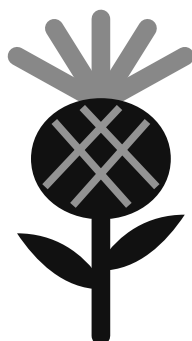


REAL-LIFE MATHS

Teacher guide

National 3 Applications of Mathematics

For all the N3 Maths workbooks and the N3 Activity Book (Units 1–3)



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 **Blewis**
LEARNING

Using the workbooks

The N3 Maths workbooks are write-in books, one per learner. They are designed to be used straight away, including by staff who do not usually teach maths. This guide gives one page of notes for every topic.

EVERY TOPIC FOLLOWS THE SAME PATTERN

Opener	a story in a real-life context, the skills and the key words
Teach and practise	a method, a worked example, then questions with space for working
Real-life task	a bigger problem that pulls the skills together
Brain break	an optional calm puzzle before the check-up
Check-up	short questions and an 'I can' checklist

EACH TOPIC NOTE GIVES YOU

Lessons	a realistic number of 50-minute lessons
Before you start	what learners need to be secure with first
Teaching points	what to stress, linked to the book's examples
Mistakes	common errors and how to fix them
Hands-on ideas	low-cost activities with real objects
Support and stretch	ways to adapt the topic
Evidence	where the best evidence for each standard is

ANSWERS

Full answers are at the back of each workbook, so learners can check their own work after trying the questions.

ACTIVITY BOOK

The N3 Activity Book (Units 1–3) has a colouring page, word search, puzzle and brain teaser for every topic, with the same themes. Use it for early finishers, calm starts and the end of lessons.

SUPPORTING LEARNERS

Contexts are everyday and calm, with plain language and a consistent layout. Learners can talk answers through, use real objects, have questions read to them, or use a calculator where appropriate.

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UNIT 1

Manage Money and Data

This book helps you use maths in real life: earning, spending, saving and making sense of data.

Where each standard is covered

Standard	What it covers	Where
1.1	Identifying factors affecting income and expenditure	Topic 1, Topic 2
1.2	Preparing a simple budget	Topic 3
1.3	Developing a basic savings plan	Topic 4
1.4	Making a decision based on the best deal	Topic 5
2.1	Organising primary data	Topic 6
2.2	Carrying out simple calculations to compare data	Topic 7
2.3	Representing data in an appropriate format	Topic 8
2.4	Interpreting simple data to draw conclusions	Topic 9

ALWAYS CHECK

Check the latest course documents and your centre's assessment arrangements.
The book gives evidence opportunities; your centre decides how evidence is gathered and recorded.

Topic 1: Earning money

3 LESSONS

BEFORE YOU START

- Multiplying whole numbers and money by a single digit, and by 12 and 52 with a calculator
- Adding amounts of money written with pounds and pence
- Halving an amount of money

KEY TEACHING POINTS

- Pay = hours × rate of pay. Ruby's 6-hour shift at £11 is the anchor example; keep returning to it.
- Splitting tricky multiplications helps: $8 \times £11$ is $8 \times £10$ plus $8 \times £1$.
- To compare weekly and monthly pay, change both to yearly pay: weekly × 52, monthly × 12.
- Time and a half means the rate plus half of it again; double time means the rate × 2.
- Income includes wages, tips, allowances, benefits and gifts. Add every source to get the total.

Common mistake	How to fix it
Multiplying weekly pay by 4 to get monthly pay.	A month is longer than 4 weeks. Change both jobs to yearly pay instead.
Applying the overtime rate to every hour worked.	Set out normal pay and overtime pay on separate lines, as in Ruby's worked example, then add.
Forgetting to multiply a weekly allowance by the weeks.	Underline 'each week' and write the multiplication before adding it to the total.
Comparing the two summer jobs on pay alone.	In the real-life task, list the lunch saving and tips as money too, then discuss non-money factors.

HANDS-ON IDEAS

- Real local job adverts (newspaper or online) showing hourly, weekly and yearly pay to sort and compare
- A blank shift rota for a week that learners fill in and cost at a given hourly rate
- Play money to model time and a half: a £10 note plus a £5 note
- A wall calendar to count 52 weeks and 12 months in a year

SUPPORT

Use whole-pound rates and short shifts first, with a multiplication square or calculator available. Work through the shift table together, one day at a time.

STRETCH

Give learners two real job adverts with different hours and extras, and ask them to write a short recommendation using yearly pay and an hourly comparison.

EVIDENCE

The real-life task (choosing a summer job) and the check-up page give the best evidence for standard 1.1, showing how hours, rate, overtime and other income affect what a person earns.

Topic 2: Where my money goes

3 LESSONS

BEFORE YOU START

- Subtracting amounts of money, including pence
- Finding 10% of an amount by dividing by 10
- Adding a list of money amounts

KEY TEACHING POINTS

- Net pay = gross pay – deductions. Total the deductions first, then take them away once.
- The book uses a made-up tax rule: no tax on the first £1,000 a month, then 20% on the rest.
- To find 20%, find 10% by dividing by 10, then double it. This method is used for tax and VAT.
- '+ VAT' means 20% still has to be added. A price 'including VAT' is the price you pay.
- Needs are things you must have to live and work; wants are nice to have. Some items depend on the person.

Common mistake	How to fix it
Taking 20% of the whole wage when working out tax.	Have learners write 'taxed part' first: earnings minus £1,000, then find 20% of that only.
Writing the VAT amount as the final bill.	In the plumber example, circle the £16 VAT, then add it to £80 to get £96.
Subtracting only one deduction from gross pay.	Ask learners to tick off each deduction line on the payslip as they add it to the total.
Treating everything bought as a need.	Ask 'could you manage without it for a month?' and discuss the mobile phone question in pairs.

HANDS-ON IDEAS

- Anonymised or mocked-up payslips for learners to label gross pay, deductions and net pay
- Real trade quotes or invoices showing '+ VAT' and 'inc. VAT' prices
- Picture cards of household items and activities to sort into needs and wants on a table
- A short class discussion using local services paid for by tax, such as the school, roads and the fire station

SUPPORT

Start with payslips that have one deduction only, and give a 10% / 20% table to refer to. Pre-fill the 'taxed part' column for the first two rows.

STRETCH

Ask learners to compare their answers using the book's tax rule with the current real tax-free allowance, and explain why the book uses a simpler rule.

EVIDENCE

Ruby's first month real-life task and the check-up page give the best evidence for standard 1.1, showing deductions, tax, VAT and spending choices affecting what is left.

