THIRD SPACE LEARNING

Summer Math Activities

20 Fun math activities for the summer break

Grade 2 to 3

Note to children

Hooray! It's summer break!
You've worked so hard this year, and learned so many new things in Grade 2 you deserve a big pat on the back. You also deserve to be able to start Grade 3 still knowing what you know now – and not forget everything over the summer!
So in between your summer adventures and relaxing are you up for an extra challenge?

Your task is to complete 10 of the activities in this special Summer Math Activities. As well as being lots of fun, the activities will help make sure all of the amazing math that you have learned in Grade 2 sticks in your brain, ready for your new learning adventures in Grade 3.
Simply check off the activities you have attempted and bring this pack back with you when school starts again!
Have fun!

Note to parents and carers

Summer break is finally here! Your child has worked hard all year learning all the math we expect Grade 2 students to know and now they deserve some rest and relaxation. BUT... this pack is here to make sure they also don't forget all that they've learned and have some fun math activities to keep them going over the summer!

There is lots of evidence that doing just a little bit of math practice over the summer break will make it much, much easier for them to start the next school year.
The activities are not intended to be too much like 'work'. They should provide just a bit of a mathematical focus every now and then, and most will fit into your day-to-day plans and life during summer break. We're setting a target for your child to complete 10 activities over the break which is only a couple of activities a week. If children are struggling with math, just knowing that they can tick off a handful of activities over the break will really boost their confidence and success when they move into Grade 3.

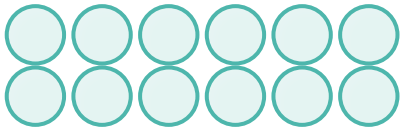
Other children may want to do more and really push themselves. Do what's right for your child. When they've done each activities, please date and sign it so the child knows it's important. Thank you for your support, and we hope you and your child have fun with the activities!

1 Hunting for Arrays

You will need

- Resource Sheet 1

Arrays are all around you! An array shows objects arranged into rows and columns. Remember, an array is a really useful way to show multiplication facts.



For example, this array shows that 2 x 7 = 14. However, arrays are amazing – because of the commutative law, this array shows 7 x 2 = 14 too. Finally, we can also see 14 ÷ 2 = 7 and 14 ÷ 7 = 2!

Your challenge:

- Can you spot at least eight arrays 'out and about' over the break?

How to play:

1. Record the arrays you have spotted on your Resource Sheet 1.

2. Write down 4 math facts that each one shows on your Resource Sheet 1.

3. You may even want to draw each array that you find!

Completion date: .....

Adult initials: .....

2 Count the Change

Your challenge:

- Can you count the change?

You will need

- Paper
- Pencil
- A friend or family member

How to play:

1. Find a friend or family member to do this challenge with.
2. Over the course of a week, look for spare change in jars around the house, on the floor, in between the couch pillows, on the ground outside.
3. Keep a log of all the change you find in a week.
4. At the end of the week, add up the total amount of money you found.

I did this challenge with: .....

The total change we found was: .....

Completion date: .....

Adult initials: .....

3 Playing Games With Math

Your challenge:

- Can you find the math in your favorite board or card game such as Go Fish, UNO or Monopoly?

You will need

- Your favorite board or card game to play
- People to play it with

How to play:

1. While you are playing it, have a think about all the math skills you are using!
2. Search hard – most games do involve some math somewhere, but if your favorite game doesn't, then try your second favorite game!

The game I played was .....

The math I spotted in it was .....

Completion date: .....

Adult initials: .....

4 Get Arty!

You will need

- Plain paper
- Art materials

Your challenge:

- Can you create a piece of art that contains all of the following shapes in it: triangles, quadrilaterals (square, rectangle, trapezoid), pentagons, hexagons, and cubes?

What to do:

1. You can create your art using any type of materials you like. You could paint, color or do anything else – it's up to you.
2. You can make as many pieces of art as you want.
3. Then bring your favorite piece of art in at the beginning of the school year!
4. Have fun being arty!

Completion date: .....

Adult initials: .....

5 The Great Maths Bake Off

Your challenge:

- Can you bake something tasty and find the hidden math?

