

## Strand 1: Numbers and the number system

### Topic 1.1: Place value, ordering and rounding (whole numbers)

#### Teacher resources

Selection of two- three- and four-digit number cards.

#### Numbers to use

0–10 000.



#### 1. Digit value

##### What to do:

- ⇒ Give each child a number card.
- ⇒ Ask individuals to stand up, show their card and
  - read out the number
  - say how many units, tens, hundreds, thousands it has
  - say the value of one of the digits, e.g. the 4 of 2345
  - add/subtract 1, 10, 100, 1000.

##### Variation:

Restrict the numbers to 0–500. Say: **Stand up if your number is 300, rounded to the nearest 100.** Ask each child one of the above questions.

#### Teacher resources

Selection of two- and three-digit number cards.

#### Numbers to use

0–1000.



#### 2. Roundabouts

##### What to do:

- ⇒ Give each child a number card. Say: **Stand up if your number is 300, rounded to the nearest 100.**
- ⇒ Ask the children to round their numbers to the nearest 10.

##### Variations:

Restrict the numbers to 0–500 or 500–1000.

Children form groups of numbers that round to the same multiple of 100.

#### Numbers to use

1–100.



#### 3. Spot the multiple of 10

##### What to do:

- ⇒ Write various numbers between 1 and 100 randomly on the board. Point to each number. Children determine which multiple of 10 is closest to it.

#### Teacher resources

Cards showing tens, hundreds, forwards and backwards.

#### Numbers to use

0–1000.



#### 4. Different steps

##### What to do:

- ⇒ Write a starting number on the board, e.g. 34.
- ⇒ Say: **I want you to count from 34 in the steps of the card that I hold up.**
- ⇒ Hold up one of the cards and children start counting. Then change the card. Children change the counting accordingly.

## Topic 1.1: Place value, ordering and rounding (whole numbers)

**Numbers to use**  
0–10 000.



### 5. Getting larger

**What to do:**

- ➞ Write 1234 on the board. Say: **Gerald, tell me a number larger than 1234.**
- ➞ Write the number underneath 1234.
- ➞ Ask: **Mary, why is Gerald's number larger than 1234?** (greater number of units, tens, hundreds or thousands)
- ➞ Continue adding numbers of increasing size until you reach around 10 000. If necessary, decrease the new number by saying: **That's too big. Can you think of another number larger than 1234?** Or increase the new number by asking: **Can you think of an even larger number?**

**Variation:**

Start with 9876 and ask for smaller numbers.

**Pupil resources**  
Pencil and paper per child.

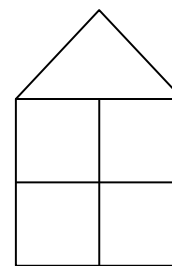
**Numbers to use**  
1–1000.



### 6. Housey housey

**What to do:**

- ➞ Children draw this diagram, and in each 'room' write a number between 1 and 1000.
- ➞ Say: **If I say a statement that fits in with one of your numbers cross it out.**
- ➞ Call out statements about the hundreds, tens and units digits. Say: **Cross out a number if it has 4 units/7 tens/5 hundreds**, etc.
- ➞ When a child has crossed out all their numbers they call 'House!'.



**Numbers to use**  
1–10 000.



### 7. Tens division

**What to do:**

- ➞ Write 7 on the board. Say: **Multiply by 10. What's the answer?** Add a 0 to make 70. Ask: **Who can multiply by 10 again?** Invite a child to add another 0. Ask: **What's the answer?** Continue to 7 000.
- ➞ Continue by dividing by 10, rubbing out a 0 each time.
- ➞ Repeat, multiplying and dividing by 100.
- ➞ Repeat, starting with different numbers, e.g. 2400 (start by dividing), 670 (start by multiplying).
- ➞ Multiply or divide by 10 or 100.

**Variation:**

Show the class a number card, e.g. 230 and say: **Lara, what is this number? Paul, divide it by 10. Juan, multiply it by 100** etc.

## Topic 1.1: Place value, ordering and rounding (whole numbers)

**Teacher resources**  
< sign. Blu-tack.

**Numbers to use**  
0–1000.



### 8. Inequalities 1

#### What to do:

- ➡ Arrange the class so they are facing the board. Write two numbers on the board in a row, with a space for the inequality sign. Ask: **Which is the smallest/largest number? How do you know?** (e.g. 534 has more hundreds than 267). **Salma, put the inequality sign the correct way around.**

#### Variation:

Blu-tack a pair of number cards to the board in a row. Invite a child to place the inequality sign in between the numbers. Remove the sign, swap the numbers over and invite another child to place the inequality sign.

**Teacher resources**  
Two- three- and four-digit number cards. < sign. Blu-tack.

**Numbers to use**  
0–1000



### 9. Inequalities 2

#### What to do:

- ➡ Give out number cards to two thirds of the class and < signs to the rest.
- ➡ Groups of three children come to the front of the class and arrange themselves to make an inequality. They read out their inequality, e.g.  $234 > 12$ .
- ➡ They make another inequality with the sign reversed, e.g.  $12 < 234$ , and read it out.

**Teacher resources**  
–20 to 20 number cards.

**Numbers to use**  
–20 to 20.



### 10. Negative comparisons

#### What to do:

- ➡ Arrange the class in a U-shape. Distribute the number cards.
- ➡ Draw a number line from –20 to 20 on the board, if necessary.
- ➡ Say: **Hold your card up if you have a negative/positive number. Whose number is neither positive or negative? (0) Whose number is less than/more than –2, 14, 0?**
- ➡ Say: **Stand up Valerie and Xienh. Which number is smallest/largest?**
- ➡ Use the number line to demonstrate these comparisons, if necessary.

#### Variations:

Ask three children to stand at the front. Ask: **Which is the smallest/largest number?**

Give out –5 to 5 number cards to 11 children. Ask them to stand at the front. Ask: **Which is the smallest number?** That child moves to the left, and so on. Change the range of numbers.

## Topic 1.2: Properties of numbers and number sequences

### Teacher resources

Drum (optional).

### Numbers to use

To at least 100.



### 11. Counting in steps

#### What to do:

- ➞ Say any start number between 0 and 100.
- ➞ Say or write +3, +4 or +5 on the board.
- ➞ Children count on from the start number in the steps indicated until you clap your hands or beat a drum, e.g. **Start at 45. Count in steps of 3: 45, 48, 51, 54, 57, 60, ... 81.**
- ➞ Repeat, counting backwards in steps of 3, 4, or 5 from any given number.

#### Variation:

Use a larger range of numbers, e.g. numbers up to 200.

### Pupil resources

Paper and pencil.

### Numbers to use

To at least 100.



### 12. Add 11

#### What to do:

- ➞ Children draw a 3 by 3 grid and write a number between 30 and 60 in each square.
- ➞ Write 11 on the board.
- ➞ Call out a number between 19 and 49. Children add on 11 to the number called.
- ➞ They cross out their number if it matches the answer.
- ➞ The winner is the first person to cross out all of their numbers.

