Mathletics

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

Alignment with Mathletics

Year 2 – 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					Measurement: Money		Number: Multiplication and Division	
Spring	Number: Multiplication and Division		Statistics		Geometry: Properties of Shape		Number: Fractions				Measurement: length and height	Consolidation
Summer	Position and direction		Problem solving and efficient methods	Measurement: Time		Measurement: Mass, Capacity and Temperature			Investigations			

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

White Rose Maths

Year 2

Mathletics

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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 practise 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 02 WRM Aligned

| Data-Driven Teaching and Learning | Differentiation | Feedback and Reflection | Student Growth | Blended Learning |

Year 2 White Rose Maths (WRM)
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Examples of alignment to Mathletics
Block 1 (Weeks 1–3) Geometry: Position and Direction

National Curriculum Objectives	WRM Small Steps
▸ Use mathematical vocabulary to describe position, direction and movement including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise). ▸ Order and arrange combinations of mathematical objects in patterns and sequences.	▸ Describing Movement ▸ Describing Turns ▸ Describing Movement & Turns ▸ Making Patterns with Shapes

Small step: Describing Movement
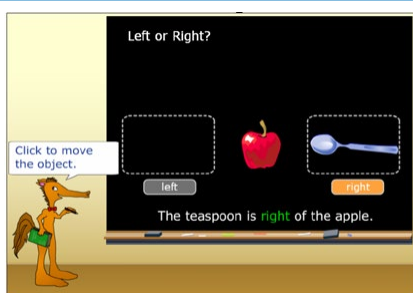
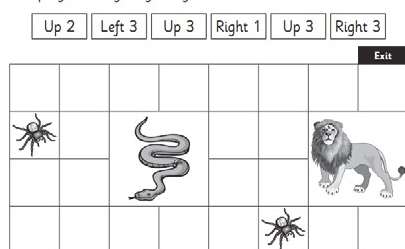|	
	Topic: Position and Direction **Activity:** *Left or Right?* Pupils place objects using the terms 'left' and 'right'.
	Topic: Position and Direction **Activity:** *Following Directions* The terms 'left', 'right', 'up' and 'down' are used to describe movements from 1 position to another on a 5 x 5 grid. Pupils click the square in the final position after following the given directions.
	eBook, C series: Geometry, pages 21–25 From pages 21-24 pupils explore positional language, including left and right. On page 25 pupils use the instructions given to describe movement to colour a path through a grid.
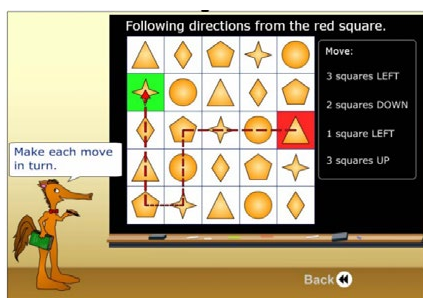
Rainforest Maths — Level B — Position — paths

Pupils follow instructions to create a pathway across a grid. Instructions include the language of 'up', 'down', 'left' and 'right'.
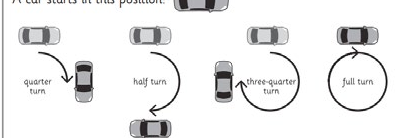
Small step: Describing Turns
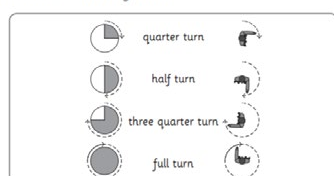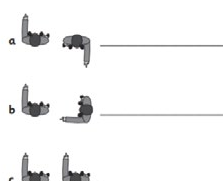
eBook, B series: Geometry, pages 33–34

Page 33 introduces pupils to quarter, half, three quarters and full turns. They are then asked to view pictures and identify the turns that have been made.

eBook, C series: Geometry, pages 29–31

Page 29 illustrates quarter, half, three quarters and full turns. Page 30 then shows both clockwise and anti-clockwise turns.

The first exercise on page 31 is a paired activity, where pupils give each other instructions to turn in different ways.