You will need

- A recipe for something yummy
- Ingredients
- An adult to help you

What to do:

1. Cooking is so much fun! But did you know it involves a lot of amazing math too?
2. Work with an adult to bake something yummy. Need an idea of some recipes? Head to bit.ly/TSLrecipes to get some ideas. Have fun in the kitchen, and then fill in the details below. What did you make and what math skills did you use!?
3. Don't forget to taste what you have made!

I made: .....

The math I used was .....

Completion date: .....

Adult initials: .....

6 How Many Answers?

You will need

- Resource Sheet 2

Your challenge:

- How many sums and differences can you make out of two 3 digit numbers?

How to play:

1. You have the digits 5, 6, 7, 8, 2, 3. You need to arrange them into either an addition or a subtraction question. For example, you could make 823 - 567 or 823 + 765. In each question, you can only use each digit once.
2. Solve using models, drawings, properties of operations or the relationship between addition and subtraction. (Note: At this level students are NOT expected to use the standard algorithm).
3. Make a list of the different answers that you have made on Resource Sheet 2. How can you make sure you have found all of the possible (positive number) answers?

I know I have found all of the possible answers because:

.....

Completion date: .....

Adult initials: .....

7 How Long Did It Take?

Your challenge:

- Can you improve your time over 5 days?

You will need

- Resource sheet 3
- A pencil or pen
- A ball
- A stopwatch (on an adult's phone or tablet is fine)

What to do:

1. On Resource Sheet 3 you will find some fun challenges to take part in. Try each one: time yourself and record the time.
2. Try the challenges again on 4 more days and record your times. See if you can get faster each time.
3. Have fun at these speedy challenges!

Completion date: .....

Adult initials: .....

8 Place Value Battle

You will need

- 2 or more players
- A set of 0 - 9 digit cards
- Resource Sheet 4 (one per player)

Your challenge:

- Can you correctly compare 3-digit numbers?

How to play:

1. Shuffle the 0-9 digit cards and place them face down on the table.
2. Decide whether the goal of the round is to make the smallest or largest number.
3. The first person chooses a card and decides which column of their place value chart to place the digit.
4. Then the next player chooses a card and decides which column to place the digit in.
5. This continues until each player has a 3 digit number on the place value chart.
6. The winner of the round is the player with the smallest/largest number (depending on what was decided in #2) and is awarded 1 point.
7. Repeat all the steps to play more rounds. The overall winner is the first person to score 10 points.

Who will win? Play the game at least 3 times.

The first time I played, the person who won was .....

The second time I played, the person who won was .....

The third time I played, the person who won was .....

Completion date: .....

Adult initials: .....

9 What Shape Am I?

You will need

- Resource Sheet 5
- A partner

Your challenge:

- Can you be the person who asks the least number of questions to figure out the other player's shape?

What to do:

1. Each player chooses a shape and writes 5 facts about their shape. Start with vague facts and then make them more specific, to encourage the other player to ask more questions. For example, 'My shape is 2D', then 'my shape has more than 3 sides', then 'my shape has 6 vertices'...
2. Once both players have written their facts, they take turns sharing the facts one at a time. After a player receives a fact on the mystery shape, they can choose to make a guess, or ask for another fact. If they guess correctly after the first statement, they get the full 5 points. If they guess after two statements, they get 4 points, and so on. If they make a guess and it is incorrect, they receive 0 points for that round.
3. The player with the most points at the end of the game wins.

Who will win? Play the game at least 3 times.

The first time I played the game the person who won was.....

The second time I played the game the person who won was.....

The third time I played the game the person who won was .....

Completion date: .....

Adult initials: .....

10 Finding Fractions: Halves, Thirds and Fourths

Your challenge:

- Can you find the halves, thirds, and fourths all around us?

You will need

- Resource Sheet 6

What to do:

1. Look for the fractions on Resource Sheet 6 in real life throughout the summer.
2. Each time you find a fraction, draw it in the correct box.

Completion date: .....

Adult initials: .....

11 Measuring Growth

Your challenge:

- Can you measure and plot the growth of a plant over time?