#### Variations:

Use different-sized grids.

Use different number ranges.

### Numbers to use

To at least 1000.



### 13. Crazy counting

#### What to do:

- ➞ Children chant numbers in increasingly complex jumps, e.g. Say: **Count in 2's.** At 30, say: **Continue counting in 5's.** At 80, say: **Count back in 10's.** etc.

#### Variation:

Begin counting on or back in given steps from a number that is not a multiple of the given number, e.g. count in 3s from 25.

## Topic 1.2: Properties of numbers and number sequences

**Numbers to use**  
To at least 100.



### 14. Number sequences

#### What to do:

- ➡ Write some number patterns on the board with some information missing. Examples could include addition or subtraction with constant differences e.g. 2, 3, 5, 6, 8, 9, 11, \_, \_, \_, \_.
- ➡ Or build up using the numbers in the pattern, e.g. 3, 6, 9, 15, 24, \_, \_.

**Numbers to use**  
Multiples of 25 to at least 500. Multiples of 50 to at least 1000. Multiples of 100 to at least 1000.



### 15. Counting in multiples of 25, 50 and 100

#### What to do:

- ➡ Count in multiples of 50 to 500 and beyond to 1000.
- ➡ Start at various numbers e.g. 50, 150, 350 and continue to 1000.
- ➡ Count in multiples of 100 to 1000.
- ➡ Start at various numbers e.g. 400, 700, 500 and continue to 1000 and beyond to 2000.
- ➡ Count in multiples of 25 to 500.
- ➡ Start at various numbers e.g. 75, 225, 350 and continue to 500 and beyond to 1000.

#### Variations:

Count individually around the classroom.

Count backwards as well as forwards from given numbers.

**Pupil resources**  
Paper and pencil.

**Numbers to use**  
To at least 500.



### 16. Add 25

#### What to do:

- ➡ Children draw a 3 by 3 grid and write a multiple of 25 between 25 and 500 in each square.
- ➡ Write +25 on the board.
- ➡ Call out a multiple of 25 between 0 and 475. Children add on 25 to the number called.
- ➡ Children cross out their number if it matches the answer.
- ➡ The winner is the first person to cross out all of their numbers.

#### Variation:

Use different-sized grids.

## Topic 1.2: Properties of numbers and number sequences

### Teacher resources

Blank die marked -25, -25, -25, +25, +25, +25. Selection of multiple of 25 cards between -50 and 450.

### Numbers to use

-100 to at least 500.



### 17. Counting in 25s

#### What to do:

- ➡ Children count from a given number up to 500 or back to -100 in multiples of 25.
- ➡ Shuffle the set of multiple of 25 cards. Hold up one card at a time, e.g. 75.
- ➡ One child throws the die to indicate whether to count forwards or backwards in 25s, e.g. -25.
- ➡ Children count in 25s from 75 back to -100.
- ➡ The die is then passed on to the next child and the sequence is repeated.

#### Variation:

Extend the number range.

### Pupil resources

2 different coloured cards per child: one representing odd numbers, one representing even numbers.

### Numbers to use

To 1000.



### 18. Odd or even?

#### What to do:

- ➡ Tell the children that one coloured card represents odd numbers and the other represents even numbers.
- ➡ Call out a number between 1 and 1000. Children decide whether it is odd or even and hold up the appropriate colour card.

#### Variation:

Use higher or lower numbers depending on ability.

### Pupil resources

Paper and pencil.

### Numbers to use

To at least 1000.



### 19. Odd and even bingo

#### What to do:

- ➡ Children fill in a 3 by 4 grid with any numbers between 450 and 500.
- ➡ Call out either 'odd' or 'even' in random order (keep a written record for checking purposes).
- ➡ Children cross out numbers that are odd or even as called. The first child to cross out the whole grid is the winner.

#### Variation:

Use different number ranges, e.g. 850-900; 320-360.

## Topic 1.2: Properties of numbers and number sequences

**Numbers to use**  
To at least 100.



### 20. Fizz buzz

#### What to do:

- ⇒ Children count in unison. When a multiple of 2 is reached the word fizz is substituted for the number name e.g. 1, fizz, 3, fizz, 5, fizz, 7 ...
- ⇒ Extend this to include buzz when a multiple of 5 is reached e.g. 1, fizz, 3, fizz, buzz, fizz, 7 ...

#### Variations:

Change the multiples used.

Count individually around the classroom.

**Pupil resources**  
0–9 number cards.

**Numbers to use**  
Multiples of 2, 3, 4, 5, 10.



### 21. Multiples of ...

#### What to do:

- ⇒ Each child has a set of 0–9 cards.
- ⇒ Ask multiple questions such as: **Show a number that is a multiple of 4. Show a multiple of 3 that is an odd number. Show a multiple of 5 larger than 40.**
- ⇒ Use two cards together to represent two-digit numbers.

## Topic 1.3: Fractions and decimals

### Teacher resources

Cards with fractions written using words on one side, figures on the other, e.g.  $\frac{3}{4}$  and three quarters.

### Numbers to use

Halves, thirds, quarters, fifths, eighths, tenths.



### 22. Name the fraction

#### What to do:

- ➞ Show a fraction written using figures to the class, e.g.  $\frac{3}{4}$  and ask: **How do you say this fraction?** Turn the card over.
- ➞ Show a fraction written using words to the class, e.g. five eighths, and ask: **Who can write this fraction on the board using figures?**

#### Variation:

Incorporate mixed fractions, e.g.  $3\frac{2}{5}$  and three and two fifths.

### Numbers to use

Halves, thirds, quarters, fifths, tenths.



### 23. Fraction facts

#### What to do:

- ➞ Invite a girl and boy to the front. Ask the class: **What fraction of these children are boys?** ( $\frac{1}{2}$ ) **Who can write  $\frac{1}{2}$  on the board using words/figures?**
- ➞ Invite a third child to the front. Repeat the questions.
- ➞ Increase the number of children to 4, 5 then 10. Repeat the questions.

#### Variation:

Ask different questions, such as: **What fraction of these children wear glasses?**

### Numbers to use

Halves, thirds and quarters; multiples of 2, 3, 4 to 40.



### 24. Board fractions

#### What to do:

- ➞ Write about 15 multiples of 2, 3 and 4 on the board, e.g. 2, 3, 4, 6, 8, 9, 12, 15, 16, 18, 20, 24, 28, 30, 36.
- ➞ Point to a number and ask: **What is half/third/quarter of this number?**
- ➞ Ask: **Which number is half of 30? ... a third of 15? ... a quarter of 24?**

#### Variation:

Use fractions  $\frac{1}{5}$ ,  $\frac{1}{10}$ ,  $\frac{1}{100}$  with multiples of 5, 10, 100 and 1000.

### Teacher resources

Rectangles with different amounts coloured red.



