Digit cards and suggested activities

Please see a sample set of digit cards below. Each set has the digits 0 to 9 in twice and a decimal point. My cards aren't fancy, but they do the job! You can access more decorative ones online if you wish, but my main focus is on the activities we can do with a set of digit cards per child. Laminate each digit card, and bundle them as a set together. You can hold them together for each child using an elastic band, a small plastic pocket, ziplock sandwich bag or a small bull clip. They are especially useful now during Covid-19 as each child can have their own set.

Using digit cards, each child can hold up their own set of digit cards when answering questions in whole-class sessions instead of the 'usual' single question and single answer method. It enables all pupils to participate and make a response in a fun way. It also lets the teacher see at a glance what pupils are having difficulty with the mental maths.

The digit cards are great for using in multigrade settings and can be used to practice and extend mathematical language. Pupils can form two-digit and three-digit numbers by placing cards side-by-side. They can be used for practising number bonds, properties of number, number problems, fractions, place value, number facts, percentages etc. The digit cards can also be used for playing various games to reinforce mental mathematical strategies.

ADAPTATIONS: You can make the digit card questions as easy or as difficult as you wish to suit the abilities of the pupils.

Digit card example suggestions

	1st/ 2nd class	Middle/senior classes
	You can ask pupils to show you… ○ 2, 29, 126 ○ An even number bigger than 2, 20, 90,100 ○ A number smaller than 9 but bigger than 5…smaller than 30 but bigger than 15… ○ Double 10 ○ Half of 16 ○ The largest 1-digit number or 2-digit number they can make ○ The smallest 1-digit number or 2-digit number they can make ○ 6 tens, 4 units etc ○ The answer of …(3+4)-6	*You can ask pupils to show you…* ○ 2, 29, 126 ○ An even number bigger than 20, 90, 100 ○ A number smaller than 30 but bigger than 15 ○ Double 10 ○ Treble 25 ○ Half of 16 ○ The largest 1/2/3-digit number they can make ○ The smallest 1/2/3-digit number they can make ○ Give the next number in the series 2,5,8,11 ○ What is the value of the 3 in 34, 352 etc? ○ Two hundred, 6 tens, 4 units etc. ○ (3x4)-6
Number	*Number 1st/ 2nd class:* Show me the number that is… ○ 2 less than 5…25 less than 30… ○ 5 more than 10, 6 more than 23… ○ 3+4, 13 +4 ○ The sum of 8 and 2, 6 and 10, 20 and 3… ○ The difference between 5 and 9, 8 and 10, 13 and 20, 20 and 45… ○ 34 rounded to the nearest ten	*Number middle & senior classes:* Show me the number that is… ○ 20 less than 45 ○ 15 more than 30 ○ Treble 12 ○ 30+4 ○ 100+23+5 ○ The sum of 35 and 23 ○ The difference between 45 and 20 ○ Half of 130 ○ A quarter of 80, a fifth of 35 ○ The next number in the sequence 13,16,19,22 ○ The next number in the sequence 1/8, ¼,3/8, ½ ○ The next number in the sequence 1.3, 1.7, 2.1, 2.5 ○ 10% of 50, 25% of 20 ○ 234 rounded to the nearest ten

		○ The square root of 36, 81 ○ 2 squared, 4 squared ○ The area of a square with a side of 14cm ○ 1/8 of my number is 3. What is the number? ○ 2/5 of 50 ○ A 2-digit number divisible by 8
Number problems	*Number problems 1st/ 2nd class*: Using digit cards, find a pair of numbers that… ○ Total 12…35…87… ○ Have a difference of 15 ○ Are even numbers and total 8…16…26	*Number problems middle & senior classes*: Using digit cards, find a pair of numbers that… ○ Total 35 ○ Have a difference of 15 ○ Are even and total 42 ○ Are multiples of 5 ○ Are square numbers ○ Are factors of 36
Properties of number	*Properties of number 1st/ 2nd class*: Using the digits 1 and 6 show … ○ The lowest 1- digit number ○ The lowest 2-digit number ○ The odd number/ the even number	*Properties of number middle & senior classes*: Using the digits 1, 5, 6 and 3 show … ○ The lowest 4-digit number ○ The highest odd number ○ A multiple of 3 ○ A multiple of 5
Number bond activities	*Number bond activities* 1st/ 2nd classes. Show me: ○ The sum of 10-5 ○ 2 add 5, minus 1 ○ The sum of 30 and 90 ○ 50 minus 39 ○ 13 add 7 minus 12	*Number bond activities middle & senior classes* Show me: ○ The sum of 30 and 90 ○ 100 minus 39 ○ 13 add 26 minus 12 ○ 3 times 8 ○ Product of 7 and 2 ○ Remainder when 15 is divided by 2
Number bonds to…	Number bonds to 10, 20, 50, 100 *(ping pong) 1st and 2nd class* ○ If I say 3 you say…(answer 7)	Number bonds to 50, 100 *(ping pong) middle & senior classes* ○ If I say 15 you say ….(answer 35)