What to do:

You will need

- At least one plant - you can plant a seed, buy a potted plant from the store or choose a plant in your yard or neighborhood.
- A measuring tool with centimeters (ruler, yardstick or measuring app)
- A way to record data (digitally or on a piece of paper - don't lose it!)
- Paper and pencil to create the line plot

1. Decide which plant you are going to measure and make the first measurement. (Note: For an extra challenge you can measure more than one plant - but keep the measurements in separate groups).
2. Decide how often you will measure the plant (once a day, every other day, or every week).
3. Measure to the nearest centimeter and record the measurement.
4. Once all measurements have been made, create a line plot showing all the measurements from the summer.

Completion date: .....

Adult initials: .....

12 Summer Bar Graph

You will need

- A way to record data (digitally or on a piece of paper - don't lose it!)
- Resource Sheet 7

Your challenge:

- Can you collect data and use it to create a graph and math questions?

What to do:

1. Decide on a summer themed question, such as 'What is your favorite ice cream flavor?' or 'Do you prefer going to the pool, the movies or the park?'
2. Ask the question to at least 10 people and record their answers.
3. Use their answers to create a bar graph.
4. Write 3 math problems that can be solved using the bar graph.

Completion date: .....

Adult initials: .....

13 Telling Time Memory

Your challenge:

- Can you match the times on the clocks?

You will need

- Resource Sheet 8

How to play:

1. Shuffle the cards from the 'Telling Time Memory Resource Sheet' and lay them face down.
2. Turn over two at a time. If the two do not match, flip them over and leave them in the same spot. If the two do match, keep them, and turn over another two.
3. Players continue taking turns turning over two cards, until all the cards have been collected.

Who will win? Play the game at least 3 times.

The first time I played the game the person who won was.....

The second time I played the game the person who won was.....

The third time I played the game the person who won was .....

Completion date: .....

Adult initials: .....

14 Place Value In the Bucket

Your challenge:

- Can you fill the buckets to show the place value of a number?

What to do:

You will need

- Three buckets - one labeled 'Hundreds', one labeled 'Tens' and one labeled 'Ones'
- A rope or a line drawn on the ground
- Small items to throw (bean bags, ping pong balls, waded up pieces of paper)
- A selection of 3-digit number cards from 100 to 999

1. Draw a card. Decide how to show the number on the card with hundreds, tens and ones.
2. Stand behind the line and throw the small items into the buckets until you have shown the place value of the number.
3. Take turns with everyone playing, giving one point for each correct turn.
4. The first player to 5 points wins.

Who will win? Play the game at least 3 times.

The first time I played the game the person who won was.....

The second time I played the game the person who won was.....

The third time I played the game the person who won was .....

Mathematical Note: There are many ways to decompose the same number. For example, the number 230 can be '2 hundreds and 3 tens', but it is also '1 hundred and 13 tens' or '2 hundreds and 2 tens and 10 ones.'

Completion date: .....

Adult initials: .....

15 Addition and Subtraction Tug of War

Your challenge:

- Can you reach the goal number first?

What to do:

You will need

- A partner
- Set of 0-9 digit cards
- Paper and pencils to solve

1. Start the game with 500 points.
2. The first player takes two 0-9 cards and makes a 2-digit number.
3. They add this number to the 500, to make a new total. Solve using models, drawings, properties of operations or the relationship between addition and subtraction. (Note: At this level students are NOT expected to use the standard algorithm).
4. The second player then selects 2 cards, makes a 2-digit number, and subtracts this from the total. Solve using any strategy (for example, with models, drawings, properties of operations, or the relationship between addition and subtraction. Note: At this level students are NOT expected to use the standard algorithm).
5. Keep going until either player 1 gets to above 900 or player 2 gets to below 100.
6. Once the game is finished, players can swap roles, so both have the opportunity to work on addition and subtraction.

Who will win? Play the game at least 3 times.

The first time I played the game the person who won was.....

The second time I played the game the person who won was.....

The third time I played the game the person who won was .....

Completion date: .....

Adult initials: .....

16 Adding Yesterday, Today and Tomorrow

You will need

- A calendar
- Paper and pencils to solve

Your challenge:

- Can you add yesterday's, today's and tomorrow's day of the month?

What to do:

1. Find the day of the month on the calendar.
2. Add today's day of the month, with yesterday's day of the month and tomorrow's day of the month. Solve using any strategy (for example, with models, drawings, properties of operations, or the relationship between addition and subtraction. Note: At this level students are NOT expected to use the standard algorithm).
3. Add a check mark or a star on the calendar each day you complete this activity.