### Numbers to use

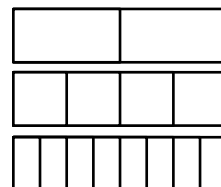
Halves, quarters, eighths.



### 25. Estimating fractions

#### What to do:

- ➞ Draw these fraction bars on the board for reference.



- ➞ Hold up a rectangle and say: **Estimate the fraction that is coloured. What fraction is not coloured?**

#### Variation:

Draw identical rectangles on the board. (draw around a rectangular piece of cardboard) Invite children to colour various fractions, e.g.  $\frac{1}{2}$ ,  $\frac{2}{3}$ ,  $\frac{1}{4}$ ,  $\frac{3}{5}$ ,  $\frac{7}{8}$ ,  $\frac{3}{10}$ .



## Topic 1.3: Fractions and decimals

### Teacher resources

Cards with fraction facts on one side, e.g.  $\frac{1}{3}$  of 15 is 5, and the corresponding division facts on the other, e.g.  $15 \div 3 = 5$ , made by sticking RCM 2, Fraction facts and RCM 3, Division facts, back to back.

### Numbers to use

Halves, thirds, quarters, fifths, tenths, hundredths; multiples of 2, 3, 4, 5 up to 50; multiples of 10, 100, 1000.

### Teacher resources

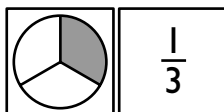
Fraction number cards. Blu-tack.

### Numbers to use

Halves, thirds, quarters, fifths, sixths, sevenths, eighths, ninths, tenths.

### Teacher resources

Cards showing a fraction picture on one side, the numerical fraction on the other.



### Numbers to use

Halves, thirds, quarters, fifths, sixths, eighths, tenths.



## 26. Fraction and division facts

### What to do:

- ➡ Show a fraction fact to the class, e.g.  $\frac{1}{4}$  of 20 is 5 and ask: **What is the division fact?** Turn the card over, e.g.  $20 \div 4 = 5$ .
- ➡ Show a division fact and ask for the corresponding fraction fact.
- ➡ Write the first few facts on the board, in pairs, as a demonstration.

### Variation:

Give half the class some fraction facts and the other half the corresponding division facts. Ask a child to stand, read and show their fact. The person with the corresponding fact stands, reads and shows their fact.



## 27. Making wholes

### What to do:

- ➡ Hold up a fraction number card, e.g.  $\frac{3}{5}$  and ask: **How do you say this fraction?** (three fifths) **How many more fifths to make a whole?** (two)

### Variation:

Blu-tack a random arrangement of five pairs of fractions that total 1, e.g.  $\frac{2}{5}$  and  $\frac{3}{5}$ . Point to a fraction and ask: **Which other fraction makes a whole with this one?** Repeat with another five pairs. Ask: **Who can see two fractions that make a whole?**



## 28. Compared to a half

### What to do:

- ➡ Show the class a fraction picture. Ask: **What fraction is red?** Turn the card over and ask: **Is it less than, greater than or equal to a half?** Repeat.
- ➡ Repeat, showing the numerical fraction first.

### Variation:

Give each child a fraction card. Children form three groups: less than a half, greater than a half, equal to a half.

## Topic 1.3: Fractions and decimals

### Numbers to use

Decimals. (to one decimal place)



### 29. Decimal order

#### What to do:

- ➞ Write a decimal on the board, e.g. 4.6. Ask: **What does the 6 stand for? How many units/tenths are there?**
- ➞ Write two numbers on the board. Ask: **Which number is largest? How do you know?** (e.g. 3.8 has more tenths than 3.5)
- ➞ Write three numbers on the board. Write 'Smallest' and 'Largest' labels underneath. Ask: **Which is the largest number?** Rub it out and write it beneath the 'Largest' label. Ask: **Which is the next largest?** Order the decimals from smallest to largest.

#### Variation:

Draw a number line from 4 to 6 with divisions for tenths. Write ten decimals between 4 and 6 randomly to the left. Invite children to rub out a number and write it on the number line.

### Numbers to use

0–10 000.



### 30. Pounds and pence

#### What to do:

- ➞ Write a decimal amount of money on the board, e.g. £2.56. Ask: **How many pence is this?**
- ➞ Write an amount of money in pence, e.g. 208p and ask: **How much money is this in pounds and pence?** (£2.08)
- ➞ Write two amounts on the board, e.g. 87p and £1.24. Ask: **Which is the greater amount?** Repeat for three amounts, e.g. £0.28, £2.80, 82p. Repeat for four amounts.

#### Variation:

Children take a handful of coins from a bucket of £1, 10p and 1p coins. They write the amount on the board in pounds and pence and convert it to pence.

### Teacher resources

Bag of interlocking cubes.

### Numbers to use

0–1000.



### 31. In the bag

#### What to do:

- ➞ Show the class the bag and say: **This bag has coloured cubes. One out of ten is red. How many out of 20/40/100 are red?**
- ➞ Shake the bag and say: **Now one out of four cubes are red. How many out of 8/16/20/40/400 are red?**
- ➞ Repeat for other proportions.

#### Variation:

Say: **There is one red cube for every two blue cubes. How many red cubes for 4/8/14/20/100 blue cubes?**

## Strand 2: Calculations

### Topic 2.1: Addition

**Teacher resources**  
0–10 number cards.  
Blu-tack.

**Numbers to use**  
1 to 100.



#### 32. Make the number – addition

**What to do:**

- ➞ Say: *I am going to shuffle the cards and pick 4.*
- ➞ Blu-tack the four chosen cards to the board.
- ➞ Write 100 on the board. Say: *This is your target number. Using the four cards make an addition calculation of two two-digit numbers with the answer as close to 100 as possible.*
- ➞ Record children's responses on the board. Ask the child who got the closest answer to explain how they worked it out.

**Variation:**

Vary the target number.

**Teacher resources**  
10–99 number cards.  
Blu-tack.

**Numbers to use**  
0–100.



#### 33. Add them up

**What to do:**

- ➞ Turn over the top two cards. Blu-tack them to the board, making an addition calculation involving two two-digit numbers, e.g.  $27 + 36$ .
- ➞ Ask the class to work out the answers mentally.
- ➞ Repeat with other cards.

**Teacher resources**  
0 to 30 cards.

**Numbers to use**  
1 to 100.



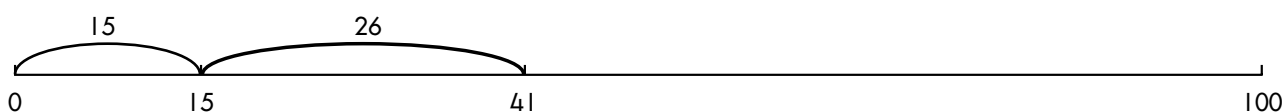
#### 34. Race to 100

**What to do:**

- ➞ Arrange the class into two teams.
- ➞ Draw two empty number lines on the board with 0 at one end and 100 at the other. Label each number line with the team's name e.g. Team A, Team B.
- ➞ Turn over the top card e.g. 15 and show it to Team A. They move that far along the number line. Repeat for team B.
- ➞ Turn over the next card e.g. 26 and show it to Team A. They add the number onto their current position on the number line i.e.  $15 + 26$ . Repeat for Team B. Continue until a team passes 100.
- ➞ For each turn invite someone from the team to record their move on the number line. It can be recorded as one jump or as several jumps showing their method of working.

