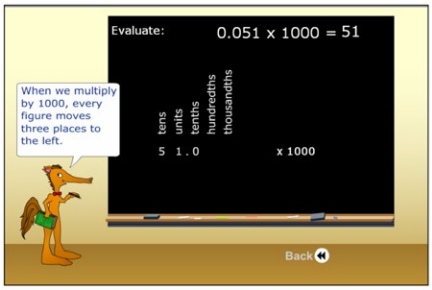
Small step: Decimal Sequences



Rainforest Maths — Level E— Decimals — patterns

Pupils are shown a sequence of decimals and asked to continue the identified pattern. Patterns include sequences of adding 0.1, 0.2, 0.3 and 0.5.

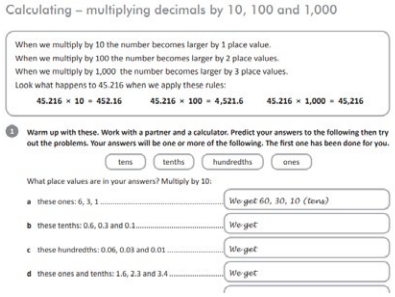
Small step: Multiply by 10, 100 and 1,000



Topic: Decimals

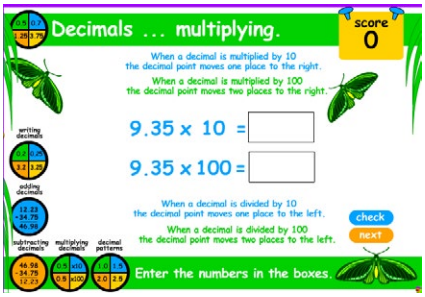
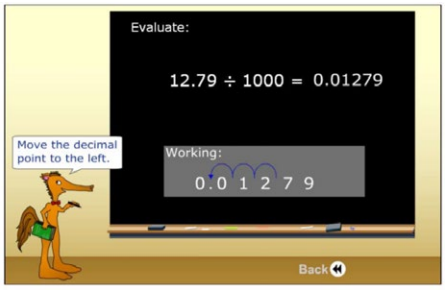
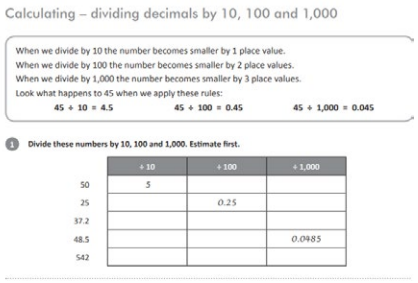
Activity: *Multiply Decimals: 10, 100, 1000*

Pupils multiply decimal numbers by 10, 100 and 1,000. The support area demonstrates the movement of the numbers along the place value chart.



eBook, G series: Fractions, Decimals and Percentages, page 36

The strategy for multiplying decimals by 10, 100 and 1,000 is explained and modelled. Pupils apply their understanding to a range of exercises.

	**Rainforest Maths — Level E — Decimals — multiplying** Pupils are shown how to multiply a decimal by 10 and 100. They then complete examples where they multiply the same number by 10 and then 100. This enables students to see the answers together and discuss the patterns they notice. Dividing by 10 and 100 is also explained.
Small step: Divide by 10, 100 and 1,000	
	Topic: Decimals Activity: *Divide Decimals: 10, 100, 1000* Pupils divide decimal numbers by 10, 100 and 1,000.
	**eBook, G series: Fractions, Decimals and Percentages, page 37** The strategy for dividing a decimal by 10, 100 and then 1,000 is explained and examples are shown. Pupils then apply this learning to exercises, beginning by completing a chart where they divide numbers by 10, then 100 and finally 1,000. The completed chart will enable pupils to see and discuss the patterns they observe.

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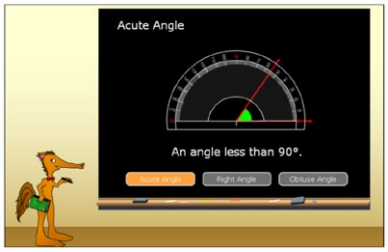
Examples of alignment to Mathletics

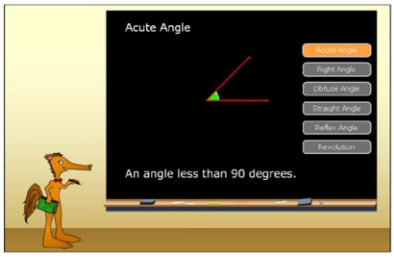
Block 2 (Weeks 5–7) Geometry: Properties of Shape

National Curriculum Objectives	WRM Small Steps
▸ Identify 3D shapes, including cubes and other cuboids, from 2D representations. ▸ Use the properties of rectangles to deduce related facts and find missing lengths and angles. ▸ Distinguish between regular and irregular polygons based on reasoning about equal sides and angles. ▸ Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles. ▸ Draw given angles, and measure them in degrees (°). ▸ Identify: angles at a point and one whole turn (total 360°), angles at a point on a straight line and $\frac{1}{2}$ a turn (total 180°) other multiples of 90°.	▸ Measuring Angles in Degrees ▸ Measuring with a Protractor (1) ▸ Measuring with a Protractor (2) ▸ Drawing Accurately ▸ Angles on a Straight Line ▸ Angles Around a Point ▸ Lengths and Angles in Shapes ▸ Regular and Irregular Polygons ▸ Reasoning about 3D Shapes