Completion date: .....

Adult initials: .....

17 10 more, 10 less

Your challenge:

- Can you mentally add 10 more or 10 less?

You will need

- Set of 0-9 digit cards
- A partner

What to do:

1. The first player draws 3 digit cards and creates a number.
2. Then, using mental math, the player says what 10 more and 10 less of the number is. (Note: This can also be played as 100 more, 100 less.)
3. A player gets one point for each correct answer.
4. Then the next player draws 3 digit cards and repeats the process.
5. Play until a player reaches 10 points.

Who will win? Play the game at least 3 times.

The first time I played the game the person who won was .....

The second time I played the game the person who won was .....

The third time I played the game the person who won was .....

Completion date: .....

Adult initials: .....

18 Wacky Word Problems

You will need

- Resource Sheet 9
- A paper clip
- Pencil and paper

Your challenge:

- Can you create and solve wacky word problems?

What to do:

1. Use the game spinners on the 'Wacky Word Problems' Resource sheet to choose your character, object and unknown equation. To use the spinners, place a paper clip at the tip of a pencil on the black circle in the middle of the spinner. Then use your finger to flick the paper clip - making it spin and eventually land on a spot in the spinner.
2. Use the character and object to write a Wacky Word Problem that represents the unknown equation.
3. Solve the Wacky Word Problem and then have a partner check your work.
4. See if you can make a Wacky Word Problem for each of the unknown equations.
5. You can also use the blank spinner to create your own wacky categories or unknown equations.

Completion date: .....

Adult initials: .....

19 Math, Paper, Scissors

Your challenge:

- Can you win the math version of 'Rock, Paper, Scissors?'

You will need

- 2 or more players

How to play:

1. Players stand facing each other. Players make two fists, and simultaneously say 'math, paper, scissors' while moving their fists up and down (like when you actually play "Rock, Paper, Scissors'). On scissors, each player puts out between 1 and 10 fingers.
2. Players race to add the number of fingers they put out by the number of fingers their partner put out and call out the answer.
3. The player to call the correct answer first wins a point.
4. Play for the allotted time period (for example, 2 minutes). The winner is the player with the most points.

Who will win? Play the game at least 3 times.

The first time I played the game the person who won was .....

The second time I played the game the person who won was .....

The third time I played the game the person who won was .....

Completion date: .....

Adult initials: .....

20 Frisbee Math

Your challenge:

- Can you identify odd and even numbers?

You will need

- A frisbee
- A marker
- 2 or more players

How to play:

1. Take the frisbee and write the numbers 1-20 around the edge of the frisbee with a marker.
2. Go outside and one player throws the frisbee to the other player.
3. The player finds the number that their hand is touching and decides whether the number is odd or even, explaining how they know.
4. That player then has to throw the frisbee back to the other player where they now have to identify and explain whether the number their hand is touching is odd or even.

I played with: .....

Who identified the most odd and even numbers? .....

Completion date: .....

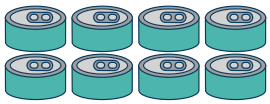
Adult initials: .....

Resource Sheet 1: Hunting for Arrays

Use this sheet to record 8 different arrays that you have spotted during the break . Write down 4 calculations that each array shows. One has been done for you.

1) The array I spotted was:

cans at the supermarket



4 x 2 = 8

2 x 4 = 8

8 ÷ 2 = 4

8 ÷ 4 = 2

2) The array I spotted was:

..... ☐ ..... = ...

..... ☐ ..... = ...

..... ☐ ..... = ...

..... ☐ ..... = ...

3) The array I spotted was:

..... ☐ ..... = ...

..... ☐ ..... = ...

..... ☐ ..... = ...

..... ☐ ..... = ...

4) The array I spotted was:

..... ☐ ..... = ...

..... ☐ ..... = ...

..... ☐ ..... = ...

..... ☐ ..... = ...

5) The array I spotted was:

..... ☐ ..... = ...

..... ☐ ..... = ...

..... ☐ ..... = ...

..... ☐ ..... = ...

6) The array I spotted was:

..... ☐ ..... = ...

..... ☐ ..... = ...