**Variation:**

Make the number at the end of the number line 200 and use 0 to 50 cards.



## Topic 2.1: Addition

**Numbers to use**  
1 to 100.



### 35. Make the pair 1

**What to do:**

- ➞ Write all the multiples of 5 to 100 in random order on the board.
- ➞ Say: **When I point to one of the multiples of 5 I want you to answer with the multiple of 5 that goes with it to make 100. So if I point to 5 you say 95.**
- ➞ Begin by asking the whole class and then ask individuals.
- ➞ Encourage quick responses.

**Numbers to use**  
0 to 10.



### 36. Facts round the class 1

**What to do:**

- ➞ Arrange the class in a circle.
- ➞ Write on the board a number that the class need to practise the addition facts for up to 10, e.g. 9.
- ➞ Say: **The person sitting next to you is going to say a number between 0 and 9 to you. You reply with the number that goes with it to equal the number on the board.**
- ➞ You say a number to the first child to start. They answer and then turn to the next child and say a different number. Continue round the circle.
- ➞ Repeat for the two other numbers.

**Numbers to use**  
0–20.



### 37. Facts round the class 2

**What to do:**

- ➞ Arrange the class in a circle.
- ➞ Write on the board a number that the class need to practise the addition facts for up to 20, e.g. 17.
- ➞ Say: **The person sitting next to you is going to say a number between 0 and 17 to you. You reply with the number that goes with it to equal the number on the board.**
- ➞ You say a number to the first child to start. They answer and then turn to the next child and say a different number. Continue round the circle.
- ➞ Repeat for other numbers.
- ➞ If children are very unsure of the facts, write them on the board. Tell the class only to look at them if they need to.

## Topic 2.1: Addition

**Numbers to use**  
0 to 100.



### 38. Facts round the class 3

**What to do:**

- ➡ Arrange the class in a circle.
- ➡ Write 100 on the board.
- ➡ Say: **The person sitting next to you is going to say a number from 0 to 100, e.g. 73 to you. You reply with the number that goes with it to equal 100 i.e. 27.**
- ➡ You say a number to the first child to start. They answer and then turn to the next child and say a different number. Continue round the circle.

**Numbers to use**  
1–1000.



### 39. Make the pair 2

**What to do:**

- ➡ Write all the multiples of 50 to 1000 in random order on the board.
- ➡ Say: **When I point to one of the multiples of 50 I want you to answer with the multiple of 50 that goes with it to make 1000. So if I point to 50 you say 950.**
- ➡ Begin by asking the whole class and then ask individuals.
- ➡ Encourage quick responses.

**Numbers to use**  
0–1000.



### 40. Facts round the class 4

**What to do:**

- ➡ Arrange the children in a circle.
- ➡ Write 1000 on the board.
- ➡ Say: **The person sitting next to you is going to say a multiple of 100 to you. You reply with the multiple of 100 that goes with it to equal 1000.**
- ➡ You say a number to the first child to start. They answer and then turn to the next child and say a different number. Continue round the circle.

## Topic 2.2: Subtraction

**Teacher resources**  
0 to 10 number cards.  
Blu-tack.

**Numbers to use**  
1 to 100.



### 41. Make the number – subtraction

**What to do:**

- ➡ Say: **I am going to shuffle the cards and pick 4.**
- ➡ Blu-tack the four chosen cards to the board.
- ➡ Write 50 on the board. Say: **This is your target number. Using the four cards make a subtraction calculation of two two-digit numbers with the answer as close to 50 as possible.**
- ➡ Record children's responses on the board. Ask the child who got the closest answer to explain how they worked it out.

**Variation:**

Vary the target number.

**Numbers to use**  
0–100.



### 42. In your head

**What to do:**

- ➡ Write a two-digit number on the board.
- ➡ Say: **I am going to call out subtraction operations. I want you to subtract them from the number on the board. I will call out two operations, do them both before saying the answer.**
- ➡ Call out: **Minus 4**, wait 30 seconds and then call out: **Subtract 7**.
- ➡ Repeat with other operations.
- ➡ Change the starting number.

**Variation:**

Call out three/four operations.

**Teacher resources**  
10–99 number cards.  
Blu-tack.

**Numbers to use**  
0–100.



### 43. Take them away

**What to do:**

- ➡ Turn over the top two cards. Blu-tack them to the board, making a subtraction calculation involving two two-digit numbers, e.g.  $45 - 27$ .
- ➡ Ask the class to work out the answers mentally.
- ➡ Repeat with different cards.

## Topic 2.3: Addition or subtraction

Numbers to use  
1–20.



### 44. True or false?

#### What to do:

- ⇒ Call out addition and subtraction facts for numbers to 20 including the answer e.g:  $5 + 7 = 12$ ,  $18 - 9 = 9$ . Include some facts that are false e.g:  $7 + 12 = 15$ ,  $20 - 5 = 14$ .
- ⇒ After you have said each fact children respond with true or false.
- ⇒ Start by asking for a class response then ask individuals.

#### Variation:

Each child has true and false cards to hold up.

Numbers to use  
1 to 20.



### 45. Name the fact

#### What to do:

- ⇒ Arrange the class in a circle standing up.
- ⇒ Write a number between 10 and 20 on the board.
- ⇒ Say: **Think of an addition or subtraction fact with this number as the answer.**
- ⇒ Go round the class asking individuals to say the fact they have thought of. Record the facts on the board.
- ⇒ If a child cannot think of a different fact then they are out and sit down.

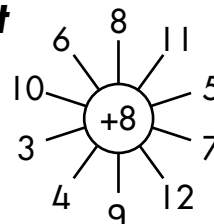
Numbers to use  
0–20.



### 46. Call it out

#### What to do:

- ⇒ Draw this diagram on the board.



- ⇒ Say: **When I point to one of these numbers I want you to add 8 to it.**
- ⇒ Point quickly, returning frequently to numbers children are not sure of.
- ⇒ Begin by asking the whole class then ask individuals.
- ⇒ Change the operation.

#### Variation:

Use subtraction operations.

## Topic 2.3: Addition or subtraction

### Teacher resources

2 x 0–9 dice (where the 0 represents 10).

### Pupil resources

Paper and pencil per child.



### 47. Addition or subtraction bingo

#### What to do:

- ➞ Ask children to write three numbers between 2 and 20.
- ➞ Throw the dice and call out the two numbers. Children add them together and if the total is one of their numbers they cross it out.
- ➞ Continue until a child has crossed out all three numbers.

#### Variation:

Play subtraction bingo.

### Numbers to use

To at least 100.