Small step: Describing Movement & Turns

eBook, C series: Geometry, page 31

The second exercise on page 31 is a paired activity where partners give each other instructions to move in steps forwards and backwards and also use turns, both clockwise and anti-clockwise.
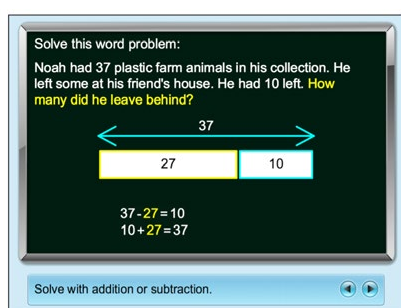
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Examples of alignment to Mathletics
Block 2 (Weeks 4–5) Problem Solving and Efficient Methods

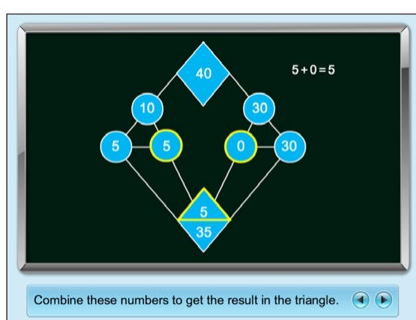| National Curriculum Objectives |
| --- |
| ▸ Problem solving and efficient methods. |

Problem-solving and reasoning activities

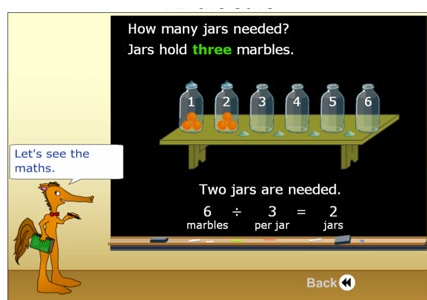|	
	Topic: Problem Solving **Activity:** *Bar Model Problems 1* The part-whole model and the comparison model are used to represent addition and subtraction word problems. The particular model used depends on the problem-solving situation. Students can enter variables directly onto the bars and then adjust.
	Topic: Problem Solving **Activity:** *Partition Puzzles 1* Pupils use reasoning to find missing numbers in a puzzle.
	Topic: Problem Solving **Activity:** *Fill the Jars* Pupils solve the problem of how many jars are needed for a given number of marbles. The number of marbles that each jar can hold is provided. Pupils are not able to drag the marbles and use one-to-one correspondence to share out the marbles, so providing pupils with counters is recommended.

Rich learning tasks (eBooks)

|	
	eBook, C series: Rich Learning Task — Data Pupils use reasoning to predict the data that will result from a survey about the number of brothers their classmates have. After they have made a prediction they complete the survey and compare their predicted results with the actual results.

eBook, C series: Rich Learning Task — 3 Ribbons

This task encourages pupils to use relationships between numbers as well as addition and subtraction strategies to find the possible lengths of 3 ribbons given specific criteria. This task includes a video and interactive.
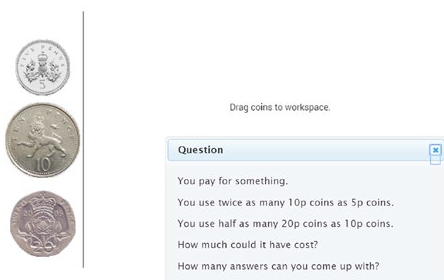
eBook, E series: Rich Learning Task — Coin Count

Pupils use their knowledge of 'twice as many' and 'half as many' to explore different coin combinations. This task has both an interactive and a video.

Problem-solving and reasoning (eBooks)

eBook, A, B, C series: Problem Solving, pages 8–9

Pupils solve mixed problems involving multiplication, division and money.
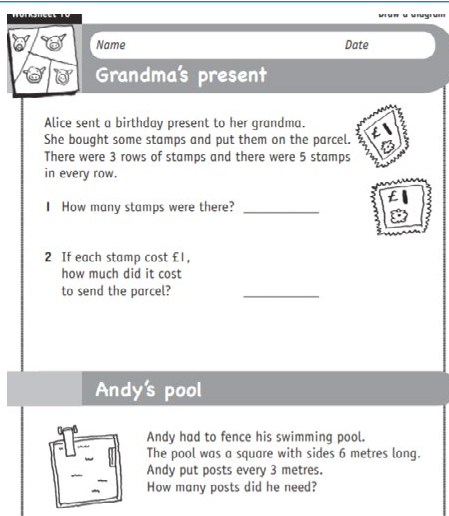
eBook, A, B, C series: Problem Solving, pages 20–29

In these pages, pupils are encouraged to draw diagrams to solve problems involving the 4 operations as well as simple fractions.