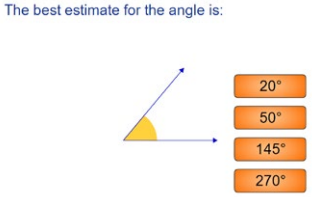
Small step: Measuring Angles in Degrees



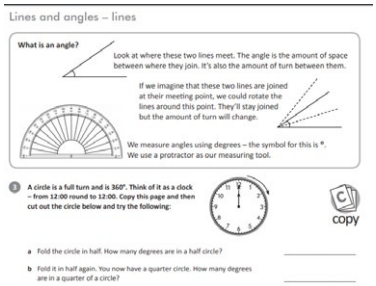
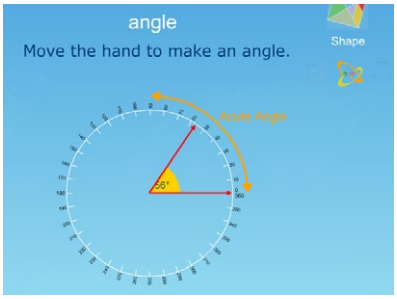
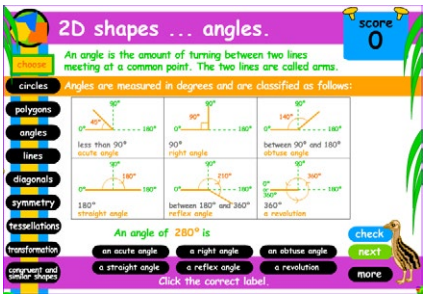
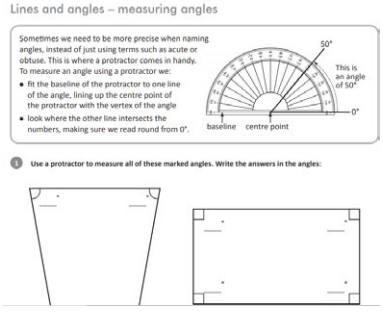
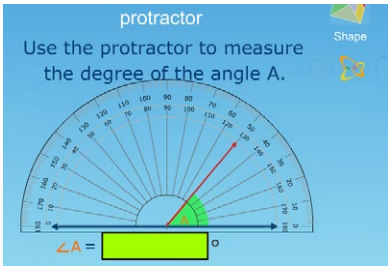
Topic: Properties of Shapes
Activity: *What Type of Angle?*
In this activity pupils identify if an angle is acute, a right angle or obtuse. The support area provides a reminder of the sizes of those 3 angle types.



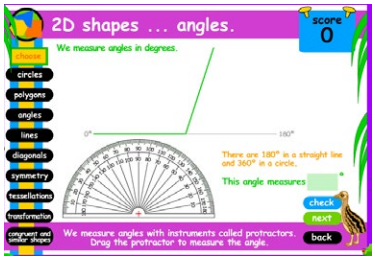
Topic: Properties of Shapes
Activity: *Classifying Angles*
Pupils classify a given angle as right, obtuse, straight, reflex or a revolution. The support area provides a reminder of the sizes of those 6 angle types.



Topic: Properties of Shapes
Activity: *Estimating Angles*
Pupils use their knowledge of different angle types to estimate the size a given angle.

	**eBook, F series: Geometry, pages 2–3** Page 2 provides a concise explanation of what an angle is and how it is measured. A practical activity, where pupils cut out and fold a circle, enables students to explore different angles. Page 3 illustrates and explains acute, right, obtuse and reflex angles. Pupils identify and label these angles.
	**Mathletics dictionary — Concept Search — angle** This interactive can be used on an interactive whiteboard to encourage class discussion about different angles. The hands can be moved to create specific angles.
	**Rainforest Maths — Level F — 2D Shapes —angles** A range of angles are clearly illustrated and named. Pupils match a variety of degree measurements to the different types of angles.
Small step: Measuring with a Protractor (1) **Small step: Measuring with a Protractor (2)**	
	**eBook, F series: Geometry, page 4** Measuring angles using a protractor is illustrated and explained to pupils. Exercises enable pupils to practise using a protractor and encourage them to reason about angles within 2D shapes.
	**Mathletics dictionary — Concept Search — protractor** Pupils drag and position the protractor on the screen to measure a given angle. Immediate feedback shows pupils if they are correct. They can reattempt the measurement until they achieve the correct answer and then move on to a new example.

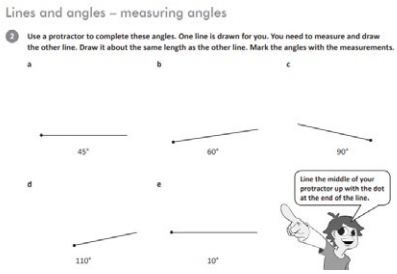
 © 3P Learning



Rainforest Maths — Level F — 2D Shapes —angles

Clicking on 'more' at the bottom left-hand corner opens this screen, where pupils can drag the protractor onto the angle and carefully measure the shown angle. Instant feedback enables pupils to try again if their answer is incorrect.

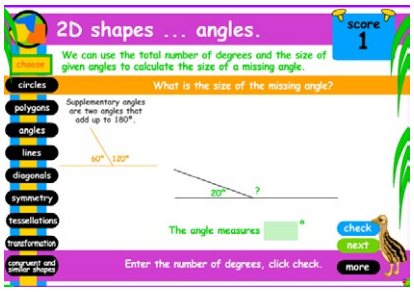
Small step: Drawing Accurately



eBook, F series: Geometry, page 5

Pupils are shown a set of lines. They are then invited to use protractors and rulers to carefully draw given angles.

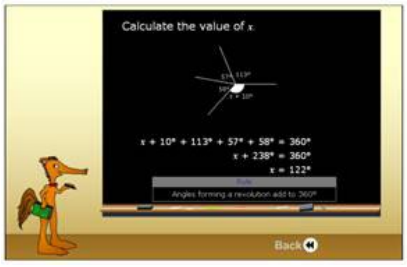
Small step: Angles on a Straight Line



Rainforest Maths — Level G — 2D Shapes — angles

Clicking 'more' at the bottom right-hand corner enables pupils to move through a series of exercises exploring angles. After calculating the missing angle in a shape, selecting 'next' opens exercises where pupils calculate angles on a straight line.