Topic 3: Budgeting

3 LESSONS

BEFORE YOU START

- Adding several amounts of money
- Subtracting money, including when the answer is negative ('short')
- Multiplying hours by an hourly rate

KEY TEACHING POINTS

- A budget compares money coming in with money going out. Money left = income – total spending.
- If spending is bigger than income, the person is short by spending – income.
- Lay out budgets with income at the top and spending underneath, as in Amir's weekly budget.
- To balance a short budget, spend less or earn more. Cut wants first.
- Cost of a small job = labour (hours × rate) + materials, as in Jay's garden tidy.

Common mistake	How to fix it
Subtracting the wrong way round.	Always ask 'which is bigger?' first, then write 'left' or 'short' before working out the difference.
Leaving out one spending item when totalling.	Tick each item as it is added, and use the top tip of pairing items into easy numbers.
Forgetting materials when costing a job.	Use a two-line layout every time: Labour, then Materials, then Total.
Cutting needs, like rent or food, to balance a budget.	Revisit needs and wants from Topic 2: which items could Jay live without?

HANDS-ON IDEAS

- A simple spreadsheet budget template that learners fill in for Jay's monthly costs
- Supermarket receipts or online shopping baskets to cost a week's food
- Price lists from a local DIY store to cost a small job such as painting a fence
- Envelopes or labelled pots with play money to model splitting a weekly income

SUPPORT

Use budgets with three or four items and round numbers. Let learners use a calculator and a printed budget table with labelled rows.

STRETCH

Ask learners to plan a realistic monthly budget for their own first flat using real local rent, bus and phone prices.

EVIDENCE

Jay's monthly budget real-life task, his weekly budget practice page and the check-up give the best evidence for standard 1.2 on preparing a simple budget.

Topic 4: Saving up

2-3 LESSONS

BEFORE YOU START

- Dividing an amount of money by a whole number, with a calculator
- Rounding a decimal up to the next whole number
- Finding 10% by dividing by 10

KEY TEACHING POINTS

- Number of weeks = amount needed ÷ amount saved each week. Always round up.
- Amount each week = amount needed ÷ number of weeks, for when the date is fixed.
- A savings table with a running total shows progress and makes falling behind easy to spot.
- Simple interest: find the percentage of the savings, then add it on to get the new total.
- Take off money already saved before working out how long the rest will take, as in Finn's trainers.

Common mistake	How to fix it
Rounding down when the division is not a whole number.	In Kai's example 6 weeks gives only £90. Check by multiplying back.
Writing the interest as the final total.	Ask learners to write 'interest' and 'new total' on separate lines every time.
Adding a one-off gift to every week in the savings table.	Highlight the gift week before filling in the table, then add it once.
Ignoring money already saved.	Ask 'how much more do you need?' as a separate first step.

HANDS-ON IDEAS

- A class savings chart on the wall for a real or imagined target, updated weekly
- Real festival, concert or trip prices for learners to build their own savings goal
- Leaflets or websites from banks and building societies showing savings rates
- Coins in a clear jar to model a running total week by week

SUPPORT

Use amounts that divide exactly at first, and give a pre-drawn savings table with the week numbers filled in.

STRETCH

Ask learners to compare two savings accounts over two years, or to plan how Ruby could make up the £30 shortfall with extra shifts.

EVIDENCE

Ruby's festival plan real-life task and the savings table practice give the best evidence for standard 1.3 on making a basic savings plan.

Topic 5: Best deal

3-4 LESSONS

BEFORE YOU START

- Finding 10%, 25% and 50% of an amount
- Changing between pounds and pence
- Dividing money by a whole number

KEY TEACHING POINTS

- Use the same three steps every time: work out the real cost, compare, then decide and say why.
- Take the discount away from the price. The discount is what you save, the sale price is what you pay.
- A multibuy is only a good deal if you need all the items, as in Alex's suncream.
- Unit price = price ÷ number of items. Change pounds to pence first to avoid decimals.
- Add delivery, joining fees and monthly costs before comparing, as in the gym and cinema questions.

Common mistake	How to fix it
Giving the discount as the sale price.	Use the jacket example: write 'save £10, pay £30' as two separate lines.
Choosing the bigger pack because it looks cheaper.	Insist on working out the price of one item for each pack before deciding.
Forgetting delivery when comparing online and shop prices.	Ask learners to add a 'delivery' row to every comparison table, even if it is £0.
Not saying which deal they would choose.	Model a full answer sentence: 'Shop A is the better deal. It saves £4.'

HANDS-ON IDEAS

- Supermarket flyers and online shop pages with real multibuy and percentage offers
- A class 'shop' with real packs of different sizes and price labels
- Outdoor shop catalogues to cost the hillwalk kit list
- Receipts showing delivery charges or VAT for learners to check

SUPPORT

Focus on 50% and 10% first, and give a percentage method card. Compare two options only, with the three steps printed as a writing frame.

STRETCH

In the hillwalk task, ask learners to find the cheapest mix of items from both shops, including delivery, and justify it.

EVIDENCE

The hillwalk kit real-life task and the check-up page give the best evidence for standard 1.4, where learners must compare deals and state a clear decision with a reason.

Topic 6: Collecting data

2-3 LESSONS

BEFORE YOU START

- Counting accurately in ones and fives
- Reading and writing simple tables
- Adding a short list of numbers

KEY TEACHING POINTS

- Tally marks are grouped in 'gates' of 5, with the fifth mark across the other four.
- Always total the frequency column and check it matches the number of things counted.
- A frequency table shows only the totals, so it is quicker to read than the raw list.
- In a two-way table, read across a row and down a column; totals go at the end of each.
- A good survey question has a clear set of answers to choose from, with 'Other' if needed.

Common mistake	How to fix it
Losing count or counting an item twice from a list.	Cross off each item as it is tallied, as with the 30 birds.
Drawing tallies as five vertical lines with no gate.	Practise drawing 5, 7 and 12 with the book's examples before starting the chart.
Row and column totals that do not agree.	Check that the grand total from rows equals the grand total from columns.
Writing an open survey question with no set answers.	Ask learners to list possible answers before collecting any data.

HANDS-ON IDEAS

- A real tally of birds, cars or people seen from the window for ten minutes
- A class survey of favourite outdoor activity or travel to school
- Counters or cubes of different colours to sort and tally
- Clipboards and a printed tally sheet for a short survey round the school

SUPPORT

Give pre-drawn tally charts with categories filled in. Start with lists of 10 to 15 items before moving to the 30 birds.

