

Week 2 - Package 1 - Year 3 & 4 Mathematics - Strike it Out

Things you need

Have these things available so your child can complete this task

Ideal	Back up
3 coloured markers or pens	Coloured pencils
Plain Paper	

Why is this activity important?

This activity is a great activity to increase skills in reasoning, working collaboratively, and applying knowledge of strategies used to add and subtract. The game can easily be played with learners having different skill levels, also allowing you to investigate winning strategies and using all the numbers along the number line.

Before you start

The game requires mathematical thinking and the child should be given sufficient time to think during each turn.

- Gather the materials needed

What your child needs to know and do

Watch the video [Strike it out](#).

What to do next

- Draw a number line 0 to 20.



- The first player chooses a number on the line and crosses it out.
- The same player then chooses a second number and crosses that out too.
- Finally, he or she circles the sum or difference of the two numbers and writes down the calculation.
- For example, the first player's go could look like this:



$$3 + 8 = 11$$

- The second player must start by crossing off the number that player 1 has circled.
- He or she then chooses another number to cross out and then circles a third number which is the sum or difference of the two crossed-off numbers
- Player 2 also writes down their calculation.
- For example, once the second player has had a turn, the game could look like this:



$$3 + 8 = 11$$

$$11 + 9 = 20$$

- The winner of the game is the player who stops their opponent from being able to have a go.

Options for your child

Activity too hard?	Activity too easy?
Provide the child with counters / blocks to work out options.	Explore different number lines. Include multiplication and division.

Follow-up questions to ask your child

What could you have differently?

Is there a strategy you can use to make it harder for your opponent?

Is there another number sentence you could make with the same numbers? How would that change the game for your opponent?

Extension/Additional activity

They could play [Strike it Out! Let's Investigate](#).

Week 2 - Package 2 - Year 3 & 4 Mathematics - Strike it Out! Let's Investigate

Things you need

Have these things available so your child can complete this task.

Ideal	Back up
3 coloured pencils or markers	
Paper	

Why is this activity important?

Strike it Out! Let's investigate is a great activity to enhance skills in reasoning, working collaboratively and applying knowledge of additive strategies. The game is easily adaptable for a broad range of learners, also allowing you to do some deep investigations around winning strategies and using all of the numbers along the number line.

Before you start

- Read the guiding questions below.
- Have all the required materials ready to go.
- Make sure the video link is working.

What your child needs to know and do

Watch the video [Strike it out](#). This video is the same video for Strike it Out! Let's Play

What to do next

- Play Strike it out! Again. (Instructions below)
- Draw a number line 0 to 20.

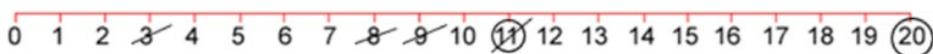


- The first player chooses a number on the line and crosses it out.
- The same player then chooses a second number and crosses that out too.
- Finally, he or she circles the sum or difference of the two numbers and writes down the calculation.
- For example, the first player's go could look like this:



$$3 + 8 = 11$$

- The second player must start by crossing off the number that player 1 has circled.
- He or she then chooses another number to cross out and then circles a third number which is the sum or difference of the two crossed-off numbers
- Player 2 also writes down their calculation.
- For example, once the second player has had a turn, the game could look like this:



$$3 + 8 = 11$$
$$11 + 9 = 20$$

- The winner of the game is the player who stops their opponent from being able to have a go.
- Now that you've had an opportunity to play a few games, choose a few questions to investigate more deeply.
 - What are some of the strategies you use to try to help you win?
 - Were you able to win every time you played?

- What different moves could have been done to have crossed out more numbers?
- Can all of the numbers on the number line be used in the same game?
- Did you notice anything about 0?
- What if the number line went from 0 – 19, or, from 1 – 20... could all the numbers be crossed out then? What could the game look like...what could the moves be?
- What if you could use multiplication and division... test it out and see how that changes the game.