..... ☐ ..... = ...

..... ☐ ..... = ...

7) The array I spotted was:

..... ☐ ..... = ...

..... ☐ ..... = ...

..... ☐ ..... = ...

..... ☐ ..... = ...

8) The array I spotted was:

..... ☐ ..... = ...

..... ☐ ..... = ...

..... ☐ ..... = ...

..... ☐ ..... = ...

Resource Sheet 2: How Many Answers?

You have the digits 5, 6, 7, 8, 2, 3

You need to arrange them into either an addition or subtraction equation.

For example, you could make 823 - 567 or 823 + 765. In each equation, you can only use each digit once.

Work out the answer to your equation, using any method you like (don't use a calculator). Make a list of the different answers that you have found. How can you make sure you have found all possible answers?

Use this space below to help you.

Resource Sheet 3: How Long Did It Take?

Can you improve your time over 5 days?

Challenge A: Jump 20 times.
Challenge B: Hop 25 times without falling over.
Challenge C: Throw a ball up in the air and catch it 10 times in a row.
Challenge D: Do 5 kick-ups without the ball hitting the ground.
Challenge E: Say your alphabet backwards as fast as you can.
Challenge F: Do 50 jumping jackss.
Challenge G: Spin around 5 times and then jump to the other side of your outside area.

	Time taken (minutes)				
Challenge	Day 1	Day 2	Day 3	Day 4	Day 5
A					
B					
C					
D					
E					
F					
G					