	○ If I say 12 you say… (answer 8)	○ If I say 76 you say…(answer 24)
Measure/ shape	*Measure/ shape 1st/ 2nd class:* Show me… ○ The number of sides on a square, triangle etc ○ The number of minutes in an hour, ○ The number of days in a week/ fortnight/ year… month of February… Spring	*Measure/ shape middle & senior classes:* Show me… ○ The number of sides on a pentagon, octagon etc. ○ The number of minutes in an hour/ 3 hours 23 min. ○ The number of days in a leap year, the month of February, Spring

Other digit card activities for 1st – 6th classes (adjust to suit level and ability)

- Number bonds: Leader can call out a number, and pupils can show complementary numbers using their digit cards. Initially do bonds to 10 to ensure they understand the activity and continue with bonds to 20, 30, 100 etc.

- Find my number (addition and subtraction strategies): Great game for developing mental strategies. Pupils work in groups of three, four or five with one set of digit cards per group. The teacher/ leader of the group instructs the other children to take a digit card from the pile but not to look at the number on it. The leader doesn't take a card. Each pupil holds up their digit in front of them so that only the other pupils and leader can see their number. The leader mentally adds the total of all the numbers and announces it to the group. Each pupil in the group can see everyone else's number but their own and know the total. Using this information, they have to figure out what number they have themselves.

- Matching game: Leader holds up two different digit cards. *E.g. 8 and 2.* Pupils have to select two different cards from their digit cards set that have the same total as the leader. *E.g. 7 and 3.* This game can be altered by asking pupils to hold up cards with the same difference as the leader's two digits. **Adapt for older pupils…** This game can be altered by asking pupils to hold up cards with the same difference or product as the leader's two digits.

- Count on: Pupils work in pairs with one set of digit cards per pair. Pupils shuffle the cards and place them face down on a pile. Pupil A turns the first card. That card will be the starting number. *E.g. the 3 card*. Pupil B turns the next card and uses that number to count on from the next card. *E.g. pupil B turns the 4 card so therefore starting card 3 add 4 is 7*. The pupils can work together or take turns on completing a sequence with the number and look for a pattern. For example. 3,7,11,15,19,23,27,31,35,39…

- Dice number bonds: An extension of the above activity but where pupils can work in pairs or small groups using a set of digit cards each and dice. Leaders roll the dice and pupils show complementary numbers for bonds to 20, 30, 40 etc. Use one die to make a 1 digit number, two dice for a two-digit number etc.

- Number sequence: Ask pupils to find the missing number from a number sequence, what would the next number be? The previous? The tenth? (Good for paired work).

- Place value: Depending on the number of cards used, pupils can discuss the smallest number that can be made, the largest, the number nearest to 50, 100 etc.

- Create numbers

A) *1st/ 2nd class:* Digit cards can be used to create 2 digit numbers. Use a few sets of digit cards and give each pupil a digit card. Put pupils in pairs and ask them to rearrange themselves to make the largest/smallest number. Discuss the odd numbers and even numbers. The class can then organise all the pairs of numbers from smallest/ largest, count forwards and backwards, change the tens digits etc. Pupils can discuss what is happening with the various activities.

B) *Middle/ senior classes* – Digit cards can be used to create 2, 3 and 4 digit numbers. This can be extended further by giving four children a different digit each. Ask the class to read the number and to name the value of each digit. The children can rearrange themselves to make the largest/smallest number. This can be extended to creating the largest odd or smallest even number etc. The class can count forwards and backwards, changing the tens digit, hundreds digit or the thousand digit. Pupils can discuss what is happening.

- Chinese whispers: Children pass on a sum, and the last person in the chain has to show the answer using digit cards. The class could be divided into two or three groups doing Chinese whispers at a time, to add an element of competition to the activity.

