

Kensington Primary School



Maths warm-ups to try at home

Date Maths

Suitable for: Grade 1 +

Resources: paper and pencil

Using only the digits in that day's date (eg. 25/11/2016) the students (in pairs or as a class) must make an equation for all the numbers 1 to 20 (or for the number of students in the class). The rule is that the digits can only be used once.

E.g. $1 = 2 \times 5 + 1 + 1 - 2 - 6$
 $2 = 11 - 6$
 $3 = 25 - 20 - 1 - 1$
 $4 = 11 - 9 + 2$
cont.

Pick it Out

Suitable for: Grade 3 +

To make estimations and use place value and probability knowledge to make the **highest** possible number.

Resources: Digit cards 0 – 9, a container or bag, place value sheet like below.

Thousands	Hundreds	Tens	Ones

Choose just 7 of the number cards. Show them to your child and then put them in the container/bag, e.g. 0, 1, 3, 4, 5, 8, 9.

Pull the first number card out and get your child to put it in their choice of column on the place value sheet. Remind them they are to try and make the largest possible number that they can. There is an element of chance, as it depends on which numbers are pulled out of the container/bag and which order they are drawn out in.

The bigger the digit card, hopefully the higher place on the sheet they will put it.

Before the final card is drawn, estimate what the best number you can get is, then consider the probability: 4/7, 4 out of 7 numbers in the container/bag, so there's a 1 in 4 chance. What chance is there of a 9, etc.?

You may want to use a points system:

Playing for 3, 2, 1 points. Who got the largest number? 3 points. Next largest? 2 points etc.

Example

0	8	5	4
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Points example:

3 points: 8540

2 points: 8504

1 point: 8450

How Much is in My Pocket

Suitable for: All years (value dependent)

Resources: An amount of coins (and possibly notes) in your pocket.

"I have some money in my pocket. You can ask 8 questions to find out how much I have. After 8 questions you can guess." Emphasize the importance of not guessing numbers haphazardly.

E.g.

1. Less than \$1.50 – Yes
2. Even number – No
3. Less than \$1.00 - Yes
4. Divisible by 5 – Yes
5. Two digit number – Yes
6. Less than 50cents – No
7. Does it have a 7 or 8 in the tens place – Yes
8. Does it start with an odd number – Yes

21

Suitable for: Grade P- 4

This game works best with a large group of people. Stand in a circle. Each person counts one, two or three numbers, e.g. first person says "1, 2", second person say "3, 4, 5", third person says "6, 7" and continue. When the counting gets to the person who say "21", that person has to sit down. The person standing next to the one sitting down, starts back at 1 and the process is repeated until you have only one person left standing in the game.

This game can take on many adaptations, for example:

- counting backwards from 21 and sitting down on 1
- saying the days of the week and saying 'sit down Sunday'
- skip counting by five and sitting down on 105

Equator

Suitable for: Grade 3+

Resources: deck of cards with the 10 and picture cards taken out. Ace has a value of 1.

Deal out four cards to your child. These are the numbers to use. Then deal out a fifth card to get the answer number.

Using any amount of the 4 cards, your child uses any operation or maths skill they have to make the total equal to the answer card.

For example

6, 5, 2 and 4 are dealt out to make the answer card of 1 (ace)

So $6 - 5 = 1$

Or $((5 \times 2) - 6) \div 4 = 1$

Maths Master Mind

Suitable for: Grade 1 +

To use place value language and knowledge to guess a secret number, in the briefest amount of guesses possible.

Resources

Draw up a place value chart on a piece of paper (or whiteboard). A place value chart in the thousands, or more, can be used as well. E.g.

Hundreds	Tens	Ones

Write down a number and hide it from your child. Example, 857

Ask your child to guess what the number is. Fill their number in on the place value chart. Mark the number in the following way:

√ Yes, this number is correct and in the correct spot.

○ Yes the number is correct, but it's in the wrong spot. Next guess you'll have to move it.

X No, this digit is not part of the number.

Let your child have another guess and repeat the process. Try and aim for them to have no more than 5 guesses to work out what the number is. They need to make 'smart' guesses based on the prior information about the number.

Example

Guess	Hundreds	Tens	Ones
1	5 o	6 x	4 x
2	1 x	5 √	8 o
3	8 √	5 √	2 x
4	8 √	5 √	0 x
5	8 √	5 √	7 √

Multo

Suitable for: Grade 3+

Multiplication fact bingo.

Resources: 4 x 4 grid bingo board

Ask your child to write 16 different numbers into the squares of the grid board that could be answers to multiplication facts from 0X0 to 9X9.

Call out a multiplication equation. Have your child work out the answer. If the answer to the equation is on your child's board, then they can cross it off, or place a counter on it (coins could be used for counters). To win players need to complete 4 in a row, column or diagonal, or the 4 corners of the board covered.

5 Moves to 100

Suitable for: Grade 1+

Children have to use place value knowledge to estimate the best placement of a number for reaching a target of 100.

Resources:

Calculator (optional)

Game sheet, like below.

Roll a 10-sided dice. Ask your child to decide if the value on the dice should be ones or a tens. For example, a 3 comes up, it could be a 3 or 30. Write the number in the correct column on the game sheet. Once a number is put in, it has to stay there! Keep a running total as you go. Repeat until you have done 5 rolls of the dice. How close did they get to 100?

Example

Move	Tens	Ones	Running Total
1		3	3
2	4	0	43
3		6	49
4	5	0	99
5		2	101

To encourage further maths discussion, ask your child what number they want to come up for their last guess. What is the likelihood of getting it? (language to use: certain, likely, unlikely, impossible, 1 out of 10, 10%, etc.) Remind your child that it is based on chance and they may not get what they expect or want.

You could play the game three times, and find the best out of 3 tries.

Tell me something about...

Suitable for: Question dependent

Choose a number, for example 28. Ask your child to tell you 5 things about that number.

Example

1. It has a 2 in the tens place
2. It is an even number.
3. It is double 14
4. The number before is 27
5. Ten more is 38

I have ... in my pocket what coins could I have?

Suitable for: Grade 1 +

Ask your child to say as many combinations of the amount they can think of.

Example

I have 60 cents in my pocket.

Responses could be; 50 + 10, 20 + 20 + 20, 20 + 20 + 10 + 5 + 5, etc.