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Year 2 reasoning tests

Abdul goes to the zoo.

He finds out the mass of some animals.

Cheetah 85 kg   Tiger 93 kg   Lion 93 kg

Compare the mass of the animals.

Drag < or > or = into each box.

< > =

Cheetah's mass [ ] Tigers's mass

Tiger's mass [ ] Lion's mass

England KS1 Practice SATs Reasoning

This KS1 SATs Reasoning test begins with 5 questions where pupils listen to an audio of the question, ensuring that the test reflects the process in the formal KS1 Reasoning SATs test. Pupils work through a series of questions and are given the opportunity to check or complete any missed questions before submitting their answers. Immediate feedback is given to students and the correct answers are shown.

Detailed feedback is given to teachers, with the ability to assign Mathletics activities to fill any gaps in learning, while checking through results. Results can be exported as Excel spreadsheets with a breakdown of objectives and the percentage per mathematical strand, as well as the overall score and percentage.

The KS1 Practice SATs Reasoning Test can also be downloaded and printed from the Mathletics Library on the new Mathletics Teacher Console.

Question 24 (2M4a)   24 of 25

How many minutes is it until **9** o'clock?

[ ] minutes

England Year 2 Term 3 Reasoning Assessment

Termly reasoning assessments provide pupils with practice in applying their mathematical knowledge and understanding to solve a range of problems, set out in similar formats to SATs questions. Pupils can check their answers before submitting and are reminded of any questions they have missed. Immediate feedback is given to students, along with correct answers where they have made an error.

Teachers receive detailed reports which can be exported as Excel spreadsheets with details of the objectives, and percentage results for each Mathematical strand, in addition to the overall score and percentage. On a class level, teachers can identify strengths and weaknesses. These assessments can also be printed through the Assessment Area on the original Mathletics Teacher Console.

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Examples of alignment to Mathletics
Block 3 (Weeks 6–7) Measurement: Time

National Curriculum Objectives	WRM Small Steps
▶ Tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times. ▶ Know the number of minutes in an hour and the number of hours in a day. ▶ Compare and sequence intervals of time.	▶ O'clock and Half Past ▶ Quarter Past and Quarter to ▶ Telling Time to 5 Minutes ▶ Minutes in an Hour, Hours in a Day ▶ Find Durations of Time ▶ Compare Durations of Time

Small step: O'clock and Half Past

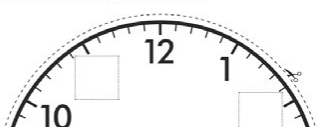|	
Set the clock to 3 o'clock. 	**Topic:** Time **Activity:** *Tell Time to the Hour (UK)* Pupils drag the hands to set the clock and show a given time. All times are o'clock times.
Set the clock to half past two. 	**Topic:** Time **Activity:** *Tell Time to the Half Hour (UK)* Pupils drag the hands to set the clock and show a given time. All times are 'half past' times.
Time – analogue clocks **You will need:** a partner, pencils, scissors, a split pin, copy **What to do:** This clock is half done. Can you finish adding the numbers? Then, carefully cut out the clock and the hands and join the hands to the clock with a split pin. Find a partner and take turns giving each other o'clock times to make. 	**eBook, B series: Time and Money, pages 11–15** Pages 11–12 show pupils how to tell the time at o'clock, with exercises where they identify the time and then where they draw the hands onto analogue clocks. Page 13 is a printable clock face, and a paired activity involving showing given times. Pages 14–15 shows pupils how to tell the time at half past the hour.

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Year 2 reasoning tests
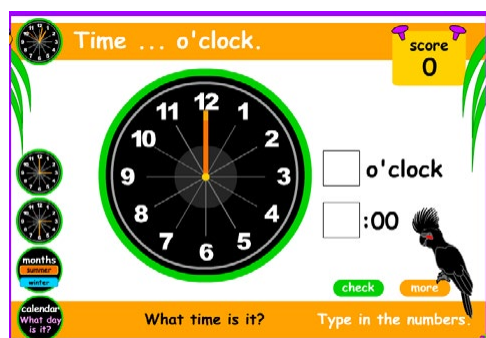
Rainforest Maths — Level B — Time — o'clock

Pupils identify the time on analogue clocks showing o'clock. Times are recorded as analogue and digital times.
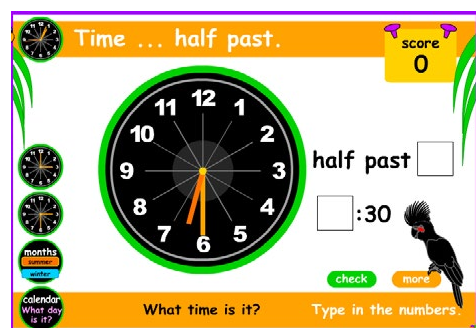
Rainforest Maths — Level B — Time — half past

Pupils identify the time on analogue clocks showing half past the hour. Times are recorded as analogue and digit times.