STRETCH

Ask learners to design a survey with a two-way table, such as travel to school by class, and write two conclusions from it.

EVIDENCE

The 'your own survey' page and the north shore or south shore real-life task give the best evidence for standard 2.1 on organising data learners collect themselves.

Topic 7: Comparing data

2-3 LESSONS

BEFORE YOU START

- Adding several numbers, including simple decimals
- Dividing by a whole number, with a calculator
- Finding the biggest and smallest number in a list

KEY TEACHING POINTS

- Mean = total ÷ how many values. Check the answer lies between the smallest and largest value.
- Range = highest – lowest. A small range means results are close together and more consistent.
- To compare two groups, find the mean and the range of each, then say what each one shows.
- Sometimes a lower number is better, such as race times in the shuttle run.
- Use the sports day houses: Lomond, Ness, Tay and Awe, to keep the context familiar.

Common mistake	How to fix it
Dividing by the wrong number when finding the mean.	Count the values aloud and write 'How many?' as a step, as in the practice table.
Giving the range as two numbers, like '18 to 30'.	Remind learners the range is one number: highest take away lowest.
Saying the higher mean is always better.	Use the Watch out box on race times and ask 'is a big or small number good here?'
Using the single best result to decide the winner.	In the long jump task, compare the mean jumps as well as the longest jump.

HANDS-ON IDEAS

- Run a real class event, such as beanbag throws or sit-ups, and record results
- Metre sticks and a tape measure for a standing long jump
- Stopwatches for short shuttle runs, comparing two teams
- Cubes stacked as towers to show the mean as 'levelling out'

SUPPORT

Use small whole numbers and three values at first. Model the mean by evening out towers of cubes before using the formula.

STRETCH

Ask learners to compare two teams where one has the better mean and the other is more consistent, and argue which should win.

EVIDENCE

The long jump real-life task and the comparing two sets of data page give the best evidence for standard 2.2 on simple calculations to compare data.

Topic 8: Drawing graphs

3 LESSONS

BEFORE YOU START

- Reading and using a frequency table
- Counting in 2s, 4s and 5s
- Using a ruler to draw straight lines

KEY TEACHING POINTS

- In a pictograph the key says what one picture is worth. Half a picture is worth half.
- A good bar graph has a title, labelled axes with units, an equal scale from 0 and equal bars with gaps.
- A line graph shows change over time. Plot each point, then join with straight lines.
- Choose the graph to suit the data: bar for comparing groups, line for change over time.
- Check a pictograph total against what you expect, such as 31 days in October.

Common mistake	How to fix it
Treating each pictograph symbol as 1.	Ask learners to read the key aloud before drawing or reading any row.
Uneven scales or no title and labels.	Use the bar graph checklist in the book as a tick list after drawing.
Joining bar graph tops with a line or drawing line graphs as bars.	Sort data sets into 'groups' or 'over time' before choosing a graph.
Plotting points in the wrong column or at the wrong height.	Use a ruler held up from the axis and across from the scale.

HANDS-ON IDEAS

- Daily weather records from a school or online weather station over a week
- Sticky notes to build a human bar graph on the board
- Squared paper and coloured pencils for neat bars
- A thermometer outside the classroom read every hour for a line graph

SUPPORT

Give pre-drawn axes with the scale already marked, as the book does. Start with pictographs where each picture is worth 1 or 2.

STRETCH

Ask learners to create graphs for the school website from their own data and explain why they chose each graph type.

EVIDENCE

The 'graphs for the website' real-life task and the check-up bar graph give the best evidence for standard 2.3 on representing data in a suitable format.

Topic 9: Reading graphs

2-3 LESSONS

BEFORE YOU START

- Reading scales that go up in 1s, 2s, 5s or 10s
- Subtracting two-digit numbers
- Reading a pictograph with a key

KEY TEACHING POINTS

- To read a bar, go to its top and look across to the scale. Work out what each small step is worth.
- A line graph shows a trend: going up, going down or staying the same.
- A good conclusion uses evidence from the data. Check a statement against the numbers first.
- A scale that does not start at 0 can make a small difference look huge, as in Graph B.
- Use the five-a-side league data across skills so learners can connect the graphs and table.

Common mistake	How to fix it
Misreading a bar that ends between scale lines.	Line a ruler from the bar top to the scale, then count small steps, as for Thistle.
Describing every point instead of the overall trend.	Ask for one sentence starting 'Overall, the crowd...'
Accepting a statement like 'twice as many' without checking.	Have learners write the two numbers and do the multiplication before answering.
Trusting bar heights without checking the scale.	Ask 'where does the scale start?' before every comparison.

HANDS-ON IDEAS

- Graphs from newspapers, sports websites or the school newsletter to read and question
- A real league table from a local football league to check points totals
- Two printed versions of the same graph with different scales for a 'spot the trick' discussion
- A ruler or strip of card to line up bar tops with the scale

SUPPORT

Start with bar graphs where every line is labelled. Give sentence starters such as 'I know this is true because...'

STRETCH

Ask learners to find a misleading graph in the media, explain the problem and redraw it fairly.

EVIDENCE

The end of season report real-life task and the true or false page give the best evidence for standard 2.4, where learners draw conclusions backed by evidence.

UNIT 2

Shape, Space and Measures

This book helps you use shape, space and measures in real life: measuring, building, planning, cooking and getting places on time.

Where each standard is covered

Standard	What it covers	Where
1.1	Calculating and using the perimeter and area of a regular 2D shape	Topic 2, Topic 3
1.2	Calculating and using the volume of a cuboid	Topic 4
1.3	Giving or following directions	Topic 5
1.4	Working with simple patterns	Topic 6
2.1	Selecting and using appropriate units of measurement	Topic 1
2.2	Stating and using simple formulae in words or symbols	Topic 2, Topic 3, Topic 4
2.3	Interpreting simple scale drawings	Topic 7
2.4	Applying a basic scale factor	Topic 8
2.5	Calculating time intervals to manage tasks or activities	Topic 9

ALWAYS CHECK

Check the latest course documents and your centre's assessment arrangements. The book gives evidence opportunities; your centre decides how evidence is gathered and recorded.