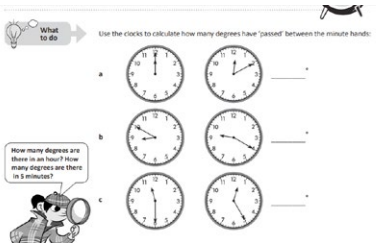
Small step: Angles Around a Point



Topic: Properties of Shapes

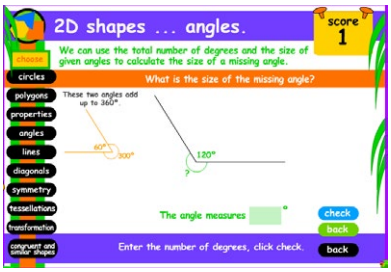
Activity: *Angles in a Revolution*

Pupils calculate the value of one of the angles forming a revolution. The support area reminds pupils that the angles forming a revolution add to 360°.



eBook, E series: Geometry, page 6

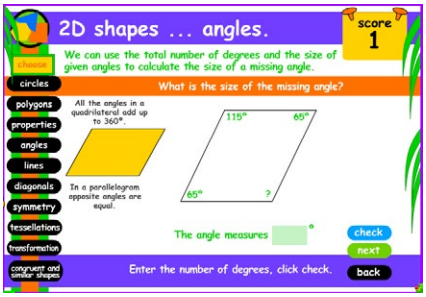
Pupils use their knowledge of the size of an angle of revolution to calculate the degrees between each 5 minutes on an analogue clock. They are then asked to identify the angle sizes of various times shown.



Rainforest Maths — Level G — 2D Shapes — angles

Clicking on 'more' at the bottom right-hand corner move pupils on from calculating a missing angle on a straight line, to calculating the missing angle around a point. Pupils enter their answers and receive immediate feedback.

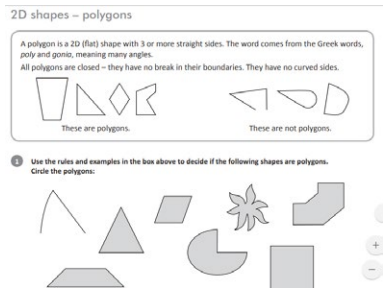
Small step: Lengths and Angles in Shapes



Rainforest Maths — Level G — 2D Shapes — angles

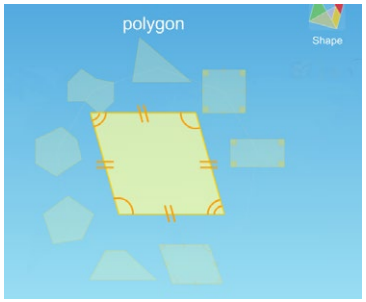
Pupils are shown examples of 2D shapes, with a description of the rules that their angles follow. A related example then challenges pupils to apply this information in calculating a missing angle.

Small step: Regular and Irregular Polygons



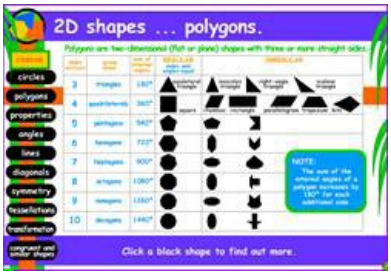
eBook, F series: Geometry, page 7

The term 'polygon' is explained and examples of both regular and irregular polygons are shown. Pupils secure their understanding with exercises where they need to determine if the shapes illustrated are polygons and if they are regular or irregular polygons.



Mathletics Dictionary — Concept Search — polygon

Concept Search provides an excellent slide show for use on the interactive whiteboard, or for pupils to work through independently. A full range of regular polygons are illustrated and their features are described.

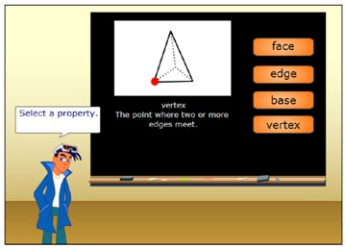


Rainforest Maths — Level G — 2D Shapes — polygons

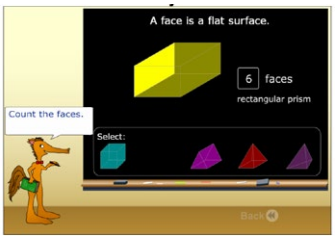
This table provides pupils with an excellent reference tool, illustrating and describing a full range of 2D shapes. Clicking on the black shapes opens up a more detailed description and illustration.

© 3P Learning

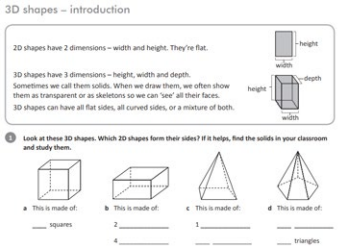
Small step: Reasoning about 3D Shapes



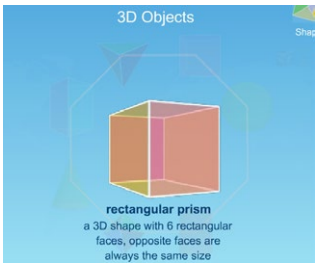
Topic: Properties of Shapes
Activity: *Faces, Edges and Vertices 1*
Pupils are asked to identify the property represented on a 3D shape including faces, edges, vertices and bases.