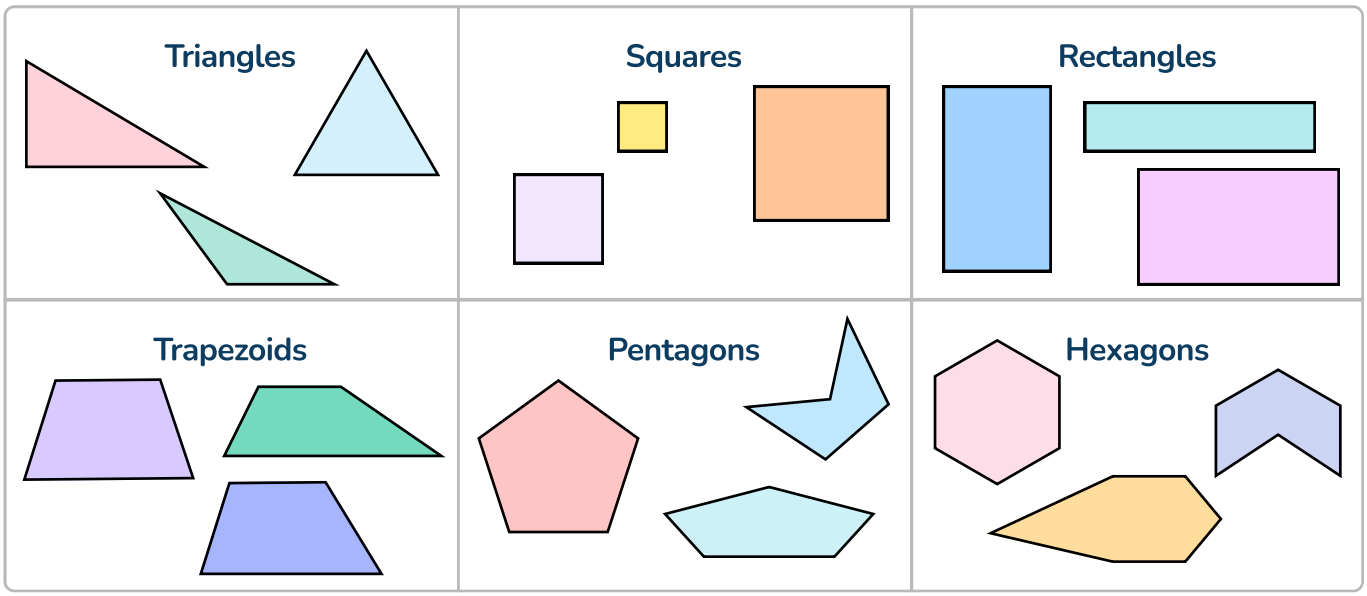
Resource Sheet 4: Place Value Battle

H	T	O

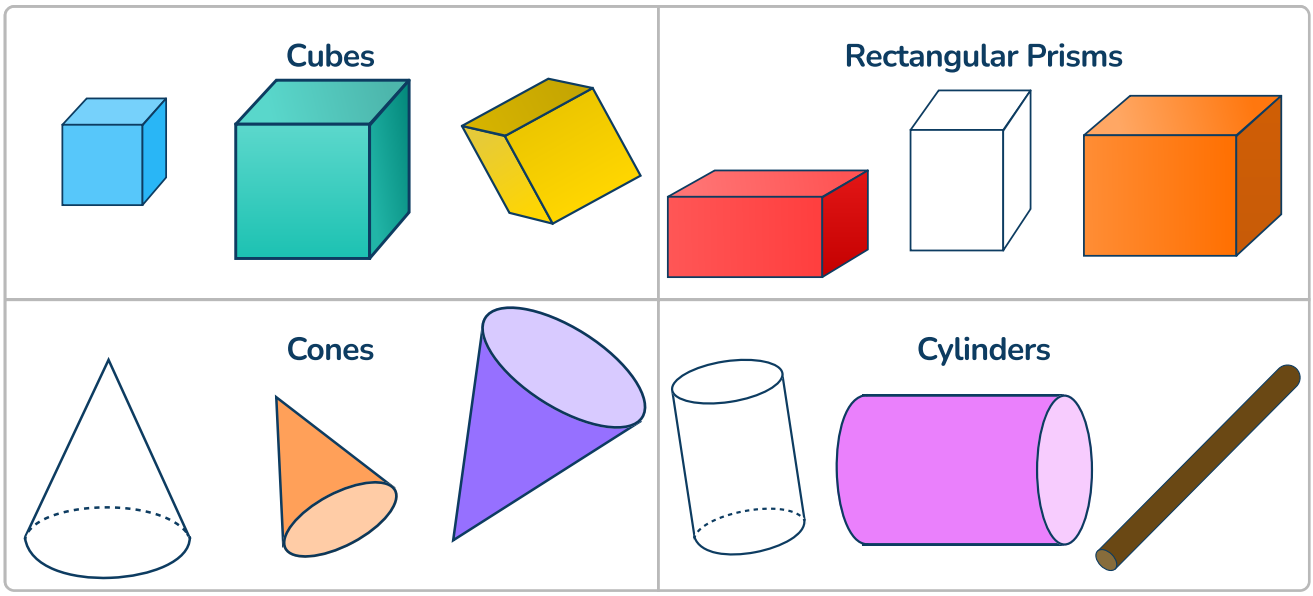
H	T	O

Resource Sheet 5: What Shape Am I?

2 Dimensional Shapes



3 Dimensional Shapes



Resource Sheet 6: Finding Fractions

one-half	two-halves	one-third
two-thirds	three-thirds	one-fourth
two-fourths	three-fourths	four-fourths

Resource Sheet 7: Summer Bar Graph

A Summer Bar Graph Question: .....

After asking at least 10 people, create the bar graph below.

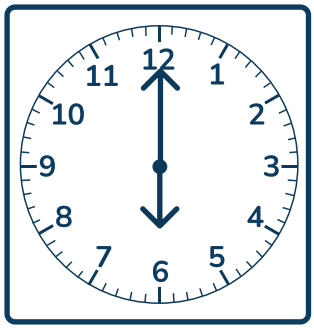
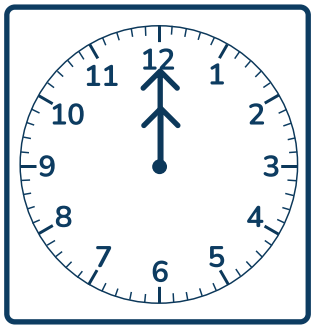
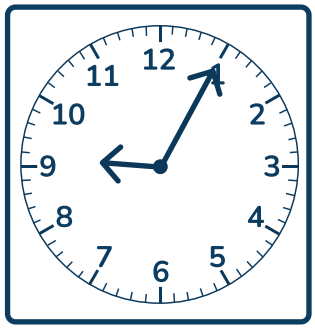
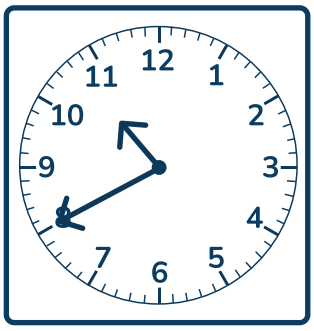
B Summer Bar Graph Math Questions

