

Week 5 - Package 1 - Year 3 and 4

Mathematics - Dicey addition

Things you need

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

Ideal

- [Dicey addition](#) video
- a 0-9 dice or 0-9 spinner (Activity sheet 1)
- paper
- paperclip
- pen
- pencils or markers

Back up

- Read the instructions about how to play the game.

Why is this activity important?

This task is designed to offer your child the opportunity to work flexibly with numbers and use their knowledge of landmark numbers (for example; multiples of fives and tens) and number facts. It also encourages mathematical reasoning. Have fun!

Before you start

Make sure you have the required resources ready. Create the spinners as shown in the Dicey addition video by using this [decagon](#) template, some card, pen and paper clip.

What your child needs to know and do

This task is easily adaptable and your child can bring to it whatever they know about numbers, place value and additive thinking.

What to do next

Watch the [Dicey addition](#) video.

How to play:

- Find a partner and collect the resources needed.
- Draw your game boards so you each have the same one.
 - For example: $_ _ _ + _ _ _ + _ _ _ = _ _ _ _ _ _$
 - You can start with something different if you would like.
- Each player takes a turn to spin the spinner and decide where to play that digit in their number sentence (equation).
- Take it in turn to spin the spinner until all the spaces have been filled in.
- The person whose sum is closest to 1000 is the winner!

Options for your child

Activity too hard?

Vary the target number.

Slowly build up the size of the numbers each time you play the game. This is also useful when playing with younger siblings.

Activity too easy?

Spend time discussing the strategies used whilst playing the game and finding the total.

Vary the target number.

Follow-up questions to ask your child

- What would happen if I had said....instead of ...? (Identify a time when playing the game that could have changed the outcome of who won.)
- How could we change the game to make it more/less challenging?

Extension/Additional activity

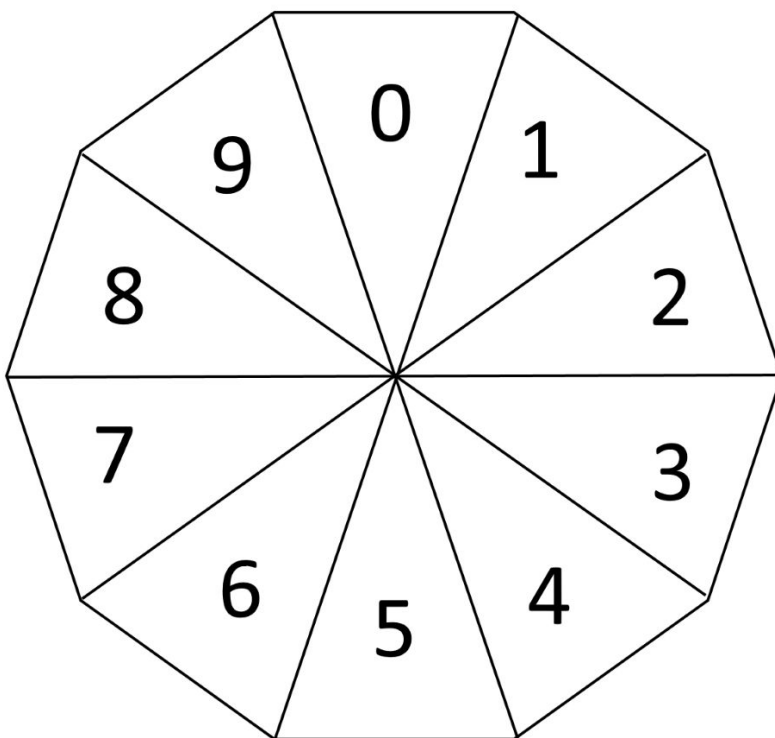
Play the dicey addition game using one of these scoring systems:

1. A point for a win. The first person to reach 10 points wins the game.
2. Each player keeps a running total of their "penalty points", the difference between their result and 1000 after each round. First to 5000 loses.

Have your child create their own game boards. They may like to use subtraction or multiplication instead.

You can find out more about [Dicey addition](#) at NRICH from Cambridge University.

Activity sheet 1: 0-9 spinner



Week 5 - Package 2 - Year 3 and 4

Mathematics - Race to zero

Things you need

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

Ideal

- [Race to zero video](#)
- Activity sheet 1: Race to zero game board
- Activity sheet 2: Spinners 0-9 and 20-70
- 2 counters
- 2 paper clips
- Pen

Back up

- Additional copies of Activity sheet 1
- 2 items to represent counters

Why is this activity important?

This game helps your child develop their confidence in using a range of strategies for subtraction. The game board (number chart) gives your child the opportunity to develop and use their understanding of place value, patterns and mathematical number relationships. It also supports your child by encouraging them to share their mathematical reasoning.

Before you start

Make sure your child has the required resources ready.