Topic 1: Measuring

3 LESSONS

BEFORE YOU START

- Multiplying and dividing by 10, 100 and 1000
- Reading a ruler in cm and mm
- Ordering whole numbers and simple decimals

KEY TEACHING POINTS

- Choose a unit to suit the size: small things in small units, big things in big units.
- Weight uses g and kg; liquid volume uses ml and litres. These do not mix.
- An estimate uses something known, like a stride of about 1 m, and must have a unit.
- Big unit to small: multiply. Small unit to big: divide. A smaller unit gives a bigger number.
- To compare or order, change everything to the same unit first, often the smaller one.

Common mistake	How to fix it
Using ml for weight or g for liquids.	Use the Watch out box and sort real kitchen items into 'weigh it' and 'pour it'.
Multiplying when they should divide in a conversion.	Ask 'should the number get bigger or smaller?' before working it out.
Comparing 2 kg and 900 g by the numbers alone.	Change both into grams first, as in the flour bags worked example.
Giving an estimate with no unit.	Point to the top tip: 'About 4' means nothing. Ask 'about 4 what?'

HANDS-ON IDEAS

- Kitchen scales, measuring jugs and a bag of sugar to feel 1 kg and 1 litre
- Rulers and tape measures to estimate then measure classroom objects
- Real food packaging showing g, kg, ml and litres to sort and order
- An oven or fridge thermometer to discuss sensible temperatures

SUPPORT

Give a conversion card with the key facts and arrows for multiply and divide. Use real objects for every unit before written questions.

STRETCH

Ask learners to plan the scones shopping for a triple batch and find the cheapest combination of packs.

EVIDENCE

The scones for the café real-life task and the choosing units page give the best evidence for standard 2.1 on selecting and using sensible units of measurement.

Topic 2: Perimeter

3 LESSONS

BEFORE YOU START

- Adding several lengths
- Multiplying by 2 and 4
- Knowing the properties of squares and rectangles

KEY TEACHING POINTS

- Perimeter is the distance all the way round. On a grid, count square edges round the outside only.
- Rectangle: $P = 2 \times l + 2 \times w$. Square: $P = 4 \times s$. Adding all four sides gives the same answer.
- Dashes on sides show they are the same length.
- Work backwards to find a missing side: subtract the known sides, then halve what is left.
- For fencing, find the perimeter, take off any gate, then multiply by the cost per metre.

Common mistake	How to fix it
Multiplying length by width to find perimeter.	Use Kai's mistake in the book; walk round a taped rectangle on the floor counting each side.
Counting squares instead of edges on a grid.	Ask learners to tick each edge as they go round and start from a dot.
Forgetting to take off the gate.	Follow the three steps in the method box and write 'take off gate' as a line every time.
Rounding down the number of fencing rolls.	Check by multiplying back: 3 rolls of 10 m only give 30 m.

HANDS-ON IDEAS

- Masking tape on the floor to make pens that learners walk round and measure
- Trundle wheels or long tape measures to find the perimeter of the playground or garden
- Geoboards or squared paper to make shapes with a perimeter of 12 cm
- Garden centre price lists for fencing, edging or ribbon by the metre

SUPPORT

Start with grid shapes and trundle wheels before using formulas. Give a writing frame for each step of the fencing cost.

STRETCH

Ask learners to find the rectangle with the largest area for 40 m of fencing, linking to the area topic.

EVIDENCE

The Glen Arrin farm fencing real-life task and the check-up give the best evidence for standard 1.1 on perimeter, and the formula pages support standard 2.2 on using a formula in words or symbols.

Topic 3: Area

3 LESSONS

BEFORE YOU START

- Multiplying two whole numbers
- Finding perimeter, so the difference can be made clear
- Changing cm to m

KEY TEACHING POINTS

- Area is the space inside a shape, counted in squares. Two half squares make one whole.
- Rectangle: $A = l \times b$. Square: $A = s \times s$. The squares form rows, so multiply.
- Units always carry a small ²: cm^2 for small areas, m^2 for rooms and gardens.
- Both sides must be in the same unit before multiplying, as in the rug example.
- For turf, carpet or tiles: find the area, divide by one pack, round up, then cost.

Common mistake	How to fix it
Mixing up area and perimeter.	Use the investigation of rectangles with area 12 cm^2 to show the same area can have different perimeters.
Leaving off the ² or writing m instead of m^2 .	Ask learners to say 'square metres' aloud and check each answer for the small ² .
Multiplying 2 m by 150 cm without converting.	Highlight units in each question and change them to match before calculating.
Rounding down the number of packs.	Use Finn's lawn: 5 packs only cover 25 m^2 , so part of the lawn would be bare.

HANDS-ON IDEAS

- Square metre made from metre sticks or newspaper for learners to stand in
- Squared paper or square tiles to cover shapes and count
- Carpet tile, turf or floor tile prices from a DIY store website
- Measure a real classroom or library floor with tape measures

SUPPORT

Start by covering shapes with square tiles or counters before using the formula. Give rectangles with small whole-number sides.

STRETCH

Ask learners to cost carpet for an L-shaped room by splitting it into two rectangles.

EVIDENCE

The carpet and turf for the school real-life task and the 'how much to buy' page give the best evidence for standard 1.1 on area, and the formula page supports standard 2.2.

Topic 4: Volume

3 LESSONS

BEFORE YOU START

- Multiplying three numbers together, with a calculator
- Finding the area of a rectangle
- Knowing 1 litre = 1000 ml

KEY TEACHING POINTS

- Count cubes in layers: cubes in one layer $\times$ number of layers, so hidden cubes are not missed.
- $V = l \times b \times h$. Multiply in any order and pick an easy pair first.
- Volume units carry a small ³: cm^3 from lengths in cm, m^3 from lengths in m.
- 1 ml = 1 cm^3 and 1 litre = 1000 cm^3 . A 10 cm cube holds exactly 1 litre.
- To pack boxes, divide along, across and up separately, then multiply. Only whole boxes count.

Common mistake	How to fix it
Counting only the cubes that can be seen.	Build the shapes with multilink cubes and count layer by layer.
Adding the three lengths instead of multiplying.	Write $V = l \times b \times h$ first and substitute each number.
Dividing total volumes to find how many boxes fit.	Use the long box example: work along, across and up separately to find the gap.
Misreading the jug scale.	Work out what each small mark is worth before reading the level.

HANDS-ON IDEAS

- Multilink or centimetre cubes to build cuboids and count in layers
- Real cardboard boxes and parcels to measure and find the volume
- A 10 cm cube container and a measuring jug to show 1 litre
- Small boxes packed into a larger box to test predictions

SUPPORT

Build each shape with cubes before using the formula. Use whole-number lengths and give a table for along, across and up.