### 48. Number chains

#### What to do:

- ➞ Ask the children to close their eyes and concentrate. Call out a string of numbers for them to add together mentally. Begin with easy examples e.g. **5 add 5 add 10 equals ...** Progress to more difficult and longer additions e.g. **7 add 10 add 5 add 4 add 3 equals ...**

#### Variations:

Start at a higher number e.g. 100 and repeatedly subtract numbers.  
Use addition and subtraction in the same number chain.

### Numbers to use

1 to 1000.



### 49. What's my number?

#### What to do:

- ➞ Say: **I am thinking of a number and if I add 10 to it the answer is 54. What's my number?**
- ➞ Invite a child to explain how they worked it out.
- ➞ Repeat with different questions. Use three-digit numbers as appropriate, e.g. **I am thinking of a number and if I add 60 the answer is 237.**

#### Variation:

Subtract from the number you are thinking of.

### Numbers to use

1–100.



### 50. Add on and take away 1

#### What to do:

- ➞ Arrange the class in a circle.
- ➞ Write add 6, take away 2 on the board. Say: **We are going to start from 0. The first person adds 6 and the next person takes away 2, the third person then adds 6 to the new total and so on round the circle.**
- ➞ Encourage quick answers.
- ➞ Repeat with a different rule e.g. add 8, take away 5.

#### Variation:

Start from a number other than zero.



## Topic 2.3: Addition or subtraction

**Numbers to use**  
1–1000.



### 51. Add on and take away 2

**What to do:**

- ➞ Arrange the class in a circle.
- ➞ Write add 50, take away 20 on the board. Say: **We are going to start from 0 the first person adds 50 and the next person takes away 20, the third person then adds 50 to the new total and so on round the circle.**
- ➞ Encourage quick answers.
- ➞ Repeat with a different rule e.g. add 90, take 40.

**Variations:**

Start from a number other than zero.

Start from a number that is not a multiple of 10.

**Teacher resources**  
0–100 number cards.  
Blu-tack.

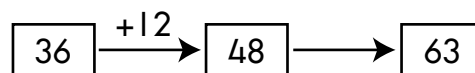
**Numbers to use**  
1–100.



### 52. What's the jump?

**What to do:**

- ➞ Shuffle the cards and pick five randomly. Blu-tack them to the board in order and draw lines connecting the numbers.
- ➞ Say: **What is the jump from the first number to the second?** Record the jump as an addition above the line.



- ➞ Repeat for the jumps between the other numbers.
- ➞ Repeat with different number cards.

**Variation:**

Order the cards from largest to smallest and record the jumps as subtraction.

## Topic 2.4: Multiplication

### Pupil resources

Paper and pencil.

### Numbers to use

Multiplication facts for the 2, 3, 4, 5, 10 times tables.



### 53. Quick facts bingo

#### What to do:

⇒ Children draw a grid of a specified size e.g. 3 by 3 squares. They fill the squares with numbers that are multiples of 2, 3, 4, 5, and 10. You call out number facts from these times tables. Children work out the answer and cross out any corresponding numbers. The first child to complete the whole grid is the winner.

⇒ Ensure you keep a note of the answers to check.

#### Variations:

Play for a line (across or down) instead of the whole grid.

Vary the size of the grid.

Use fewer times tables.

### Numbers to use

Multiplication facts for the 2, 3, 4, 5, 10 times tables.



### 54. Multiplication grid

#### What to do:

⇒ Draw a 5 by 9 grid on the board.

⇒ Write the multiplication symbol in the top left-hand corner.

⇒ Write the times tables you have covered down the left-hand column.

⇒ Write the numbers they are to be multiplied by, randomly along the top row.

⇒ Individual children choose a multiplication fact they can answer and write the answer in the correct position on the grid.

### Teacher resources

Blank die labelled 1, 2, 3, 4, 5, 10.

### Numbers to use

Multiplication facts for the 2, 3, 4, 5, 10 times tables.



### 55. Find the multiple – multiplication

#### What to do:

⇒ Draw a 5 by 5 grid on the board. Write multiples of 2, 3, 4, 5 and 10 at random.

⇒ Divide the class into two teams.

⇒ Choose a different colour chalk/pen to represent each team.

⇒ Throw the die.

⇒ Children from each team, in turn, find a multiple of the number thrown and say the corresponding number fact, e.g. die lands on 3, number on board is 12, child says  $3 \times 4 = 12$ .

⇒ If they are correct, the number is crossed off for their team.

⇒ The team with the most crosses is the winner.

#### Variation:

Use a die with different numbers and write corresponding multiples on the board.

## Topic 2.4: Multiplication

### Teacher resources

0–9 or 1–12 die.

### Pupil resources

Paper and pencil.

### Numbers to use

Multiplication facts for the 4 times table



### 56. Multiples of 4 lottery

#### What to do:

- ➡ Children write down three numbers that are multiples of four between 0 and 36 for the 0–9 die or 4 and 48 for the 1–12 die.
- ➡ Walk around the class and throw the die in front of each child. The child multiplies the number thrown by 4 and calls out the multiplication fact and answer to the rest of the class, e.g.  $6 \times 4 = 24$ .
- ➡ If the answer called corresponds to one of the lottery numbers written, the number is crossed out.
- ➡ The winner is the first child to cross out all three numbers.

#### Variations:

Write the multiples of four on the board before playing.

Vary the number of numbers written, e.g. write 5 numbers.

### Teacher resources

0–9 die (where 0 represents 10).

### Pupil resources

Set of multiples of 7 cards, per child.

### Numbers to use

7–70.



### 57. Multiples cards

#### What to do:

- ➡ Each child has a set of cards for the multiples of 7 in front of them.
- ➡ Throw a 0–9 die (where the 0 represents 10) and call out the number, e.g. 4.
- ➡ Children multiply this number by 7 and hold up the product card, e.g. 28.

#### Variation:

Use different multiple cards for other multiplication facts.

### Numbers to use

Multiplication facts for the 9 times table.



### 58. Around the clock

#### What to do:

- ➡ Draw a large circle on the board. Write the numbers 12 to 11 around the inside, as on a clockface.
- ➡ Write  $\times 9$  in the centre of the circle.
- ➡ Children recite the times tables working their way around the clock.

#### Variations:

Point to numbers at random around the clockface.

Individual children recall the number facts.

Use different times tables.

## Topic 2.4: Multiplication

### Teacher resources

0–9 or 1–12 die (where 0 represents 10).

### Pupil resources

Paper and pencil.

### Numbers to use

Multiplication facts for the 6 times table.



### 59. Multiples of 6 lottery

#### What to do:

- ➞ Children write down three numbers that are multiples of six between 6 and 60 or 72, depending on the die being used. Walk around the class and throw the die in front of each child.
- ➞ The child multiplies the number thrown by 6 and calls out the multiplication fact and answer to the rest of the class, e.g.  $4 \times 6 = 24$ . If the answer called corresponds to one of the lottery numbers written, the number is crossed out.
- ➞ The winner is the first child to cross out all three numbers.