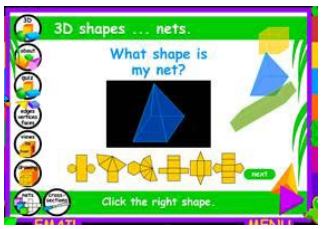
Topic: Properties of Shapes
Activity: *How Many Faces?*
Activity: *How Many Edges?*
Activity: *How Many Vertices?*
In these activities pupils are shown a 3D shape and are asked to identify the number of faces, edges or vertices.



eBook, F series: Geometry, pages 18–23
Following on from a concise explanation of 3D shapes, pupils explore a range of 3D shapes and identify and label their properties.
On pages 22–23 pupils explore the cross sections of 3D shapes. They are then encouraged to visualise what a cross section would look like and match it to given shapes.



Mathletics Dictionary — Concept Search — polygon
Concept Search provides a slide show which clearly illustrates 3D shapes and describes their properties.

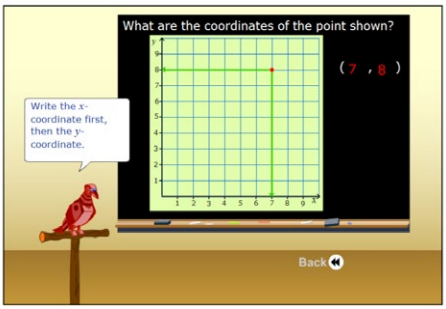


Rainforest Maths — Level G — 3D Shapes
The 3D shapes topic in Level G of Rainforest Maths includes several tasks that involve reasoning about the relationship between 2D shapes and 3D shapes. Pupils are asked to identify nets, identify the corresponding shape for a given view of a 3D shape and identify the shape of cross-sections.

Examples of alignment to Mathletics
Block 3 (Week 8) Geometry: Position & Direction

National Curriculum Objectives	WRM Small Steps
▸ Identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed.	▸ Position in the 1st Quadrant ▸ Reflection ▸ Reflection with Co-ordinates ▸ Translation ▸ Translation with Co-ordinates

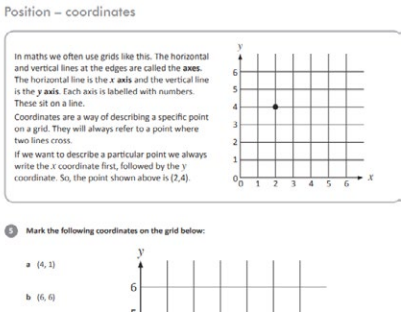
Small step: Position in the 1st Quadrant



Topic: Position and Direction

Activity: *Coordinate Graphs: 1st Quadrant*

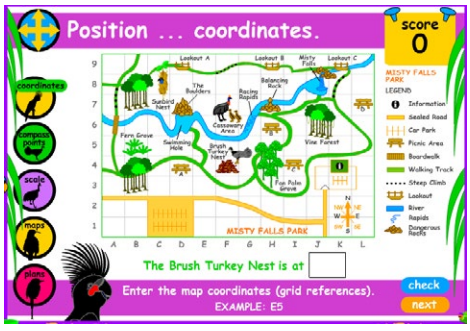
Pupils record the coordinates for a given point on a coordinate graph. The support area reminds pupils that the x coordinate is recorded first.



eBook, F series: Geometry, pages 30–36

Pages 30–34 explore coordinates where 2 lines intersect. Pupils mark points using the given coordinates, as well as record coordinates of given points. They then move on to using a series of coordinates to map points and join them to create shapes.

Pages 35–36 explore coordinates on maps. Pupils are challenged to read the maps and identify the coordinates of specific features.

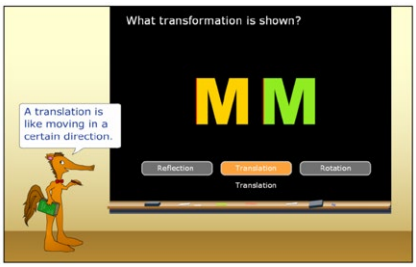


Rainforest Maths — Level F — Position — coordinates

This page provides a useful map featuring coordinates. It is particularly useful to be shown on a screen for the class to explore, finding the location of different features using coordinates. Individual students can answer the questions on the page, entering the coordinates of features.

 © 3P Learning

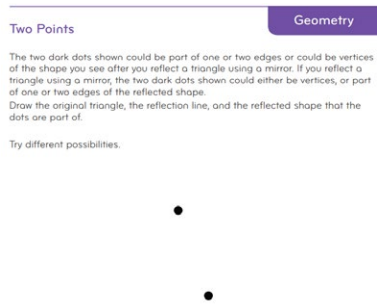
Small step: Reflection
Small step: Translation



Topic: Position and Direction

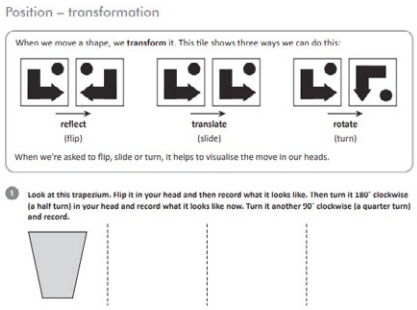
Activity: *Transformations*

Pupils identify the type of transformation that a shape has undergone. The support area provides definitions for reflections, translations and rotations.