Options for your child

Activity too hard?	Activity too easy?
<p>Provide the child with counters / blocks to work out options.</p> <p>Watch the videos again and play the game multiple times.</p>	<p>Use different number lines.</p> <p>Investigate using all four operations (addition, subtraction, multiplication and division).</p> <p>Ask your child to determine the ultimate game where all of the numbers on the number line are able to be crossed out.</p>

Follow-up questions to ask your child

- What are some of the strategies you use to try to help you win?
- Were you able to win every time you played?
- What different moves could have been done to have crossed out more numbers?
- Can all of the numbers on the number line be used in the same game?
- Did you notice anything about 0?
- What if the number line went from 0 – 19, or, from 1 – 20... could all the numbers be crossed out then? What could the game look like...what could the moves be?
- What if you could use multiplication and division... test it out and see how that changes the game.

Week 2 - Package 3 - Year 3 & 4

Mathematics - It's time to get magical

Things you need

Have these things available so your child can complete this task

Ideal	Back up
Pencils or markers	
Paper	
Dice for additional activity	Numbered cards

Why is this activity important?

Magic tricks provide great opportunities for students to develop mathematical reasoning and practice their skills in mental computation. This trick is helpful for practising addition and subtraction facts. It also helps students develop skills in choosing efficient strategies for solving addition and subtraction problems. Practicing the magic trick multiple times helps students develop confidence, consolidate skills in mental computation and helps them see the maths underlying the magic.

Before you start

You need some pens and a piece of paper.
Dice are required for the optional activities.

What your child needs to know and do

Your child needs to be able to add 1 and 2-digit numbers.

What to do next

- Choose any number on the grid.
- Write it down.
- Write down a second number... BUT... it has to be a different row and different column to your first number
- Record a third number... it has to be a different row and different column to your first two numbers
- Write down a fourth number... it has to be a different row and different column to your first three numbers.

1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16

YOUR SUM IS 34!

- We found out that
 $34 = 1 + 6 + 11 + 16$; and
 $34 = 13 + 12 + 6 + 3$
- Now we wonder... is the sum always 34?

1	2	3	4	1	2	3	4
5	6	7	8	5	6	7	8
9	10	11	12	9	10	11	12
13	14	15	16	13	14	15	16

Options for your child

Activity too hard?	Activity too easy?
<p>Try using a different strategy to do the calculations for the magic trick. For example, you might like to use a calculator. Then, work backwards to think about what mental strategies you could have used to solve the problem. Complete several times to practice using mental strategies with 2-digit numbers.</p>	<p>Investigate what happens with this magic trick if you created a 5 x 5 table.</p> <p>Work together to explore which mental computation strategies are the most efficient when adding and subtracting.</p> <p>You can also work together to investigate how this magic trick works!</p>

Follow-up questions to ask your child

If you had a grid with different numbers in it, does this trick work the same? What number do those numbers add up to? Is it 34?

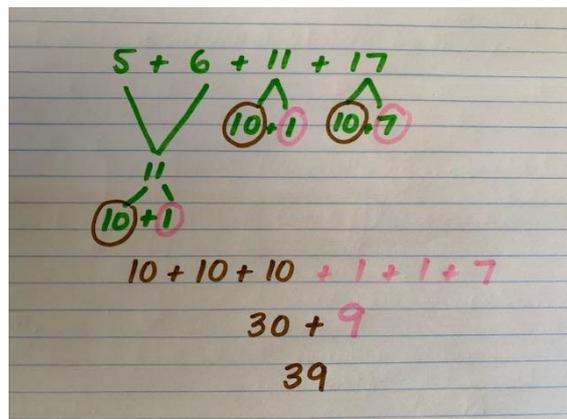
Extension/Additional activity

Try adding 4 numerals together. Eg. $5 + 6 + 11 + 17 = ?$

How can we add these numbers efficiently? What strategies did you use?