STRETCH

Ask learners to design a box that holds 24 cubes using the least cardboard, and compare surface areas informally.

EVIDENCE

The choosing a box real-life task and the volume of a cuboid page give the best evidence for standard 1.2 on volume, and the formula work supports standard 2.2.

Topic 5: Directions

2-3 LESSONS

BEFORE YOU START

- Knowing left and right
- Reading letters and numbers on a grid
- Multiplying by 100

KEY TEACHING POINTS

- The four main compass points go N, E, S, W clockwise. In-between points always start with N or S.
- Turn right is a quarter turn clockwise; turn left is a quarter turn anticlockwise.
- Grid references: letter along the bottom first, then number up the side.
- Good directions give a start, one move at a time with a direction and distance, and what is at the end.
- On the Loch Arrin map each square is 100 m, and nobody can walk across the loch.

Common mistake	How to fix it
Naming in-between points the wrong way round, such as 'East North'.	Remind learners in-between points always start with N or S.
Mixing up left and right when facing South.	Have learners stand and physically face South, then point right.
Reading grid references number first.	Use 'along the corridor, then up the stairs' and practise with the café at B2.
Writing vague directions like 'go up a bit'.	Use Kai's directions and ask a partner to follow them exactly.

HANDS-ON IDEAS

- A real compass and compass labels stuck on the classroom walls
- An orienteering course in the playground or school grounds with control points
- A large grid map on the floor with tape for learners to walk directions
- Local Ordnance Survey or park maps to find grid references

SUPPORT

Use four compass points first and physical turning in the room. Give a printed compass rose and a grid map with large squares.

STRETCH

Ask learners to plan their own orienteering route with five controls and the shortest total distance, then time a partner walking it.

EVIDENCE

The orienteering route real-life task and the writing directions page give the best evidence for standard 1.3 on giving or following directions.

Topic 6: Patterns

2-3 LESSONS

BEFORE YOU START

- Naming common 2D shapes
- Counting in steps of 2, 3 and 4
- Colouring or shading squares on a grid neatly

KEY TEACHING POINTS

- Find the repeat: the part that happens again and again. Ring it, then copy it to continue.
- Say the pattern out loud to hear the repeat. Check both shape and colour.
- Tartan uses stripes across and down that repeat; where stripes cross, the darker colour shows.
- Shapes tessellate when they fit with no gaps or overlaps. Squares, rectangles, triangles and hexagons do; circles do not.
- A good pattern description lets someone copy it without seeing it: shapes, colours, repeat size.

Common mistake	How to fix it
Matching shape but ignoring colour.	Use the Watch out box and ask learners to say both, such as 'black square'.
Finding the 12th tile by drawing them all, then losing count.	Show how to count in repeats of 3 to reach 12 quickly.
Thinking circles tessellate because they touch.	Cut out paper circles and show the gaps, as in the book's picture.
Descriptions too vague to copy.	Swap descriptions with a partner as in the practice page, then compare drawings.

HANDS-ON IDEAS

- Coloured square tiles, beads or pattern blocks to build repeating patterns
- Real tartan fabric or scarves to spot stripes and the repeat
- Cut-out paper shapes to test which tessellate
- Squared paper and colouring pencils to design a café floor

SUPPORT

Begin with two-item repeats and real objects. Give part-completed tartan grids with the first row and column shaded.

STRETCH

Ask learners to design a tartan for the school with a stripe rule of their own and work out how many black squares a 12 by 12 grid will have.

EVIDENCE

The Bothy Café floor real-life task and the make your own pattern page give the best evidence for standard 1.4 on working with simple patterns.

Topic 7: Scale drawings

3 LESSONS

BEFORE YOU START

- Measuring lines accurately in cm and mm with a ruler
- Multiplying and dividing by 2, 5 and 10, including simple decimals
- Knowing m and km as units of length

KEY TEACHING POINTS

- A scale such as 1 cm to 2 m means every 1 cm on the drawing stands for 2 m in real life.
- To find a real length, multiply the drawing length by the real length for 1 cm.
- Measure from the 0 on the ruler. Check the ruler against the scale bar first.
- To go from real to drawing length, divide by the real length for 1 cm.
- Check the scale on every map: the same 4 cm line could be 4 km or 8 km.

Common mistake	How to fix it
Measuring from the end of the ruler.	Point to the gap before the 0 on classroom rulers and practise on short lines.
Dividing when they should multiply.	Use the top tip: ask whether the answer should be bigger or smaller.
Leaving units as cm for real lengths.	Put units in every table heading, as in the recording page.
Measuring a curved road as one straight line.	Measure each straight part separately and add them, as in the map method.

HANDS-ON IDEAS

- A plan of the classroom or school drawn to scale on squared paper
- Local maps with scale bars to measure distances between real places
- String laid along a road on a map, then measured with a ruler
- Cut-out scale furniture to test what fits in the youth club hall plan

SUPPORT

Use scales of 1 cm to 1 m and 1 cm to 2 m with whole-centimetre lines. Give a two-column table for drawing and real lengths.

STRETCH

Ask learners to draw a scale plan of their bedroom or classroom and check whether a new piece of furniture would fit.

EVIDENCE

The 'will it fit?' real-life task and the finding real sizes page give the best evidence for standard 2.3 on interpreting simple scale drawings.

Topic 8: Scale factor

2-3 LESSONS

BEFORE YOU START

- Doubling and halving numbers
- Multiplying and dividing by 3, 4 and 10
- Changing g to kg and ml to litres

KEY TEACHING POINTS

- Scale factor = new number of people ÷ old number of people. Multiply every amount by it.
- To scale down, divide every amount instead. Keep the units the same.
- Enlarging by 2 doubles every side; reducing by $\frac{1}{2}$ halves every side. The shape stays the same.
- Weight, volume and length scale. Oven temperature does not, and cooking time may change only a little.
- Large amounts can be rewritten in bigger units, such as 1500 g as 1.5 kg.

Common mistake	How to fix it
Scaling only some ingredients in a recipe.	Tick each ingredient as it is scaled in the table.
Adding instead of multiplying, such as 4 to 12 means add 8.	Ask 'how many times bigger is the group?' and write the division first.
Doubling the oven temperature.	Discuss Owen's 600 °C example and what would happen to the food.
Doubling only one side when enlarging a shape.	Count squares along every side and use the Watch out box on stretched shapes.