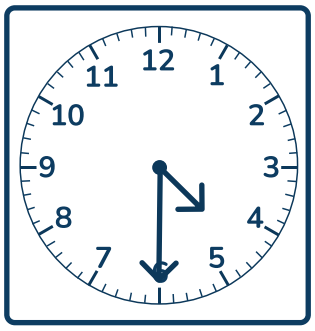
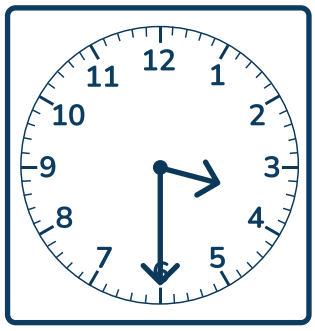
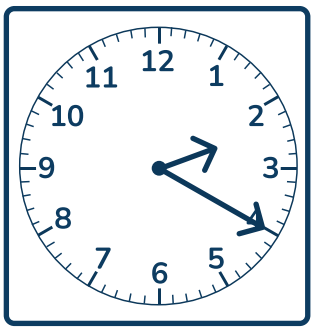
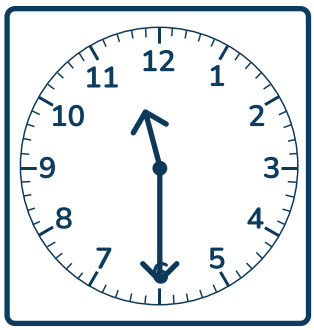
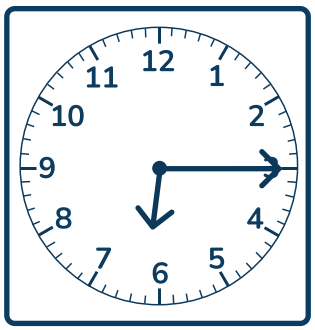
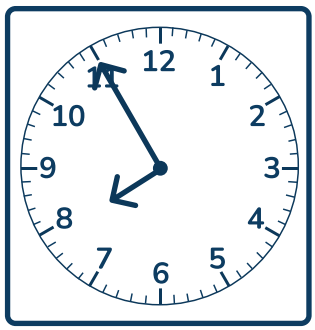
1)

2)

3)