One strategy you might try is to add the tens first and then add the ones.

$$\begin{aligned}
 5 + 6 + 11 + 17 &= 10 + 10 + 5 + 6 + 1 + 7 \\
 &= 20 + 5 + 6 + 1 + 7 \\
 &= 20 + 10 + 1 + 1 + 7 \\
 &= 30 + 1 + 1 + 7 \\
 &= 39
 \end{aligned}$$



Week 2 - Package 4 - Year 3 & 4 Mathematics - The counting game: Multiples

Things you need

Have these things available so your child can complete this task

Ideal	Back up
Pencils of markers	
Mathematics workbook	Piece of paper

Why is this activity important?

This is a great game that supports students in enhancing their reasoning skills whilst practising their knowledge of counting sequences. It is easily adaptable to suit a broad range of learners.

Before you start

Gather the resources required.

What your child needs to know and do

Watch the video [The counting game: Multiples.](#)

What to do next

- Select a target number for example 85.
- Then, select a unit value for example fives.
- The goal is to be the player who says the target number. Players can count on by saying the next 1, 2 or 3 number words in the fives sequence. Players collect a counter (or a tally mark) if they say the target number.
- For example:
 - Target number 85

Player A: 5, 10

Player B: 15, 20, 25 ...

Player A: 30, 35, 40 ...

Player B: 45...

Player A: 50, 55...

Player B: 60

Player A: 65,

Player B: 70, 80, 85!

- Player B collects a counter (or tally mark!)
- A new target number is chosen and players play again.

Options for your child

Activity too hard?	Activity too easy?
<p>Use concrete materials (counter, blocks, LEGO) to help keep track of the count.</p> <p>Allow more ‘think time’</p> <p>Use different numbers to start and finish the counting game. Count by ones.</p>	<p>Use different numbers to start and finish the counting game, including counting backwards.</p> <p>Count using different multiples, like threes, fours or sevens.</p> <p>Play the Extension Activity – The counting game: multiples Part 2 (see below)</p>

Follow-up questions to ask your child

Is there a way to play so you never lose?

Could Player A have changed their turn in any way to win? If so, how?

Extension/Additional activity

The Counting game: Multiples Part 2.

This game will test out your strategies!

- This time starting from a given number and counting back, trying to be the person who says zero. For example:
 - Target number 0 (starting at 110 and counting in tens)

Player A: 100...

Player B: 90, 80...

Player A: 70 ...

Player B: 60...

Player A: 50, 40...

Player B: 30, 20, 10...

Player A: zero!

Week 2 - Package 5 - Year 3 & 4 Mathematics - Basketball Toss

Things you need

Have these things available so your child can complete this task

Ideal	Back up
Pair of socks	
Basket, bucket or container	
A clear space	
Pencils or markers	
Mathematics workbook / paper	

Why is this activity important?

This activity is important because it allows students to investigate using different methods to collect data, comparing results, interpreting data and evaluating.

It is also fun! They don't feel like it is Mathematics

Before you start

Gather equipment needed.

Ensure student has enough space to complete activity.

What your child needs to know and do

Watch the video [Basketball toss](#).

What to do next

- Mark a clear 'starting line' for your basketball toss
- Take 3 big steps from your starting line and place a basket, bucket or container at the end
- Stand at your starting line and throw your socks with your right hand.
- Throw your socks, aiming for the basket, 10 times with your right hand.
- Then, do the same thing 10 times with your left hand
- Graph your results in your workbook.

Options for your child

Activity too hard?	Activity too easy?
Move closer to the basket. Use a larger container.	Move the starting line. Ask students to throw the socks 20 times. Discuss with students whilst they are completing the activity, how many more. Have three throwing points all with different points for getting the socks in, students then tally up the points.

Follow-up questions to ask your child

Do you think these results will change with practice?

How many baskets did you get when you used your left hand?

How many baskets did you get when you used your right hand?

How many did you get altogether?

Extension/Additional activity

Students complete the same activity with 3 different starting lines.

Each line represents different points. For example, 3 points, 2 points, 1 point.

Student keeps a tally of how many points they score.

The student with the most points wins.