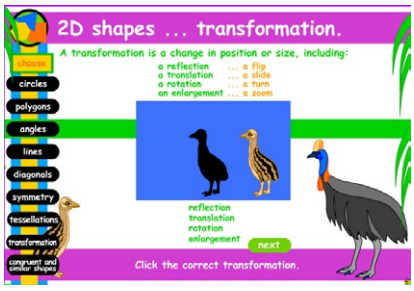
eBook, F series: Rich Learning Task, page 16

In this open-ended Rich Learning Task, pupils use the 2 given points as either points on edges of a triangle or vertices. They draw their original triangle and then draw the reflected triangle, marking the 2 reflected points. Pupils are encouraged to show different possibilities, practising reflecting a shape and recognising where points would be after the reflection.



eBook, F series: Geometry, pages 25–26

Page 25 illustrates and explains how shapes look when different transformations are applied. Pupils explore reflections, translations and rotations. They consolidate their understanding by drawing transformations of a shape. Finally, they identify which movement has occurred when shown shapes in different positions.



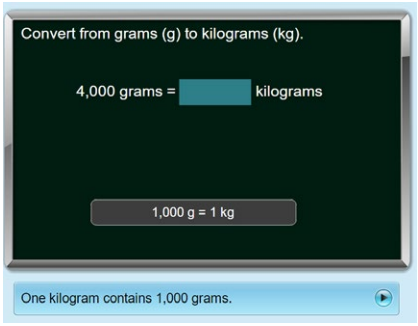
Rainforest Maths — Level F — 2D shapes — transformation

This page explains what happens when an object or shape is reflected, translated, rotated or enlarged. Pupils identify which transformation has occurred when they compare 2 illustrations.

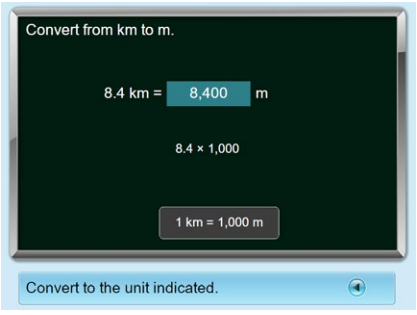
Examples of alignment to Mathletics
Block 4 (Weeks 9–10) Measurement: Converting Units

National Curriculum Objectives	WRM Small Steps
▸ Convert between different units of metric measure [for example, km and m; cm and m; cm and mm; g and kg; l and ml]. ▸ Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints. ▸ Solve problems involving converting between units of time	▸ Kilograms and Kilometres ▸ Milligrams and Millilitres ▸ Metric Units ▸ Imperial Units ▸ Converting Units of Time ▸ Timetables

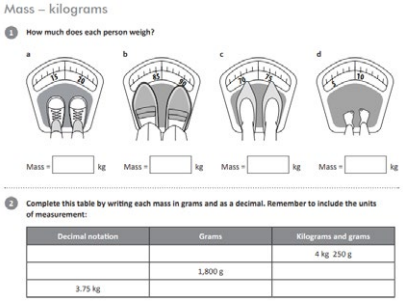
Small step: Kilograms and Kilometres



Topic: Converting Units
Activity: *Grams and Kilograms Conversion*
Pupils convert between grams and kilograms. This activity involves whole number conversions only.

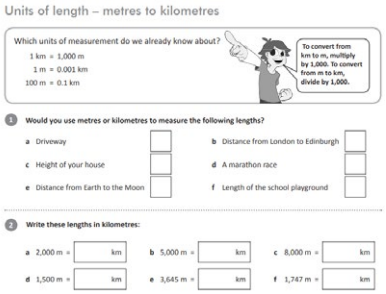
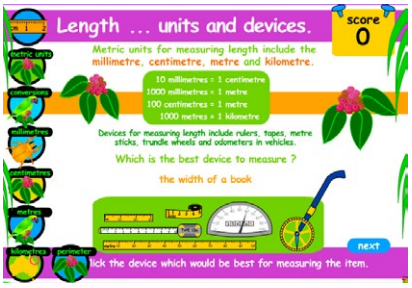


Topic: Converting Units
Activity: *Metres and Kilometres*
Pupils convert between kilometres and metres and vice versa. Questions begin with whole numbers only before moving onto conversions with decimals.

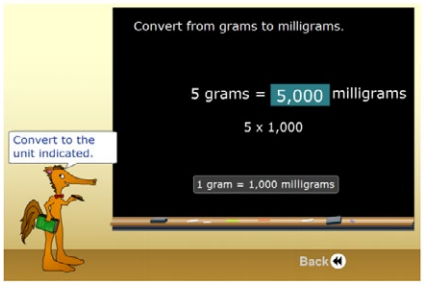
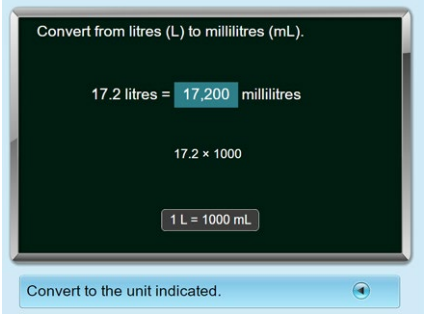


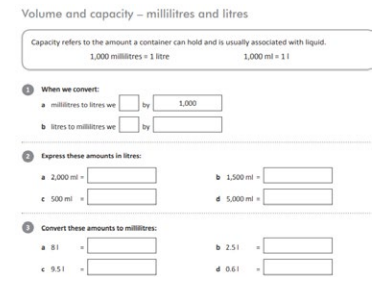
eBook, F series: Volume, Capacity and Mass, pages 9–10
Pupils secure their understanding of the relationship between kilograms and grams through a series of exercises on page 9.
Page 10 uses the context of airline luggage allowance, with pupils working out the excess baggage and the excess luggage fee.

 | © 3P Learning

	**eBook, F series: Length, Perimeter and Area, pages 5–6** These pages provide exercises to explain and explore the relationship between metres and kilometres. Pupils decide whether metres or kilometres are the most appropriate unit of measurement for a variety of lengths. Further exercises involve pupils in converting both metres to kilometres and kilometres to metres.
	**Rainforest Maths — Level F — Measurement — Mass** The relationship between grams and kilograms is explored in an exercise where pupils calculate how many objects shown in grams would be equivalent to 1 kilogram. Selecting the options of 'reading scales' and 'conversions' provide further opportunities for pupils to secure their understanding of mass.
	**Rainforest Maths — Level F — Measurement — Length** This page shows pupils the relationship between different units of measurement used to record length. Selecting the 'conversions' link allows pupils to practise converting between different units of measurement.