Small step: Quarter Past and Quarter to

Set the clock to quarter past 6.

Topic: Time

Activity: *Quarter Past and Quarter To*

Pupils set the clock to show a given time. All times are either quarter past or quarter to the hour. Some questions are shown in digital time rather than words.

Time – quarter to and past

You will need: a partner, scissors, a clock with movable hands

copy

What to do:

Cut out the time cards and place them face down. Choose who will go first. Turn over two cards. If they match, and you can make the time on the clock, you keep them. Play until all the cards are gone.

| quarter past 4 | | quarter past 7 | |
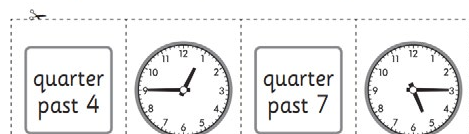
eBook, C series: Time and Money, pages 11–13

Page 11 introduces pupils to quarter past the hour, with exercises where pupils identify the time and then draw hands on clock faces to show the time.

Page 12 explores quarter to the hour.

Page 13 is a paired activity, with game cards to print and use. Pupils match the clock faces to the written times and show the time on a clock face.

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Small step: Telling time to 5 Minutes

What's the time?

Topic: Time
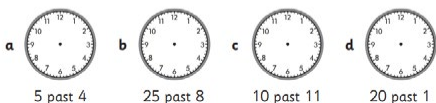**Activity:** *Five Minute Times*
Pupils read the time to the nearest 5 minutes shown on an analogue clock and select the corresponding digital time.

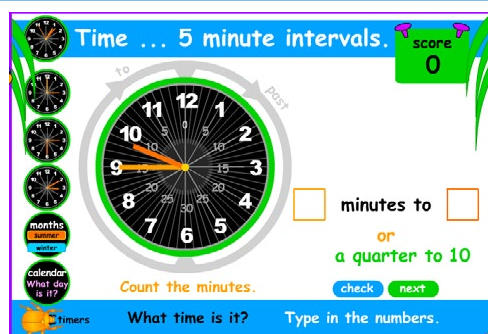1 Match the clock faces to the times.

25 past 9 | 10 past 5 | 10 past 10 | 5 past 6 | 20 past 2 | 5 past 8

2 Draw the hands on the clock faces to show the times written below.

a 5 past 4   b 25 past 8   c 10 past 11   d 20 past 1

eBook, C series: Time and Money, page 14
Pupils are shown how to tell the time to the nearest 5 minutes, before matching clocks to the correct time and drawing hands on clock faces to show the time.

Time ... 5 minute intervals.   score 0

___ minutes to ___
or
a quarter to 10

Count the minutes.   check   next
What time is it?   Type in the numbers.

Rainforest Maths — Level C — Time — 5 minute
Pupils look at the time on the analogue clock that displays time in 5-minute intervals. They are then asked to record the time.

Small step: Find Durations of Time

Measuring time – time trails
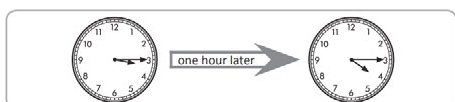
one hour later

1 Show the time that is one hour later:

a   one hour later

b   one hour later
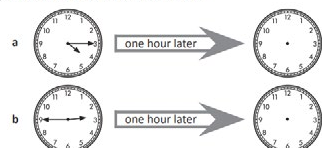
eBook, D series: Time, pages 11–12
Pupils mark the time on analogue clocks to show the time after an hour and then half hour time periods have passed. They also compare times on clocks to work out the duration of time between them.
Page 12 explores duration of time in 5-minute intervals.

