Digit cards

Children need to have their own each. Some questions would start with number recognition but then would build up to using appropriate mathematical vocabulary. Reasoning questions to be interspersed with quick recall questions.

Pick what you would like to ask. These start easy and get harder.

SHOW ME…

- the number 2
- the number 10
- the number of times I clapped
- the number of times I clicked my fingers
- a number greater than 12
- a number more than 8
- a number less than 10
- a number between 1 and 5.
- a different number between 1 and 5
- all the numbers between 1 and 5. Tell your partner how you know you've got them all.
- **the** number 1 more than 5.
- **a** number more than 5. Did you have to change your number? Why/why not? Look around your table and change it if it's the same as anyone else.
- 1 more/less than 15
- 2 more/less than 19

Odd and Even

SHOW ME…

- an even number
- a single digit even number greater than 6? Why have you all shown 8?
- a 2 digit even number. How do you know it's even?
- the next even number after someone on your table/person to your left/right. Did anyone have to change the tens digit? Why?
- any odd number? Choose someone who's shown a 2 digit number. How do you know it's odd?
- An odd number greater than 50

Number bonds (Put into a context rather than just raw numbers so it makes human sense)

SHOW ME…

- the amount that goes with 4p to make 10p.
- what goes with 3p to make 3p/8p/11p For 11p how did you know it was 8p?
- 2 numbers which add together to make 8p. Show me a different 2? Show me all possibilities. How do you know you've got them all? Why are none of them an odd and an even number?
- with your partner show me 3 lengths to make 20cm. Show me 3 odd number lengths? Why isn't this possible?
- I'll show you a number. Fast as you like show me the number that goes with it to make 10/20/50/100
- This time I'll tell you the number I've subtracted from 10/20/50/100 then show me how much there is left (do the chrn realise it's the same?)
- This time show me my change from 10p/20p/50p/£1 (no different)
- Also link to 20kg/20 minutes/20 litres/20 apples/20km

Multiplication and division (Put into a context rather than just raw numbers so it makes human sense)

SHOW ME…

- a multiple of 4. Could you show me an odd number? Why/why not? Show me a multiple of 4 greater than 50? How many 2 digit possibilities are there? (12) Show me a multiple of 4 greater than 100? How do you know it's a multiple of 4?
- a factor of 42? A pair of factors? Show a different pair to your partner.
- a 2 digit number that is divisible by 7? Tell your partner how many 7s your number would divide into. Double the number you've got now? What do you notice about everyone's number? Why are they all even?
- 7 multiplied by 6? What is 7 lots of £6? Find the product of 7 and 6km. If there are 7 packets of sweets with 6 sweets in each packet, how many sweets would there be?
- 14 x 6? How can we do this quickly? (need to encourage chrn to look for relationships)
- 42 divided by 7? 42 divided by 6? 420 divided by 60?
- Is 79 divisible by 7? How do you know? What is the largest 2 digit multiple of 7?
- Show me a multiple of 5. In a minute I'll ask you to double it. Before you work it out, tell a partner what your answer will end in? Why? Can you make a generalising statement about what will happen when you double a multiple of 5?
- What would happen if you halve a multiple of 5?

- a square number
- show me the fifth square number
- a triangular number
- show me 3 consecutive multiples of 8 with your partner
- a common factor of 6 and 10. How many possibilities are there?
- a prime number greater than 10. How do you know its prime?
- a number which when you divide by 5 will have a remainder of 4. Talk to your partner. Show me another number? Eg 9, 14, 19, 24, 29 What do you notice? Is there a pattern? Show me a number greater than 50 which falls into this pattern?

Fractions

SHOW ME…

- Show me any fraction
- Now double it (children will often double both parts of the fraction making an equivalent fraction rather than doubling the value)
- Make 4 sixths. Now double it. What kind of fraction have you got? Can you make another fraction where if you doubled it, the result would be an improper fraction?
- Can you make 2 fractions with your partner which total 1? How many different possibilities can you make?
- Make 3 fractions with your partner then order them smallest to largest. Now find a 4^{th} fraction that sits somewhere in between your smallest and largest? How do you know it sits between?
- With your partner – but using only 1 set of digit cards – show me the smallest proper fraction you can find (single digits)
- What's the biggest possible fraction (8/9)
- How close to 1 are you?
- What's the smallest improper fraction you can make? 9/8. Which is closest to 1? (8/9 because it's 1/9 away not 1/8).
- What's the largest possible improper fraction?

THE CHILDREN COULD DRAW A NUMBER LINE AND PLACE FRACTIONS ON IT TO HELP THEM. OR PEG THE FRACTIONS ON A WASHING LINE.

Digit Card Game

I'm thinking of a number. My number is

- 1 digit
- greater than 4 (chrn to decide whether they can turn any of their digits over)
- it's even
- 2 goes with it to make 10
- The answer is 8

I'm thinking of a number. My number is

- even (chrn to decide whether they can turn any of their digits over)
- it has 2 digits (can you turn any over?)
- it's a multiple of 4
- it has 3 tens (how many possibilities are left now? Which cards can you turn over and why?
- Only 32 and 36 left. What question can you ask me to separate these numbers? Is it…for example a multiple of 9? Or if you round this number to the nearest 10 the answer is 40.

I'm thinking of a number. My number is

- It is a 2 digit number
- It has 3 ones in it (can turn 0 over)
- It has only 1 pair of factors (what cards can you turn over now? 9 and 6) What do we call a number that only has one pair of factors?
- It is less than 50 – show me 1 possibility
- Its digital root is prime
- My number is what goes with this to make 100 (show 57, the answer is 43)

It's important to make sure you give children time explain their answers in different ways and to give them thinking time for questions which don't just require quick recall of a fact.