HANDS-ON IDEAS

- Cook a simple recipe for the class, scaling it from 4 servings
- Real recipe cards and food packaging to plan the ceilidh soup shopping
- Squared paper and multilink cubes to enlarge shapes
- Kitchen scales and measuring jugs to check scaled amounts

SUPPORT

Start with doubling and halving only, using real ingredients. Give recipe tables with the scale factor already written.

STRETCH

Ask learners to scale a recipe for an awkward number of people, such as 6 to 15, and decide how to round the eggs.

EVIDENCE

The soup for the school ceilidh real-life task and the scaling by 3, 4 or 10 page give the best evidence for standard 2.4 on applying a basic scale factor.

Topic 9: Time

3 LESSONS

BEFORE YOU START

- Reading analogue and digital clocks
- Knowing there are 60 minutes in an hour
- Adding and subtracting small numbers

KEY TEACHING POINTS

- For pm times add 12 to the hour; 24-hour times always have four digits.
- 12 noon is 12:00, 12:30 pm is 12:30, and midnight is 00:00.
- Find time intervals by counting on to the next o'clock, then on to the end time.
- In a timetable each column is one bus and each row is one stop. Read down a column.
- In a schedule, the finish time of one task is the start time of the next. Leave spare time.

Common mistake	How to fix it
Subtracting times like ordinary numbers.	A calculator gives $11:20 - 09:45$ as 1.75. Count on with a number line instead.
Adding 12 to times between 12 noon and 1 pm.	Use the Watch out box and practise 12:15 and 12:45 pm specifically.
Writing 75 minutes as 1 hour 75 or 1.75 hours.	Change any minutes of 60 or more into hours and minutes.
Reading a timetable across a row for one bus.	Use a ruler to follow one bus down its column.

HANDS-ON IDEAS

- Real local bus or train timetables to plan a trip
- Geared teaching clocks for learners to set times and count on
- A large number line marked in hours and minutes on the board
- Plan a real class trip or event schedule with start and finish times

SUPPORT

Use intervals within one hour first, then across one o'clock. Give a printed time number line and a 12-hour to 24-hour conversion strip.

STRETCH

Ask learners to plan a real day out using an online journey planner, including connections and a return by a set time.

EVIDENCE

The trip to the coast real-life task and the planning a schedule page give the best evidence for standard 2.5 on calculating time intervals to manage tasks or activities.

UNIT 3

Numeracy

This book helps you use numbers with confidence in everyday life: money, time, measuring, reading graphs and judging chances.

Where each standard is covered

Standard	What it covers	Where
1.1	Selecting and using appropriate numerical notation and units	Topic 1, Topic 7
1.2	Selecting and carrying out calculations	Topic 1, Topic 2, Topic 3, Topic 4, Topic 5
1.3	Recording measurements using a simple scale on an instrument	Topic 6
1.4	Interpreting measurements and the results of calculations	Topic 5, Topic 6
1.5	Making decisions based on the results of measurements or calculations	Topic 7
2.1	Extracting and interpreting data from at least one simple graphical form	Topic 8
2.2	Making decisions based on the interpretation of data	Topic 8
2.3	Making decisions based on probability	Topic 9

ALWAYS CHECK

Check the latest course documents and your centre's assessment arrangements. The book gives evidence opportunities; your centre decides how evidence is gathered and recorded.

Topic 1: Big numbers

2-3 LESSONS

BEFORE YOU START

- Reading and writing numbers to 1,000
- Knowing that 100 pence make £1
- Counting on and back in tens and hundreds

KEY TEACHING POINTS

- Use a place value chart every time at first. Learners say the column name aloud: 2 thousands, 4 hundreds, 6 tens, 5 units.
- Stress that zero holds a place. Compare 3,056 and 356 on the chart so learners see why the zero matters.
- When ordering, compare the biggest place first, then move right only if the digits match. Model this with the fun run entry figures.
- Teach the symbol rule simply: the open mouth faces the bigger number. Read $3,409 < 3,490$ aloud as a sentence.
- Money always has two digits after the point. Practise converting pence to pounds by counting back two digits from the end.

Common mistake	How to fix it
Writing two thousand and sixty as 20060.	Draw four column boxes, one digit per box, with 0 in any empty column.
Comparing the wrong digits, so 4,250 is placed before 4,205.	Line numbers up in a chart and compare column by column, left to right.
Writing £3.5 or £3.50p.	Show real price tags and receipts. Agree a class rule: two digits after the point and never £ and p together.
Thinking 905p is £9.50.	Count out 905p with real coins and swap 100p for each £1 coin to see £9.05.

HANDS-ON IDEAS

- Digit cards (3, 8, 1, 6) for making the largest and smallest numbers
- A floor number line from 0 to 10,000 made with masking tape and sticky notes
- Real or plastic coins and notes for pence to pounds swaps
- Local event posters, charity totals or attendance figures to read and order

SUPPORT

Keep a laminated place value chart on the desk and limit numbers to three digits until the column idea is secure. A support assistant can read word numbers aloud while the learner writes the figures.

STRETCH

Extend to numbers up to 100,000 using the Glen Arrin fundraising board, or ask learners to work out how far short each team was of a £2,500 target.

EVIDENCE

The pounds and pence practice and the fundraising board task give clear evidence for using correct notation and units. Ordering questions on the board also support the calculations standard.

Topic 2: Adding and subtracting

3-4 LESSONS

BEFORE YOU START

- Number bonds to 10 and 100
- Place value for numbers up to 10,000
- Reading money in pounds and pence

KEY TEACHING POINTS

- Teach the three mental methods separately: near tens, doubles and adding on. Ask which one suits each question before working it out.
- In column work, line up units under units. Squared paper helps learners keep columns straight.
- Estimate first and compare. The worked example rounds 1,468 and 1,775 to check that 3,243 is sensible.
- With money, line up the decimal points and carry the point straight down into the answer.
- Link adding on to giving change, as shopkeepers do. Use the tuck shop price list for short role plays.

Common mistake	How to fix it
Forgetting to add the carried digit.	Write the carried 1 small under the answer line and tick it once it has been added.
Taking the smaller digit from the bigger, so $50 - 27$ becomes 37.	Ask 'Is the top digit big enough?' and model exchanging with blocks.
Subtracting £1.60 from £5 as if it were $160 - 5$.	Rewrite the note as £5.00 first and line up the points before subtracting.
Not checking the answer.	Add the answer back on, as the book shows with $£33.75 + £18.65$, and compare.