- Double numbers**:** When practising different strategies for doubling numbers, the children can use the digit cards. Working in pairs, groups or individually pupils turn over the top card and double that number

- Number operations

A) 1st/ 2nd classes: Pupils can work in pairs or small groups with two sets of digit cards face down in two separate piles. Pupils take turn turning over the top cards of each pile and adding or subtracting the numbers.

B) Middle/ senior classes: Pupils can work in pairs or small groups with two sets of digit cards face down in two separate piles. Pupils take it, in turn, turning over the top cards of each pile and adding, subtracting or multiplying the numbers.

- One pile of cards and two dice: Pupils can have fun using one set of digit cards and two 10-sided dice. Pupils roll the dice and turn over the top card of their set of digit cards. Pupils can experiment with the three numbers: add the three numbers, add two numbers and subtract the smallest, create different two-digit numbers etc. **Adapt for older pupils**… Pupils can experiment with the three numbers: add the three numbers, multiple them, add two numbers and subtract the smallest, create different three-digit numbers etc.

- Whiteboard and cards: Same activity as above, but this is teacher lead. Pupils turn over the top card of their set of digit cards. The teacher can write a few numbers on the board which pupil combine with the number from their set of digit cards. They try and create as many different number sentences using all the numbers. *E.g. the numbers 2, 5, 10, 3 are on the board, and I turn over the 7 digit card. I create number sentences such as 2+5=7, 5+2=7, 7-2=5… 10-7=3, 10-3=7…5+2+3=10, 2+3+5=10…***Adapt for older pupils**…older pupils can create number sentences with multiplication and division also.

- Reach the target: Pupils can work in small groups for this activity. They will need to combine 4 sets of the digit cards, shuffle them and place them on a pile face down in the centre of the table. The first pupil picks up the first two digits and places them side by side to create a two-digit number. This is the target number that the pupils have to try and reach. The second pupil selects six more cards and places them number side up on the table in a row under the target number. Pupils have to use mental math strategies using the six-digit cards to try and reach the target number. Pupils can explain their strategies at the end of each game.
  Adaptations to make it easier: Have more than six-digit cards to work with
  Be free to use any number operation. Not all digits need to be used, and some can be used twice.
  Adaptations to make it more difficult: Reduce the number of digit cards. All digits have to be used. Digits cannot be used twice etc.

Further digit card activities for middle/senior classes:

- Find my number (addition and subtraction strategies): Great game for developing mental strategies. Pupils work in groups of four or five, with one set of digit cards per group. The leader of the group instructs the other children to take a digit card from the pile, but not to look at the number on it. The leader doesn't take a card. Each child holds up their digit in front of them so that only the other pupils and the leader can see their number. The leader mentally adds the total of all the numbers and announces it to the group. Each pupil in the group can see everyone else's number but their own and know the total. Using this information, they have to figure out what number they have themselves.

- 1089: Pupils can have fun investigating the following activity with any three digits and always get 1089! Pupils pick three digits from their set of digit cards. E.g. 3, 5, 2. They make a number from these digits (e.g. 235) and then reverse the digits (235 becomes 532) and subtract the two numbers (532-235 = 297). Pupils then reverse the digits of their new number (297 becomes 792) and add it to their last answer (792+297= *1089*)

- Factors, multiples, prime numbers – Pupils can use the digit cards to practice factors, multiples and prime numbers. *For example, show me a multiple of 4.*

- Find my number (multiplication and division strategies): Great game for developing mental strategies. Pupils work in groups of three with one set of digit cards per group. The leader of the group instructs the other children to take a digit card from the pile, but not to look at the number on it. The leader doesn't take a card. Each child holds up their digit in front of them so that only the other pupil and leader can see their number. The leader mentally multiplies the two numbers and announces the product to the group. Each player must then use the one-digit they can see (a factor) to work out what their digit (the other factor) is.

Adaptations to make it easier:	*Adaptations to make it more difficult:*
Have more than six 'digit cards' to work with Be free to use any number operation. Not all digits need to be used, and some can be used twice.	Reduce the number of digit cards. All digits have to be used. Digits cannot be used twice etc.

Let's get those kids talking numbers! Julieanne x

Print this page twice to make one set of digit cards for a child. The activities work out better if pupils have two of each number. You only need one decimal point for those pupils who will be covering decimals. The numbers 6 and 9 are underlined so pupils know which number is which.