Small step: Milligrams and Millilitres

	Topic: **Converting Units** Activity: ***Grams and Milligrams*** Pupils convert between kilograms and grams and vice versa. All conversions are whole numbers only.
	Topic: **Converting Units** Activity: ***Millilitres and Litres*** Pupils convert between millilitres and litres and vice versa. Questions begin with whole numbers only before moving onto conversions with decimals.



eBook, F series: Volume, Capacity and Mass, pages 1–2

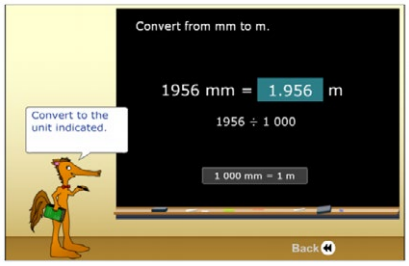
Page 1 explains the relationship between millilitres and litres, with 1000 ml equalling 1 L.

Straightforward conversion questions secure pupils' understanding of converting from millilitres to litres. On page 2, pupils apply their understanding to problem-solving questions.

Rainforest Maths — Level F — Measurement — Capacity — litres, millilitres

This game provides an opportunity for pupils to practise converting from millilitres to litres. Pupils add millilitre measurements together and then convert the total into litres.

Small step: Metric Units



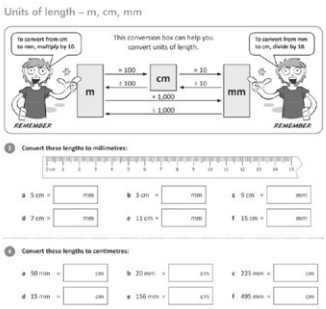
Topic: Converting Units

Activity: *Converting Units of Length*

Pupils convert between millimetres and centimetres, millimetres and metres, centimetres and metres and vice versa.

Activity: *Converting cm and mm*

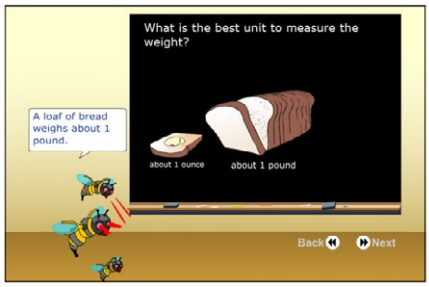
Activity: *Centimetres and Metres*



eBook, F series: Length, Perimeter and Area, page 2

A diagram provides a visual representation of the relationship between units of length including millimetres, centimetres and metres. Pupils then practise converting between units.

Small step: Imperial Units



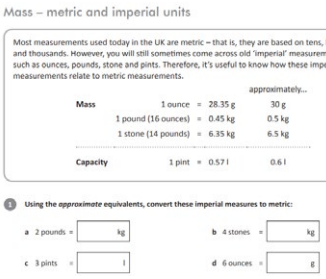
Topic: Converting Units

Activity: *Ounces and Pounds*

Pupils choose the most appropriate unit to measure the weight of a given object.

Activity: *Inches, Feet, Yards*

Activity: *Cups, Pints, Quarts, Gallons*


Mass – metric and imperial units

Most measurements used today in the UK are metric – that is, they are based on tens, hundreds and thousands. However, you will still sometimes come across old 'imperial' measurements, such as ounces, pounds, stone and pints. Therefore, it's useful to know how these imperial measurements relate to metric measurements.

			approximately...
Mass	1 ounce	= 28.35 g	30 g
	1 pound (16 ounces)	= 0.45 kg	0.5 kg
	1 stone (14 pounds)	= 6.35 kg	6.5 kg
Capacity	1 pint	= 0.57 l	0.6 l

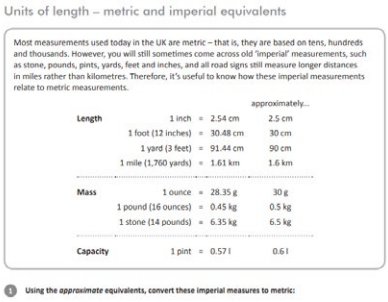
1 Using the *approximate* equivalents, convert these imperial measures to metric:

a 2 pounds = ____ kg b 4 stones = ____ kg

c 3 pints = ____ l d 6 ounces = ____ g

eBook, F series: Volume, Capacity and Mass, page 13

This page explains the relationship between metric and imperial units of measurement for mass and capacity. Exercises provide pupils with examples to practise converting between metric and imperial measurements, including ounces to grams, pounds to kilograms and stones to kilograms.


Units of length – metric and imperial equivalents

Most measurements used today in the UK are metric – that is, they are based on tens, hundreds and thousands. However, you will still sometimes come across old 'imperial' measurements, such as stone, pounds, pints, yards, feet and inches, and all road signs still measure longer distances in miles rather than kilometres. Therefore, it's useful to know how these imperial measurements relate to metric measurements.

