## Mathematics Education Innovation

## Take 5 (Keys)

## CALCULATOR <br> CRUNCH

Choose 3 digit keys and 2 operation keys e.g.


You can always use the = key
Can you make all the numbers from 1-20 using only these keys?
You can use the keys as often as you want each time.
I used these keys:

Things to think about...
Can you use the difference between the numbers to help?
Can the way you made a number before help you this time?
Extra challenge
What if you 'Take 4 ' and use 2 digits and 2 operations?


## Aim of the game

To create calculations to equal all the numbers from 1 to 20 but using only 3 digit keys and 2 operation keys. You can always use the equals key!

## How to play

Choose three numbers to use and 2 operation keys (,,$+- \times$ or $\div$ ).
Using just those keys, create calculations that equal the numbers from 1 to 20.
e.g. using 5, 6, 8, + and - you could make the answers 1,2 and 3 like this:
$6-5=1$
$8-6=2$
$8-5=3$
What will you do to get the answer 4 ? Could you use + and - in the same calculation?
$6+8-5=\ldots ?$

| 1 |  |
| :--- | :--- |
| 2 |  |
| 3 |  |
| 4 |  |
| 5 |  |
| 6 |  |
| 7 |  |
| 8 |  |
| 9 |  |
| 10 |  |
| 11 |  |
| 12 |  |
| 13 |  |
| 14 |  |
| 15 |  |
| 16 |  |
| 17 |  |
| 18 |  |
| 19 |  |
| 20 |  |

You could draw a table to record your calculations

## Using the calculator?

Does it matter which order you enter the calculations?
Does $6+8-5=$ give the same answer as $8-5+6=$ ?
What if you chose $\times$ and $\div$ as your operation keys?
Does the order you enter the calculation matter?

## Top Tip

In year 6, children may learn about BODMAS or BIDMAS which helps them to remember the order of operations
$B$-brackets
O/I - indices (powers)
$D$ and $M$ - division and multiplication
$A$ and $S$ - addition and subtraction