#### Variations:

Write the multiples of six on the board before playing.

Vary the number of numbers written, e.g. write 5 numbers.

### Teacher resources

Multiples of 8 number cards.

### Numbers to use

Multiplication facts for the 8 times table.



### 60. Multiples of eight

#### What to do:

- ➞ Shuffle the number cards.
- ➞ Invite children in turn to select a card and place it on the board so that the multiples of eight appear in the correct order.
- ➞ Point and say the multiples together 2–3 times.
- ➞ Remove one or two cards and recite the sequence together again from memory.
- ➞ Replace cards and repeat, removing other numbers.

#### Variations:

Remove one card at a time and say the whole sequence. Continue until all the cards have been removed.

Try multiples of 6/9

### Pupil resources

Paper and pencil. 0–9 die per pair.

### Numbers to use

Multiplication facts for the 11 times table.



### 61. Fill it up

#### What to do:

- ➞ Children draw a 3 by 3 grid each. They take turns to throw the die and multiply the number landed on by 11.
- ➞ They write the answer in the grid, and continue until each grid is full of numbers.
- ➞ Numbers cannot be repeated on the same grid.
- ➞ The first person to complete their grid is the winner.

#### Variation:

Use different times tables.

## Topic 2.4: Multiplication

**Numbers to use**  
Multiplication facts for  
the 10 times table.



### 62. Turning the tables

#### What to do:

- ➡ Write a multiplication fact on the board, e.g.  $4 \times 10 = 40$ .
- ➡ Ask questions that can be derived from this fact, such as: *What is 4 multiplied by 10? What is 10 multiplied by 4? What is 4 multiplied by 9? What is 4 times 11? What is the product of 4 and 10? How many times does 4 go into 36? What is one quarter of 40? I buy 11 apples costing 4p each what is the total cost?*

#### Variations:

Use different numbers.

Use a division fact.

Invite children to make up as many questions as possible from the given fact.

**Pupil resources**  
0–10 number cards per  
child.

**Numbers to use**  
One-, two- or three-  
digit numbers.



### 63. Partitioning

#### What to do:

- ➡ Each child has a set of 0 to 10 cards.
- ➡ Call out numbers from different place values, e.g. 30 and 100.
- ➡ Children make the number (i.e. 130) using their number cards and place them in front of them.

#### Variations:

Use two digit numbers only

Use a combination of two- and three-digit numbers.

**Numbers to use**  
To 50.



### 64. Tennis doubles

#### What to do:

- ➡ Work your way around the classroom. One child says a number between 1 and 50. The child next to them doubles that number. The next child chooses another start number, the child next to them doubles that number. Continue until all of the children have had a turn.

#### Variation:

Vary the range of numbers chosen e.g. use numbers 1–20 or extend to 100.

## Topic 2.5: Division

### Pupils resources

0–10 number cards.

### Numbers to use

Division facts corresponding to the 2, 3, 4, 5, 10 times tables.



### 65. Finding factors

#### What to do:

- ➞ Each child has a set of 0 to 10 cards. Call out a division fact e.g.  $35 \div 5$ .
- ➞ Children work out/recall what the answer is and hold up the appropriate number card i.e. 7.

#### Variations:

Use fewer times tables.

Concentrate on only one set of times tables.

### Teacher resources

Blank die labelled 1, 2, 3, 4, 5, 10.

### Numbers to use

Division facts corresponding to the 2, 3, 4, 5, 10 times tables.



### 66. Find the multiple – division

#### What to do:

- ➞ Draw a 5 by 5 grid on the board.
- ➞ Write multiples of 2, 3, 4, 5, and 10 at random.
- ➞ Divide the class into two teams
- ➞ Choose a different colour chalk/pen to represent each team.
- ➞ Throw the die.
- ➞ Children from each team, in turn, find a multiple of the number thrown and say the corresponding division fact, e.g. die lands on 3, number on board is 12, child says  $12 \div 3 = 4$ .
- ➞ If they are correct the number is crossed off for their team.
- ➞ The team with the most crosses is the winner.

#### Variation:

Use a die with different numbers and write corresponding multiples on the board.

### Numbers to use

0–100.



### 67. Halve me

#### What to do:

- ➞ Working around the classroom, one child says an even number between 10 and 50. The child next to them halves that number. The next child chooses another start number, the child next to them halves that number.
- ➞ Continue until all of the children have had a turn.

#### Variation:

Vary the range of numbers chosen e.g. use numbers to 200.

## Topic 2.5: Division

### Numbers to use

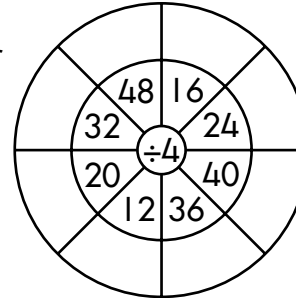
Division facts  
corresponding to the 2,  
3, 4, 5, 10 times tables.



### 68. Racetrack division

#### What to do:

- ➡ Draw a circular number track on the board.



- ➡ Write, e.g.  $\div 4$  in the centre of the track. Children recite the division fact for each number in the inner ring of the track, working their way to the end of the track.

#### Variations:

Point to numbers at random around the racetrack.

Individual children recall the number facts.

Use different division facts.

## Topic 2.6: Multiplication or division

### Numbers to use

Multiplication facts for the 2, 3, 4, 5, 10 times tables.



### 69. Make my number fact

#### What to do:

- ➞ Write a series of numbers on the board. Children choose one of the numbers.
- ➞ They make up a multiplication sentence that has the number as the answer, e.g. 24:  $6 \times 4$ , or  $3 \times 8$ , or  $2 \times 12$ .

#### Variation:

Write numbers between 1 and 10 on the board. Children make up division number sentences which give these numbers as the answer.

### Pupil resources

Copy of RCM 17, Quick Facts 1. Pencil.

### Numbers to use

Multiplication facts for the 2, 3, 4, 5, 10, times tables.



### 70. Quick facts 1

#### What to do:

- ➞ Supply children with a copy of RCM 17, Quick Facts 1. Children complete as much of the worksheet in the allocated time as possible, i.e. 5 minutes.
- ➞ Correct the work as a class, children record the number of correct answers in the space provided. Compare the results the next time the sheet is completed, for improvements.

#### Variation:

Allow a longer period of time of up to but no more than about 10 minutes.

### Pupil resources

Copy of RCM 18, Quick Facts 2. Pencil.

### Numbers to use

Doubles of all whole numbers to 50 and their corresponding halves.



### 71. Quick facts 2

#### What to do:

- ➞ Supply children with a copy of RCM 18, Quick Facts 2. Children complete as much of the worksheet in the allocated time as possible, i.e. 5 minutes. Correct the work as a class, children record the number of correct answers in the space provided. Compare the results the next time the sheet is completed, for improvements.

#### Variation:

Allow a longer period of time of up to but no more than about 10 minutes.