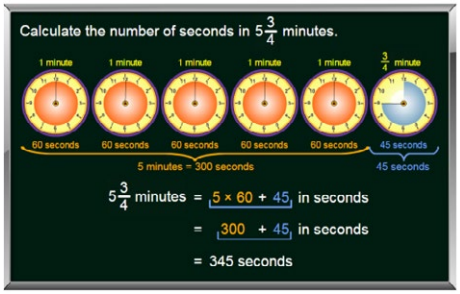
			approximately...
Length	1 inch	= 2.54 cm	2.5 cm
	1 foot (12 inches)	= 30.48 cm	30 cm
	1 yard (3 feet)	= 91.44 cm	90 cm
	1 mile (1,760 yards)	= 1.61 km	1.6 km
Mass	1 ounce	= 28.35 g	30 g
	1 pound (16 ounces)	= 0.45 kg	0.5 kg
	1 stone (14 pounds)	= 6.35 kg	6.5 kg
Capacity	1 pint	= 0.57 l	0.6 l

1 Using the *approximate* equivalents, convert these imperial measures to metric:

eBook, F series: Length, Perimeter and Area, page 7

This page provides a table of conversions between metric and imperial units of measurement for length, mass and capacity. Exercises give pupils the opportunity to apply these facts to convert between metric and imperial units and match equivalent measurements.

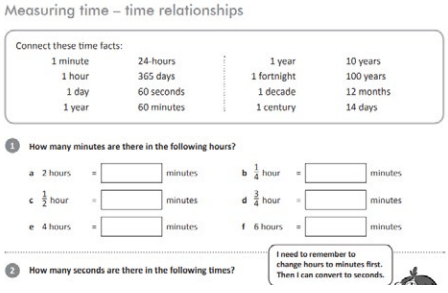
Small step: Converting Units of Time



Topic: Converting Units

Activity: *Time Conversions with Simple Fractions*

Pupils are encouraged to convert between seconds and minutes or minutes and hours by generating and recognising multiples of 60 and recalling simple fractions (1/4, 1/2, 3/4) of an hour or minute.


Measuring time – time relationships

Connect these time facts:

1 minute	24-hours	1 year	10 years
1 hour	365 days	1 fortnight	100 years
1 day	60 seconds	1 decade	12 months
1 year	60 minutes	1 century	14 days

1 How many minutes are there in the following hours?

a 2 hours = ____ minutes b 1/4 hour = ____ minutes

c 1/2 hour = ____ minutes d 3/4 hour = ____ minutes

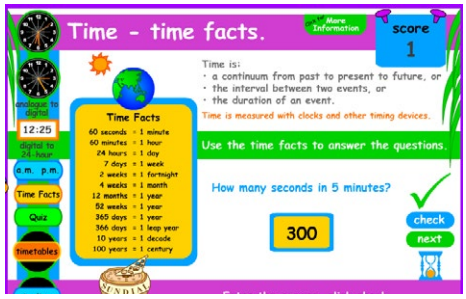
e 4 hours = ____ minutes f 6 hours = ____ minutes

2 How many seconds are there in the following times?

I need to remember to change hours to minutes first. Then I can convert to seconds.

eBook, F series: Time, page 1

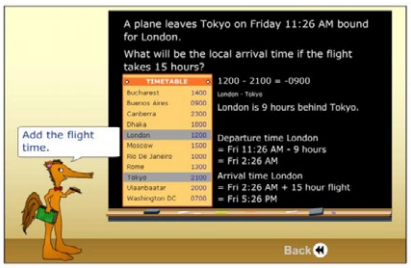
This page provides pupils with a comprehensive table showing the relationships between units of time. Pupils use this information to complete exercises which involve converting between different units of time and considering the most appropriate units to use in a range of circumstances.



Rainforest Maths — Level F— Time —Time Facts

This page provides a detailed table to support pupils in converting between different units of time. Pupils complete conversion questions using the information shown.

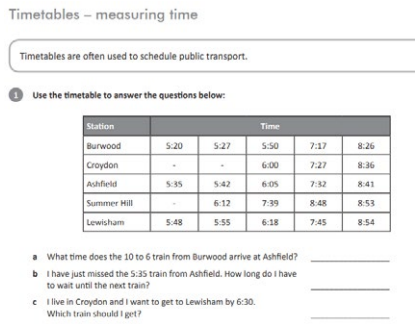
Small step: Timetables



Topic: Converting Units

Activity: *Time Zones*

Pupils read and interpret a flight timetable to solve problems such as arrival times and time differences.



Timetables – measuring time

Timetables are often used to schedule public transport.

1 Use the timetable to answer the questions below:

Station	Time				
Burwood	5:20	5:27	5:50	7:17	8:26
Croydon	-	-	6:00	7:27	8:36
Ashfield	5:35	5:42	6:05	7:32	8:41
Summer Hill	-	6:12	7:39	8:48	8:53
Lewisham	5:48	5:55	6:18	7:45	8:54

a What time does the 10 to 6 train from Burwood arrive at Ashfield?

b I have just missed the 5:35 train from Ashfield. How long do I have to wait until the next train?

c I live in Croydon and I want to get to Lewisham by 6:30. Which train should I get?

eBook, F series: Time, pages 14–17

Pupils are presented with a range of timetables from real-life contexts, including travel times, TV schedules and a class timetable from a fitness club. Questions involve pupils in finding the relevant information and using it to provide answers.

On page 17, pupils use a transport timetable to calculate the time spent travelling between different locations.

Rainforest Maths — Level F— Time — timetables

This page provides a good example of a timetable which could be shown to a class on an interactive whiteboard. Pupils use the timetable to answer the questions, receiving immediate feedback. If mistakes are made, pupils can enter a new answer before moving on.