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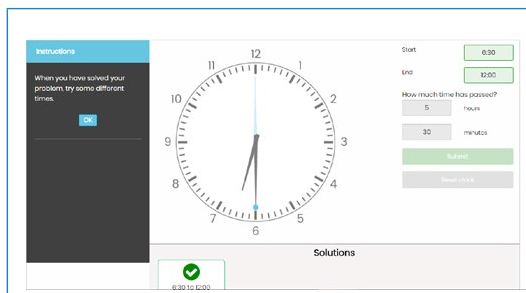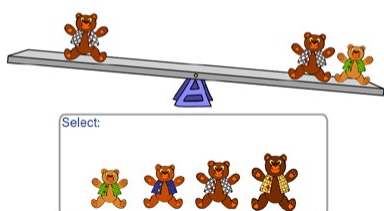
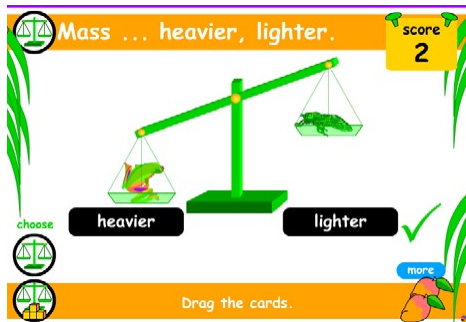**eBook, D series: Rich Learning Task — Passing Time**

The teacher version has an interactive which is designed for use on a large screen. The start and end dates are chosen and set and pupils work out the time duration between them.
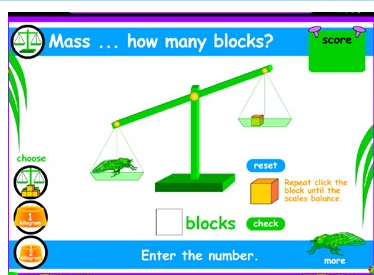
A printable pupil sheet can be used alongside the activity, where pupils mark the time on pairs of clocks and then find the duration between the times.

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Examples of alignment to Mathletics
Block 4 (Weeks 8–10) Mass, Capacity & Temperature

National Curriculum Objectives	WRM Small Steps
▸ Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels. ▸ Compare and order lengths, mass, volume/capacity and record the results using >,< and =.	▸ Compare Mass ▸ Measure Mass (g) ▸ Measure Mass (kg) ▸ Compare Capacity ▸ Millilitres ▸ Litres ▸ Temperature

Small step: Compare Mass

Topic: Mass, Capacity & Temperature
Activity: *Balancing Objects*
Pupils select the correct object to balance the balance scales. They need to recognise that they don't just need the same number of objects on both sides, they also need objects that are the same size.

eBook, C series: Measurement, pages 14–15
In this paired activity, pupils feel the weight of 2 objects and decide which one is the heavier. Using balance scales, they check to see if they are correct.

Page 15 continues with the practical use of balance scales and pupils compare the weights of classroom objects.

Rainforest Maths — Level B — Measurement — Mass
Pupils compare the mass of objects illustrated on a balance scale and drag the appropriate vocabulary to match each side.

Rainforest Maths — Level C — Measurement — Mass

Pupils measure the mass of objects by adding blocks to a balance scale.

Small step: Measure Mass (g)
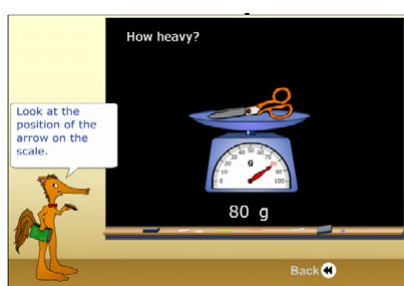
Topic: Mass, Capacity & Temperature

Activity: *How Heavy?*

In this activity pupils move an object onto the scale to measure its mass (up to 100 grams). The measurements are always multiples of ten.

Related Activity: *How Heavy?*

This activity is the same as 'How Heavy?' except that measurements to the nearest 5 grams are included.

eBook, C series: Measurement, pages 16–17

Pupils are introduced to the units of measurement for mass: grams and kilograms.

On page 17, pupils work in pairs and apply their knowledge practically using balance scales and weights. They find objects with approximately the same mass as a range of weights in grams.
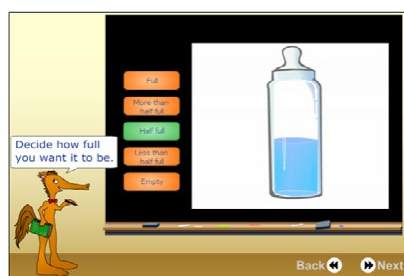
Small step: Measure Mass (kg)

Rainforest Maths — Level D — Measurement— Mass — kilograms

Pupils read the mass of objects shown on scales. They enter the number of kilograms and can also compare the number of grams equivalent to the kilograms.