HANDS-ON IDEAS

- A pop-up tuck shop with real snack wrappers, price labels and coins for change
- Base ten blocks or bundled straws to show carrying and exchanging
- Squared paper for column layouts
- Real till receipts to check totals and change

SUPPORT

Start with two-digit numbers and money in whole pounds before moving to four digits. Let learners use a number line or hundred square for adding on, and check with a calculator afterwards.

STRETCH

Use the week at the tuck shop figures to work out how many more weeks of profit are needed for the £250 bench, or ask learners to plan a price list that makes a set profit.

EVIDENCE

The week at the tuck shop task (totals, differences and profit) is the best evidence for selecting and carrying out calculations. The change questions show calculations with money.

Topic 3: Multiplying and dividing

3-4 LESSONS

BEFORE YOU START

- Times tables to 10×10
- Place value to 10,000
- Adding numbers up to four digits

KEY TEACHING POINTS

- Build on known facts: $6 \times 7 = 42$ gives $6 \times 70 = 420$. Each multiplication fact also gives two division facts.
- When multiplying money by 10, the digits move and the point stays still: $£2.50 \times 10 = £25.00$.
- The grid method splits numbers into parts. Encourage an estimate first, as in $36 \times £14$ being about £500.
- Offer both short division and chunking. Let learners choose, and always check by multiplying back.
- Remainders need thinking about in context: round up for minibuses so nobody is left behind, round down for ice creams you can afford.

Common mistake	How to fix it
Adding a zero to multiply money by 10, giving £2.500.	Use a place value chart with a fixed point and slide the digits left.
Losing a part in the grid method.	Label each box of the grid and tick each partial product as it is added.
Ignoring the remainder and booking 4 minibuses for 75 people.	Act it out with chairs. Ask 'Has everyone got a seat?' before answering.
Placing digits wrongly in short division, such as $450 \div 9 = 5$.	Estimate and multiply back: $5 \times 9 = 45$, far too small.

HANDS-ON IDEAS

- Counters or cubes for grouping and sharing, including leftover remainders
- Real coach, attraction and café price sheets for costing a class trip
- Times table grids or fact cards for quick recall
- Chairs set out as minibus seats to act out rounding up

SUPPORT

Provide a multiplication square and keep numbers to two digits by one digit at first. Use counters or drawings for every division with a remainder before moving to written methods.

STRETCH

Cost a real trip from your school using actual prices, including adults going free, and find the cost per pupil to the nearest penny.

EVIDENCE

The costing the trip task gives strong evidence for selecting and carrying out calculations, including multiplying, dividing and deciding how to handle remainders.

Topic 4: Fractions, decimals and percentages **3-4 LESSONS**

BEFORE YOU START

- Times tables and simple division
- Halving and doubling
- Knowing that a whole is split into equal parts

KEY TEACHING POINTS

- The bottom number counts equal parts in the whole and the top number counts the parts you want. Check the parts really are equal.
- To find a fraction of an amount, divide by the bottom number, then multiply by the top. Model with Isla's three quarters of £20.
- Find 10% by dividing by 10, then build other percentages from it, such as 20% for the pizza bill.
- Use the hundred square to show one quarter, 25% and 0.25 are the same amount.
- Money answers always need two digits after the point: 10% of £15 is £1.50.

Common mistake	How to fix it
Calling unequal pieces halves or quarters.	Cut paper pizzas into unequal parts and ask whether each person gets a fair share.
Dividing by the top number, so three quarters of 40 is $40 \div 3$.	Say the rule aloud: divide by the bottom, multiply by the top.
Thinking 20% means take away 20, so $£30 - 20\% = £10$.	Always find 10% first and build up, writing each step underneath.
Ordering 0.75, one fifth, 50% and 0.1 by digit size.	Convert each to a percentage first, then order the percentages.

HANDS-ON IDEAS

- Paper plates or card pizzas cut into halves, quarters and eighths
- Hundred squares for shading percentages
- Supermarket flyers showing 10%, 20%, 25% and 50% off offers
- Counters for sharing out fractions of amounts

SUPPORT

Focus on halves, quarters and 10% before other fractions and percentages. Let learners share real objects or counters into groups to find fractions of amounts.

STRETCH

Use real takeaway menus to plan a fair pizza night order, then compare paying equally with paying for what each person eats.

EVIDENCE

The sharing out pizza night task gives good evidence for selecting and carrying out calculations with fractions and percentages, including money.

Topic 5: Rounding and checking

2-3 LESSONS

BEFORE YOU START

- Place value to 10,000
- Reading money and decimals with two places
- Adding and subtracting money

KEY TEACHING POINTS

- Find the two numbers it sits between first, then look at the next digit. 5 or more rounds up.
- A number exactly halfway, such as 85, rounds up. Show this on a number line.
- Rounding money to the nearest pound means looking at the pence: 50p or more rounds up.
- Estimate before calculating and compare. If they are far apart, look for a decimal point error first.
- Check answers with the inverse: subtraction undoes addition and division undoes multiplication.

Common mistake	How to fix it
Rounding £7.49 to £8 because 9 is more than 5.	Look only at the pence. Cover the last digit with a card.
Writing 347 to the nearest 10 as 35.	Ask 'Is the answer about the same size as the start number?' and use a number line.
Keying £2.35 + £1.50 wrongly and accepting £17.35.	Always estimate first. £2 + £2 is about £4, so £17.35 cannot be right.
Leaving calculator money answers like 3.333333.	Practise reading the first two digits after the point and rounding to the nearest penny.

HANDS-ON IDEAS

- A real or mock supermarket shop with a £40 budget and price labels
- Number lines marked in tens, hundreds and pounds for rounding
- Calculators for checking with the inverse
- Fuel pump or till receipts with three decimal places

SUPPORT

Use number lines for every rounding question and start with whole pounds and nearest 10 only. A support assistant can keep a running estimate on a mini whiteboard during the shop.

STRETCH

Give learners a real weekly shopping list and a budget. Ask them to estimate, find the exact total and swap items to bring it under budget.

EVIDENCE

The will £40 be enough task gives evidence for carrying out calculations and for interpreting results, as learners estimate, check with the inverse and judge if the money is enough.

Topic 6: Reading scales

3-4 LESSONS

BEFORE YOU START

- Counting in 2s, 5s, 10s and 100s
- Knowing cm, m, ml, litres, g and kg
- Reading numbers below zero on a number line

KEY TEACHING POINTS

- Before reading any scale, work out what each small division is worth. Count the gaps between two numbered marks.
- On a ruler, start at the 0 mark. If an object starts elsewhere, take the start from the end.
- Read a measuring cylinder at eye level, at the bottom of the curved surface.
- On a thermometer, the further below zero, the colder: -4°C is colder than -2°C .
- Choose an instrument that measures the right thing and has small enough divisions for the job.