## Topic 2.6: Multiplication or division

**Numbers to use**  
Two- and three-digit numbers.



### 72. Choose a number

**What to do:**

- ➞ Write two- and three digit numbers randomly on the board.
- ➞ Write  $\times 10$  above in larger writing.
- ➞ Individual children choose a number to which the operation  $\times 10$  must be carried out.
- ➞ The full calculation should be stated, e.g. ten times/multiplied by twenty-three equals 230.
- ➞ This activity is intended to encourage rapid responses from the children.
- ➞ Repeat with  $\times 100$ .

**Variation:**

Children respond as a whole class.

**Numbers to use**  
Multiples of 10 up to 100.



### 73. Multi-step doubles

**What to do:**

- ➞ Work your way around the classroom.
- ➞ Allocate the first child a multiple of 10 between 10 and 100. The child next to them doubles the number.
- ➞ Children keep doubling the number until someone is no longer able to double their number.
- ➞ The following child is then allocated a new start number and the process begins again.

**Variations:**

Start with a multiple of 1000 up to 10 000.

Reverse the process by continuing to halve each number as far as possible.

**Topic 2.7:** Addition, subtraction, multiplication or division**Numbers to use**

Multiplication facts for the 2, 3, 4, 5, 10 times tables.

**74. Number families****What to do:**

- ➡ Draw a series of triangles on the board. Write related numbers inside, one in each corner, e.g. 5, 3, 15. Ask children to say the two multiplication and two division facts that can be made from the given numbers.

**Variation:**

Can also be used for addition and subtraction facts.

## Strand 3: Solving problems

### Topic 3.1: Reasoning about numbers

#### Numbers to use

Any  $\times 5$  or  $\times 10$  number fact or number up to 100 that can be evenly halved.



#### 75. What's my rule?

##### What to do:

- ➡ Draw 3 tables with 2 rows and at least 5 columns.
- ➡ Write 'start' and 'stop' in the first column. Write numbers between 1 and 10 in random order along the first row. Along the second row write a number which fulfils a criteria of your choice, e.g.  $\times 5$ . Children suggest the rule used to create the stop number.
- ➡ Continue using the rule until the table is complete.
- ➡ Repeat with subsequent tables, identifying the rule first. e.g.

Start	3	9	6	5
Stop	15	45		
Start	86	94	62	50
Stop	43	47		

#### Numbers to use

Any multiple that relates to a known  $+$ ,  $-$ ,  $\times$ , or  $\div$  number fact.



#### 76. Hit the target

##### What to do:

- ➡ Divide the class into two teams. Give children a number e.g. 14.
- ➡ They respond by giving two numbers that have 14 as an answer when they are multiplied, e.g.  $7 \times 2$ , or when they are divided, e.g.  $28 \div 2$ .
- ➡ Points are given for the use of operations, e.g. 2 points for  $\times$ , 3 points for  $\div$ . Children can be asked individually or as a team.

##### Variations:

Divide the class into more teams.

Include the operations of addition and subtraction.

Use larger numbers.

#### Pupil resources

0–9 number cards.

#### Numbers to use

0–100.



#### 77. I'm thinking of a number

##### What to do:

- ➡ Each child has a set of 0–9 cards. Make various statements to the children such as: *I'm thinking of a number, if I add 2 then multiply by 3 the answer is 15. What is my number?* (3)
- ➡ Children hold up the appropriate number card.
- ➡ Use two cards together to represent two-digit numbers.

##### Variation:

Use simpler examples, e.g. *I'm thinking of a number, if I multiply the number by 3 the answer is 15. What is my number?* (5)

## Topic 3.1: Reasoning about numbers

### Pupil resources

0–9 number cards.

### Numbers to use

0–10.



### 78. What's the number?

#### What to do:

- ➞ Children work in pairs. One child chooses 3 number cards and places them on the table, e.g. 2, 5, 8.
- ➞ One number is selected as the answer card, e.g. 8.
- ➞ Using any of the four operations, children discuss and find ways of using the remaining two numbers and only one other number card to reach the total, e.g.  $2 + 5 = 7$ ,  $7 (+1) = 8$  or  $2 \times 5 = 10$ ,  $10 (-2) = 8$ . (The additional number is shown in brackets)

#### Variation:

Children can record work in their books, e.g.  $2 + 5 + 1 = 8$  or  $2 \times 5 - 2 = 8$ .

### Numbers to use

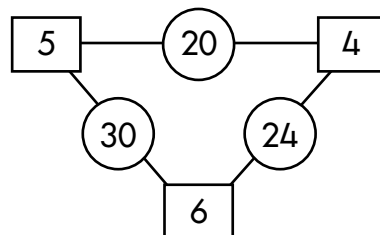
Any multiple that relates to a known multiplication number fact



### 79. Arithmogons

#### What to do:

- ➞ Draw diagrams on the board like the one shown. Do not write the numbers in the circles.



- ➞ The numbers in the squares are factors and the numbers in the circles are products, i.e. the numbers in the circles are made by multiplying the numbers in the squares.
- ➞ Ask: **What numbers belong in the circles?**

#### Variations:

Omit one of the numbers in the squares and place a number in the circle instead. Children work out the missing factor as well as the products.

Use addition instead of multiplication so that the numbers in the circles are made by adding the numbers in the squares.

### Pupil resources

4 operations cards per child (+ − × ÷)

### Numbers to use

Numbers appropriate to the stage the class has reached.



### 80. Which operation?

#### What to do:

- ➞ Read out some number stories to the class e.g. **Six cars are lined up. There are three people in each car. How many people altogether?**
- ➞ The children decide which operation they need to use to work out the answer and hold up the appropriate card.

## Topic 3.2: Reasoning about shapes

## Topic 3.3: Problems involving “real life”

### Teacher resources

Prepared multiplication stories with the question missing.

### Numbers to use

Multiplication facts for the 2, 3, 4, 5, 10 times tables.



### 81. What's the question?

#### What to do:

- ➡ Write some unfinished multiplication number stories on the board, e.g.  
**There are 7 cars travelling to the seaside. 5 people can fit in each car.**
- ➡ Ask children to suggest a mathematical question that relates to the information given, e.g. **How many people are going to the seaside altogether?**

#### Variations:

Continue the activity by writing the number sentence and answer on the board.

Use other operations, i.e.  $\div$ ,  $+$ ,  $-$ .

### Numbers to use

Two-digit numbers multiplied or divided by 2, 3, 4, 5.



### 82. Number stories

#### What to do:

- ➡ Write a selection of multiplication and division sentences on the board, e.g.  $34 \times 4 = 136$ ;  $45 \times 5 = 225$ ;  $66 \div 6 = 11$ ;  $124 \div 4 = 31$ .
- ➡ In pairs children choose one number sentence at a time and write a number story or problem to match it.
- ➡ After an allocated time of 10 minutes, children choose their favourite problem to read to the class.

#### Variation:

All children work on the same problem.