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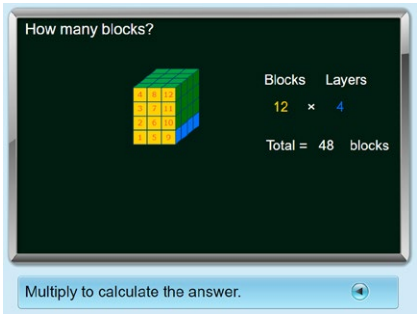
Examples of alignment to Mathletics

Block 5 (Week 11) Measurement: Volume

National Curriculum Objectives	WRM Small Steps
▸ Estimate volume [for example using 1cm³ blocks to build cuboids (including cubes)] and capacity [for example, using water]. ▸ Use all four operations to solve problems involving measure.	▸ What is Volume? ▸ Compare Volume ▸ Estimate Volume ▸ Estimate Capacity

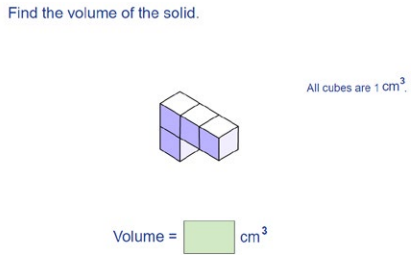
Small step: What is Volume?



Topic: Volume

Activity: *How many Blocks?*

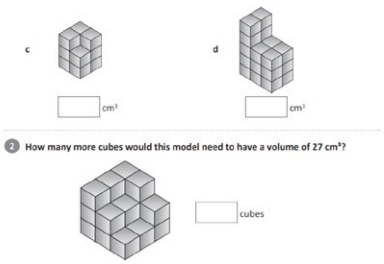
Pupils are encouraged to use multiplication to find the total number of blocks used to form a 3D shape. Easier questions use rectangular prisms. Harder questions include irregular shapes.



Topic: Volume

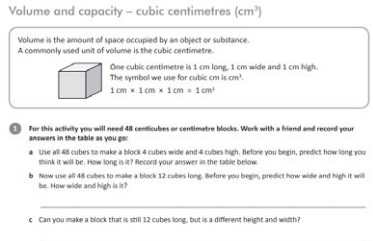
Activity: *Volume of Solids and Prisms — 1 cm³*

Pupils count the total number of blocks in solids and prisms. The volume is recorded in cm³ units.



eBook, E series: Volume, Capacity and Mass, page 5

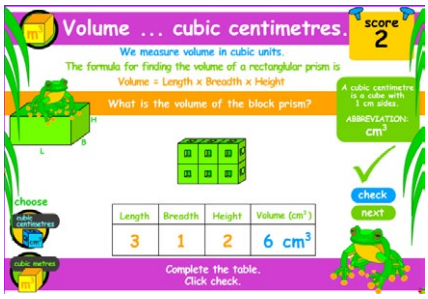
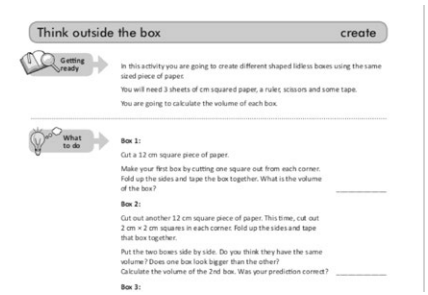
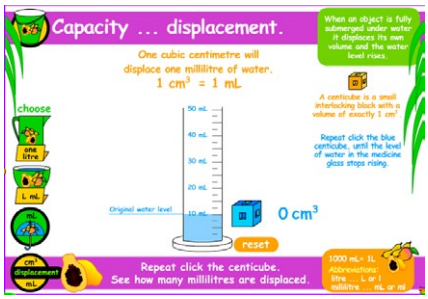
Pupils measure the volume of solids by counting the number of cm³ blocks.



eBook, F series: Volume, Capacity and Mass, page 3

This page explains the concept of measuring volume and introduces the measurement of a cubic centimetre. (cm³)

In this paired activity, pupils use centimetre blocks to create shapes and explore their volumes, completing a table with their findings.

	**Rainforest Maths — Level F — Volume — cubic centimetres** Pupils are shown a series of block prisms and record the length, breadth and height of the prism. They calculate the volume and can see the relationship between the volume and number of centimetre cubes they can count.
Small step: Compare Volume	
	**eBook, F series: Volume, Capacity and Mass, page 6** In this practical activity, pupils create 3 lidless containers using squared paper, cut into 12 cm squares. Pupils calculate the volume of each box and compare them. The task is extended with a challenge to create further boxes and to explore patterns and make predictions.
Small step: Estimate Capacity	
	**Rainforest Maths — Level F — Capacity — millilitres** This activity supports pupils in understanding the link between capacity and volume. The activity can be used to support pupils in making estimations of the capacity of containers.

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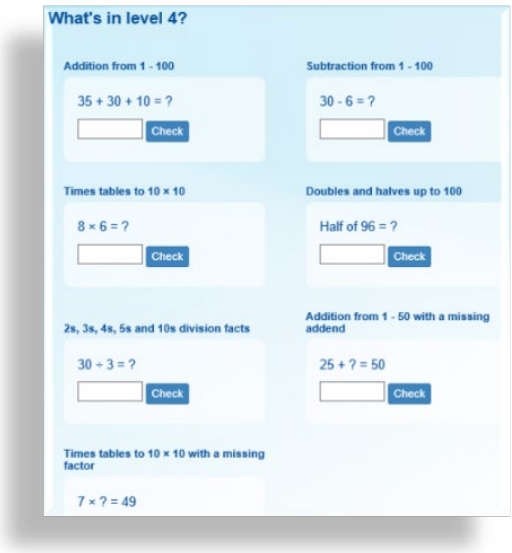
Live Mathletics



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

To support progress in Year 5, encourage pupils to use **Level 4 and 5** 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

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For more information about Mathletics, contact our friendly team.

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