Resource Sheet 8: Telling Time Memory

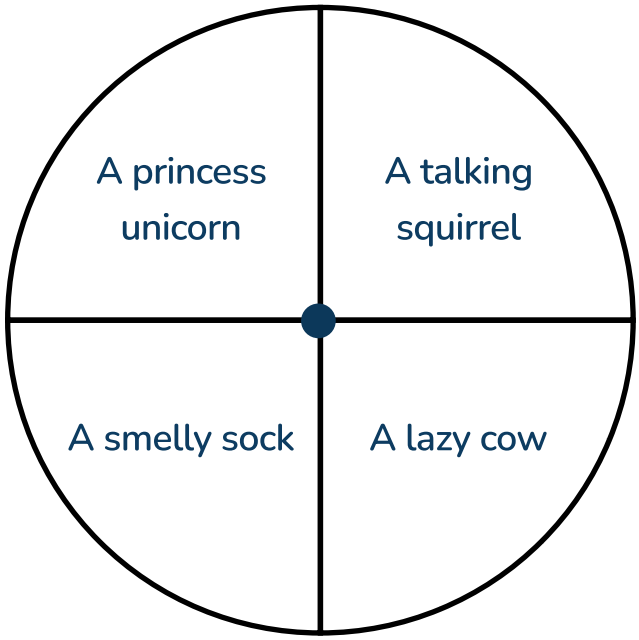






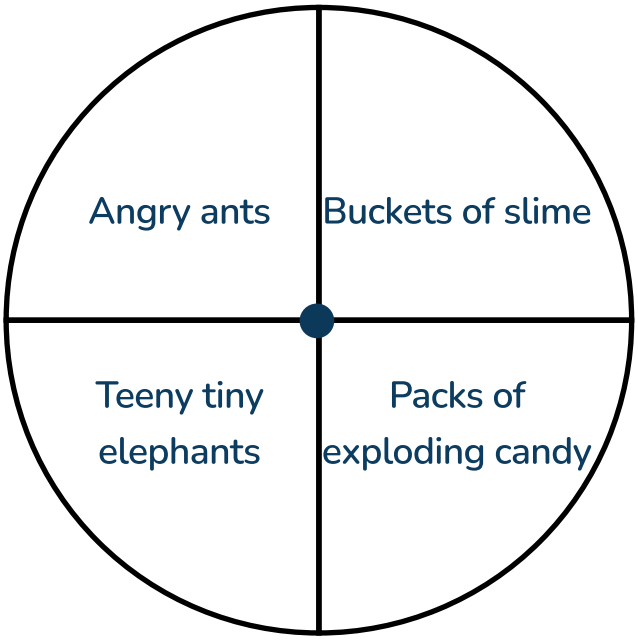
6:15	11:00	6:00	12:00
7:55	11:30	2:20	3:30
4:30	7:05	10:40	9:05

Resource Sheet 9: Wacky Word Problems

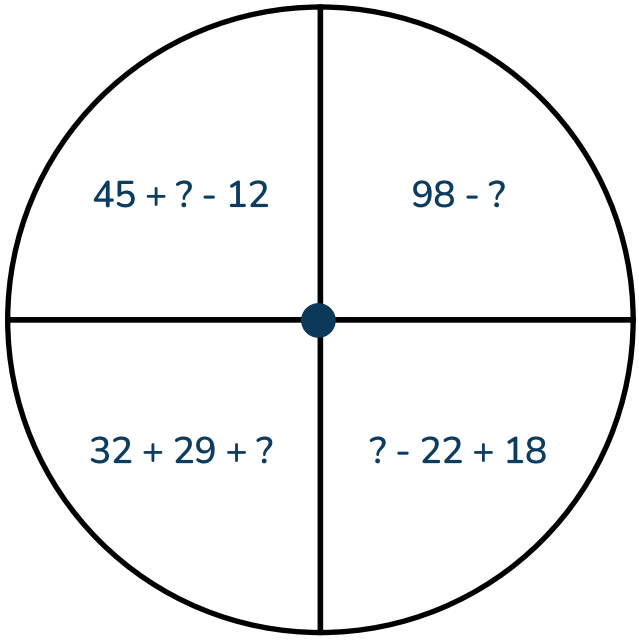
Character Wheel



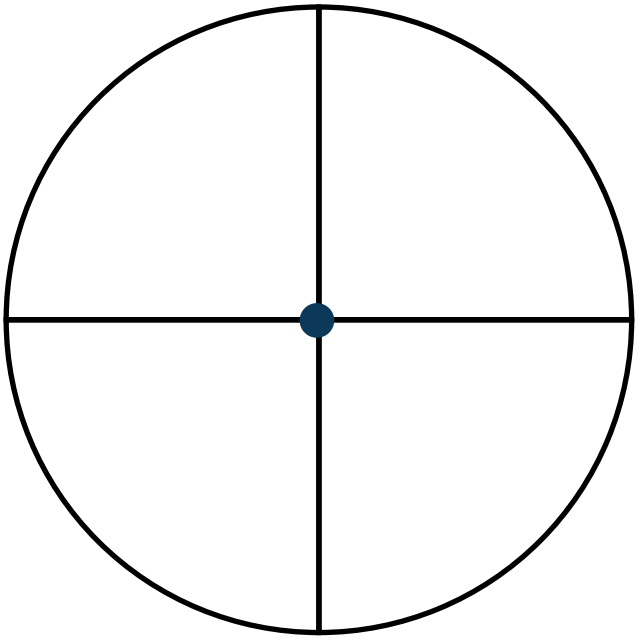
Object Wheel



Unknown Equation Wheel



Blank Wheel



THIRD SPACE LEARNING

0-9 Digit Cards

0	1	2	3
4	5	6	7
8	9	0	1
2	3	4	5

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0-9 Digit Cards

6	7	8	9
0	1	2	3
4	5	6	7
8	9		

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