Small step: Compare Capacity

Topic: Mass, Capacity & Temperature

Activity: *How Full?*

Pupils identify how full a container is by describing the container as either 'full' or 'empty' or by relating the volume to half of the capacity of the container.

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eBook, C series: Measurement, pages 23–29

Pupils explore capacity through a range of practical activities using a range of containers.

In the paired activity on page 26 pupils are asked to order a range of containers by their capacity and are then challenged to prove they are correct.
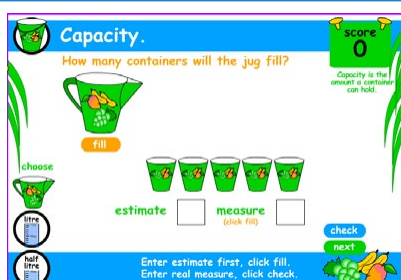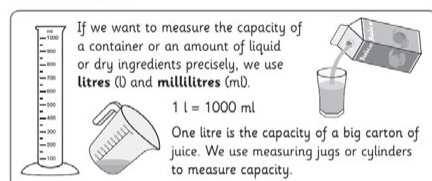

Rainforest Maths — Level C — Measurement — Capacity

Pupils estimate the number of smaller containers the jug will fill. When they click on 'fill' they see the jug pouring into the cups, consolidating their visual understanding of capacity.

Small step: Millilitres

eBook, C series: Measurement, page 30

Pupils are introduced to the units of measurement: litres and millilitres. Using illustrations of containers marked with millilitres, they record the capacity in millilitres.

Small step: Litres
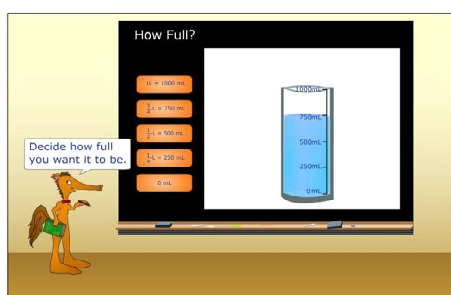
Topic: Mass, Capacity & Temperature

Activity: *Using a Litre*

In this activity easier questions require pupils to identify the volume of liquid in a container in relation to fractional amounts of the container's capacity (quarters and halves). Harder questions require the pupils to either read the scale in millilitres or recognise the relationship between 1 full litre and 1000 millilitres.

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eBook, C series: Measurement, pages 30–32

In this paired activity, pupils explore the capacity of larger containers. They try to find which container has a capacity closest to 1 litre, before then finding the capacity of each container by filling measuring jugs.
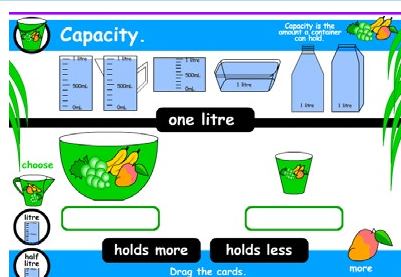
Rainforest Maths — Level C — Measurement — Capacity

Pupils identify which container holds more or less than a litre. They are then asked to move the labels into the correct boxes to reflect this understanding.

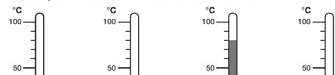## Small step: Temperature
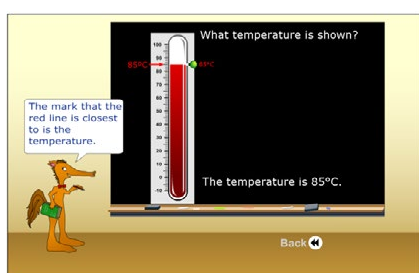
Topic: Mass, Capacity & Temperature

Activity: *What's the Temperature?*

Pupils read the temperature to the nearest degree (Celsius) on a thermometer.

eBook, C series: Measurement, pages 33–34

Pupils are introduced to measuring temperature using degrees Celsius. Exercises involve reading degree Celsius from illustrations of thermometers.

Page 34 features a paired activity where pupils use thermometers to explore the temperature of different places around school.

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