## Topic 3.4: Problems involving money

**Numbers to use**  
1–100.



### 83. Two coins only

**What to do:**

- ➞ Say: *There is a shop where you can only pay for things with two coins or notes and no change is given.*
- ➞ Ask: *What prices can different things cost? Nothing can cost 5p as it could not be paid for with two coins.*
- ➞ Record the children's responses on the board. Encourage them to say the addition calculation and the answer e.g.  $5p + 2p = 7p$ .

**Numbers to use**  
1–100.



### 84. What's my change?

**What to do:**

- ➞ Write £1 on the board. Say: *If I bought something for 67p what would my change be?*
- ➞ Repeat with different amounts.

**Variation:**

Write £5 on the board.

**Numbers to use**  
1–100.



### 85. How much?

**What to do:**

- ➞ Write the following amounts on the board. 25p, 41p, 66p, 97p, 74p, 82p.
- ➞ Point to two of the prices and say: *How much altogether?*
- ➞ Invite a child to record the total on the board using pounds and pence if appropriate.
- ➞ Remind the class that the point divides the pounds and pence.
- ➞ Repeat pointing to different prices.

**Variations:**

Subtract the two amounts.

Change the amounts to include prices over £1.

**Teacher resources**  
1–6 die.

**Numbers to use**  
Two-digit numbers  
multiplied by 2, 3, 4, 5.



### 86. Estimating prices

**What to do:**

- ➞ Draw 10 sweets on the board with prices represented by two-digit numbers, e.g. 23p, 48p, 63p.
- ➞ Walk around the class and roll the die in front of each child.
- ➞ The child chooses a sweet to buy and approximates the cost by rounding the price on the sweet to the nearest 10 and multiplying that number by the number thrown on the die.

**Variation:**

All children write the approximate answer.

## Topic 3.4: Problems involving money

### Numbers to use

Multiplication facts for the 2, 3, 4, 5, 10 times tables.



### 87. Key word tables

#### What to do:

- ⇒ Draw a table on the board similar to the one shown.

How many?	How much?	Total cost
...cars	£3	
...computer games	£10	
...sweets	£2	
...		

- ⇒ Make up stories for the information shown in the tables. Children decide on the number of a particular item they would like to buy and either say the total cost or write a multiplication fact.

#### Variations:

Fill in the total cost of the items. Children determine how much each item will cost from the information given.

Ask children how much change they would receive from £10/£20.

## Strand 4: Handling data

### Topic 4.1: Organising and interpreting data

**Numbers to use**  
0–50.



#### 88. Tallies

##### What to do:

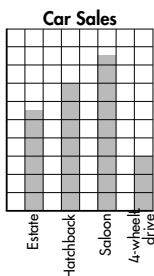
- ➡ Write tallies on the board and ask for the total (frequency), e.g. Count with class in fives and ones.
- ➡ Write numbers on the board for children to represent using tally marks on the board.

##### Variations:

Children write the date of their birthdays using tally marks.

#### Teacher resources

Prepared bar chart  
Blu-tack.



#### Numbers to use

Halves, thirds, quarters, fifths, sixths, sevenths, eighths, ninths, tenths.



#### 89. Car sales bar chart

##### What to do:

- ➡ Blu-tack the bar chart to the board.
- ➡ Say: **This bar chart shows the cars sold by a garage. Can you tell how many Hatchbacks the garage sold? (no) Why not? (the vertical axis has no scale) Let's use a scale of two cars for each square.** Number the vertical axis 0, 2, 4 ...
- ➡ Ask: **How many Hatchbacks were sold? (14) ... Estate cars? (11) How many more Hatchbacks than Estate cars? (3) Etc.**

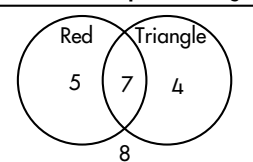
##### Variation:

Number the vertical axis in 5s, 10s or 20s.

#### Teacher resources

Prepared Venn diagram, on paper or drawn on the board.

##### Coloured Shapes in a bag



Blu-tack.

#### Numbers to use

0–50.



#### 90. Venn shapes

##### What to do:

- ➡ Blu-tack or draw the Venn diagram on the board.
- ➡ Say: **This Venn diagram shows the numbers of coloured shapes in a bag. How many triangles/red shapes are there? (11/12) How many red triangles are there? (7) How many shapes are not triangles? (13) How many shapes are not red? (12) How many shapes are not red and not triangles? (8) How many shapes are in the bag? (24) How many shapes are red or triangles but not both together? (9)**



## Strand 5: Measures, shape and space

### Topic 5.1: Measures – length

#### Teacher resources

Metre stick calibrated in decimetres.

#### Numbers to use

Numbers appropriate to the stage the class has reached.



#### 91. Quick answers

##### What to do:

- ➞ Show the blank side of the metre stick. Establish the ends as zero and 100 cm.
- ➞ Ask children to estimate in centimetres various lengths indicated by your finger.
- ➞ Use the marked side with its multiples of 10 to check estimates.
- ➞ Say: **My finger is at the 62 cm mark. How many centimetres are there between this mark and 100 cm?**
- ➞ Repeat for other examples.

#### Teacher resources

Metre stick calibrated in decimetres.

#### Numbers to use

Numbers appropriate to the stage the class has reached.



#### 92. Quick estimates

##### What to do:

- ➞ Show the blank face of the metre stick. Establish the ends as zero and 100 cm.
- ➞ Ask the children to estimate in centimetres a length indicated by your finger.
- ➞ Write several estimates and then the actual measurement read from the calibrated face.
- ➞ Ask: **Which estimate is the most accurate? Which estimates are within 10 cm? If my estimate is out by 9 cm, which two lengths might I have guessed?**
- ➞ Repeat for other examples. Present the metre stick in different planes, e.g. sloping, vertical, reversed name ends, i.e. 100 to zero.

#### Teacher resources

OHP. Transparent 30 cm rulers: one marked in centimetres along one edge, millimetres along the other; another marked in centimetres and millimetres along an edge.  
A 30 cm long strip of card for measuring.

#### Numbers to use

0–300.



#### 93. Ruler reading

##### What to do:

- ➞ Arrange the class so that they can see the OHP image.
- ➞ Place the ruler marked in centimetres on the OHP. Slide the strip of card alongside the scale and ask for the reading to the nearest centimetre and nearest 10 cm. Include readings halfway between two divisions.
- ➞ Repeat using the millimetres scale. Ask for the exact reading and to the nearest 10 mm and 100 mm.
- ➞ Repeat using the centimetre and millimetre scale.

##### Variation:

Point to different points along the scale and ask for the exact or approximate reading.

**Topic 5.1: Measures – length****Numbers to use**

Numbers appropriate to the stage the class has reached.

**94. Thumbs up, thumbs down****What to do:**

- ➡ Ask the children to indicate with thumbs up or down, the rounding of three-digit centimetre lengths to the nearest 10 cm.
- ➡ Extend to rounding to the nearest 100 cm.