Common mistake	How to fix it
Measuring from the end of the ruler instead of from 0.	Put a coloured sticker on the 0 mark and line objects up with it.
Assuming every division is worth 1.	Before reading, write the value of one division beside the scale.
Finding the difference between 6°C and -3°C as 3 degrees.	Count up through zero on a vertical number line.
Comparing 1.2 kg with 950 g by the numbers alone.	Change both to the same unit first, writing the conversion beside each.

HANDS-ON IDEAS

- Rulers, tape measures and everyday objects to measure in cm and mm
- Measuring jugs, cylinders and water with food colouring
- Kitchen scales (dial and digital) with bags of rice or flour
- Thermometers in cups of ice, cold and warm water for the salt and ice investigation

SUPPORT

Start with scales that go up in ones, then twos, before fives and tens. Pair each worksheet scale with the real instrument so learners can handle it.

STRETCH

Run the salt and ice investigation for real, recording readings every 5 minutes, and ask learners to explain any readings that did not match the book.

EVIDENCE

The salt and ice results sheet gives the best evidence for recording measurements from a scale. The compare and choose questions support interpreting measurements.

Topic 7: Making decisions

3-4 LESSONS

BEFORE YOU START

- Adding, subtracting and multiplying money
- Reading 24-hour times and finding time intervals
- Converting m to cm, kg to g and litres to ml

KEY TEACHING POINTS

- Every decision has three steps: work it out, compare, then decide. Insist the decision is written as a sentence.
- For best deals, cost each option fully, as in separate tickets against the £50 family ticket, then find the saving.
- When checking a budget, also find what is left over. It shows whether anything else is affordable.
- For bus choices, count back from the arrival time and include walking time to the stop.
- Change measurements to the same unit before comparing: 1.35 m becomes 135 cm.

Common mistake	How to fix it
Giving a number with no decision, such as '£60 and £50'.	Use a sentence starter: 'They should choose ... because ... saving ...'.
Forgetting a booking fee or walking time.	Highlight every number in the question and tick each one once it has been used.
Comparing 400 mm with 45 cm as numbers.	Write a conversion box (10 mm = 1 cm, 100 cm = 1 m) above the working.
Choosing a bus that arrives after the deadline.	Use a time line with the deadline marked in red and count back.

HANDS-ON IDEAS

- Real leisure centre or attraction price lists and local bus timetables
- A tape measure and height chart to check ride height limits
- Bags, a box and kitchen scales to test the cool bag weight limit
- Lengths of rope or string to compare with a 2 m target

SUPPORT

Give a simple decision frame with three boxes: work it out, compare, decide. Use whole pounds and o'clock or half past times at first.

STRETCH

Plan a real class day out with a set budget, using actual prices and timetables, and justify every choice in writing.

EVIDENCE

The plan the day out task gives the best evidence for making decisions from measurements or calculations. The money questions also support using correct notation and units.

Topic 8: Tables and graphs

2-3 LESSONS

BEFORE YOU START

- Reading scales that go up in 1s, 2s and 5s
- Reading rows and columns in a simple table
- Comparing and ordering numbers

KEY TEACHING POINTS

- Check the title, units and scale before reading any value from a table or graph.
- In tables, find the column first, then the row. Units matter: 3 km is further than 200 m.
- In pictographs, read the key before counting. A half picture shows half the key value.
- Use a ruler to go up from the month and across to the scale on bar charts and line graphs.
- Line graphs show change over time. Describe it in words: rises, falls, stays the same.

Common mistake	How to fix it
Counting pictograph symbols as 1 each when the key says 2 or 5.	Write the key value beside each row and count in that step.
Reading a bar between gridlines as the line below.	Lay a ruler across the top of the bar and count the small divisions.
Ignoring units in a table, so 3 km seems closer than 200 m.	Highlight the units in the column heading before answering.
Choosing a pitch or week without giving a reason.	Ask learners to quote one fact from the table or plan in every answer.

HANDS-ON IDEAS

- Real holiday brochures or campsite websites with price tables
- Local weather forecasts and Met Office average temperature charts
- A campsite or school plan with a key, drawn large on the board
- Rulers and sticky notes for marking readings on graphs

SUPPORT

Use one graph type per lesson and enlarge graphs to A3. A support assistant can point to the axis while the learner traces with a finger.

STRETCH

Ask learners to collect real weather data for a week, draw a line graph and use it to choose the best day for an outdoor activity.

EVIDENCE

The choose the holiday task gives the best evidence for extracting data from tables and graphs and for making a decision based on that data.

Topic 9: Probability

2-3 LESSONS

BEFORE YOU START

- Simple fractions such as one half and one quarter
- Changing simple fractions to decimals and percentages
- Counting outcomes on a dice or spinner

KEY TEACHING POINTS

- Build the word scale first: impossible, unlikely, even chance, likely, certain. Link each to an example from the book.
- On the 0 to 1 scale, unlikely sits below one half and likely sits above it.
- Probability equals the number of ways it can happen divided by the total number of outcomes.
- A probability can never be more than 1 or 100%. A bigger answer means a mistake.
- Decisions use the bigger chance, but likely events can still fail to happen. Discuss why a 90% chance can go wrong.

Common mistake	How to fix it
Thinking a 6 is harder to roll than other numbers.	Roll a dice 30 times as a class and tally the results.
Writing 1 in 3 for a spinner with 1 part out of 4.	Count all the outcomes for the bottom number, pointing to each part.
Treating unequal spinner sections as equal chances.	Use spinners with equal parts first and compare with a spinner that has one large section.
Saying a game is fair because it is fun or easy.	Define fair as equal chances to win and lose, then check Mia's spinner.

HANDS-ON IDEAS

- Dice, coins and paper clip spinners for experiments
- Bags of coloured counters or cubes for picking without looking
- A washing line probability scale with peg cards for events
- Real weather forecasts showing percentage chance of rain

SUPPORT

Stick with chance words and equal-part spinners before introducing fractions. Let learners physically pick counters from a bag to see the chances.

STRETCH

Design and test a fundraiser game with a set chance of winning, then work out how much it would raise for every 20 players.

EVIDENCE

The design a game for the fundraiser task and the making decisions practice give the best evidence for making decisions based on probability.