Check that the video is working and the audio settings are correct for your child.

What your child needs to know and do

This game encourages your child to share what they know about numbers, patterns and subtracting strategies.

What to do next

View the video [Race to zero](#).

How to play?

- Players place their counters at the end of 119.
- The person whose birthday is closest to February 29 goes first.
- Players take turns to spin both spinners and decide which to use, subtracting the amount from their current position.
 - For example, a player rolled 60 and 4. He or she can choose to subtract 60 or 4.
- Players explain where they need to move their counter to and explain their thinking.
- If their partner agrees, they move the counter to the corresponding position.
- Players take turns until someone has been able to land exactly on zero.
- Players miss a turn if they cannot move or they have to move their counter back to 25.
- If a spin means they would move into negative numbers, they have to move their counter back to 25.

Options for your child

Activity too hard?

Give your child time to think about how they can use the number chart to support their thinking. They may like to use another strategy to check their thinking.

Only use the 0-9 spinner.

Activity too easy?

Players could be strategic and choose to use their turn, skip their turn or make the other player action their turn.

Your child may like to extend their game board into negative numbers.

Follow-up questions to ask your child

- How is your thinking similar or different to...?
- So you're saying... Do I have that correct?
- Can you please say more about your thinking?
- I am going to use that strategy you used... is that how you would have thought about it?

Extension/Additional activity

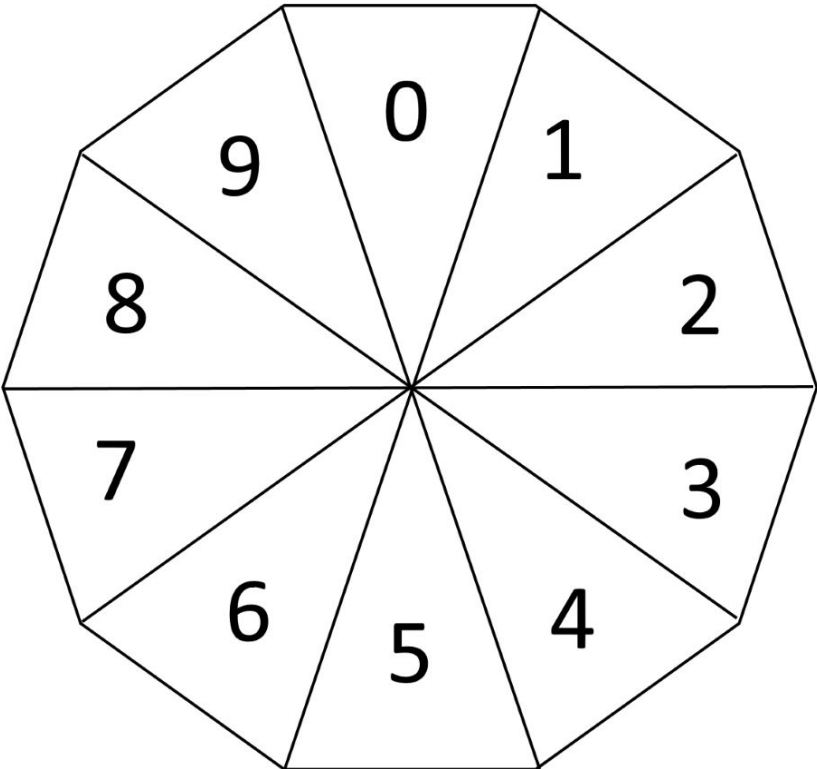
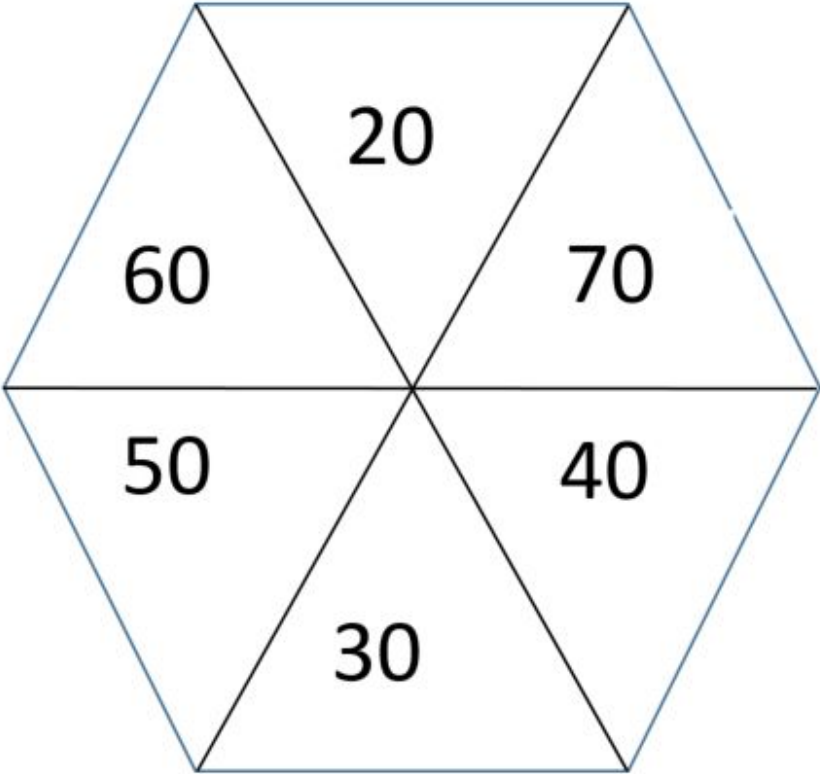
Another way to play:

- Use a 0-119 chart cut into a number strip as a game board.
- Select a different target number.
- Extending the game board.

Activity sheet 1

110 one- hundred and ten	111 one- hundred and eleven	112 one- hundred and twelve	113 one- hundred and thirteen	114 one- hundred and fourteen	115 one- hundred and fifteen	116 one- hundred and sixteen	117 one- hundred and seventeen	118 one- hundred and eighteen	119 one- hundred and nineteen
100 one- hundred	101 one- hundred and one	102 one- hundred and two	103 one- hundred and three	104 one- hundred and four	105 one- hundred and five	106 one- hundred and six	107 one- hundred and seven	108 one- hundred and eight	109 one- hundred and nine
90 ninety	91 ninety- one	92 ninety- two	93 ninety- three	94 ninety - four	95 ninety- five	96 ninety- six	97 ninety- seven	98 ninety- eight	99 ninety- nine
80 eighty	81 eighty- one	82 eighty- two	83 eighty- three	84 eighty- four	85 eighty- five	86 eighty- six	87 eighty- seven	88 eighty- eight	89 eighty- nine
70 seventy	71 seventy- one	72 seventy - two	73 seventy- three	74 seventy- four	75 seventy- five	76 seventy- six	77 seventy- seven	78 seventy- eight	79 seventy- nine
60 sixty	61 sixty-one	62 sixty-two	63 sixty- three	64 sixty- four	65 sixty-five	66 sixty-six	67 sixty- seven	68 sixty- eight	69 sixty- nine
50 fifty	51 fifty-one	52 fifty-two	53 fifty- three	54 fifty-four	55 fifty-five	56 fifty-six	57 fifty- seven	58 fifty- eight	59 fifty-nine
40 forty	41 forty- one	42 forty- two	43 forty- three	44 forty- four	45 forty-five	46 forty-six	47 forty- seven	48 forty- eight	49 forty- nine
30 thirty	31 thirty- one	32 thirty- two	33 thirty- three	34 thirty- four	35 thirty- five	36 thirty-six	37 thirty- seven	38 thirty- eight	39 thirty- nine
20 twenty	21 twenty- one	22 twenty- two	23 twenty- three	24 twenty- four	25 twenty- five	26 twenty- six	27 twenty- seven	28 twenty- eight	29 twenty- nine
10 ten	11 eleven	12 twelve	13 thirteen	14 fourteen	15 fifteen	16 sixteen	17 seventeen	18 eighteen	19 nineteen
0 zero	1 one	2 two	3 three	4 four	5 five	6 six	7 seven	8 eight	9 nine

Activity sheet 2



Week 5 - Package 3 - Year 3 and 4

Mathematics - Multiples madness

Things you need

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

Ideal

- [Multiples madness](#) video
- 0-9 dice or spinner 0-9 (Activity sheet 1)
- Activity sheet 2 - multiples madness: fives game board
- Activity sheet 3 - multiples madness: twos game board
- Activity sheet 4 - multiples madness: tens game board
- 2 pencils or markers
- 10 counters (5 for each player)
- paper clip
- 2 players

Back up

- 10 beads, beans or small objects
- Read the instructions about how to play the game.

Why is this activity important?

This task is designed to offer your child the opportunity to develop their confidence in understanding multiples of fives, twos and tens.

Before you start

Make sure you have the required resources ready. Create the spinners as shown in the Multiple madness video by using the spinner template (activity sheet 1), pen and paper clip.

Check that the video is working and the audio settings are correct for your child.

What your child needs to know and do

This game is easily adaptable.

What to do next

View the [Multiple madness](#) video.

How to play

- Player 1 rolls the dice or spins the spinner and multiplies the number by five.
- Player 1 explains their thinking to player 2.
- Player 2 records player 1's thinking if they agree.
- Player 1 is able to place one of their counters on the multiple on the game board, claiming that place.
- Player 2 has their turn, spinning the spinner and multiplying the numbers and player 1 records.
- The game continues with each player taking turns.
 - If the number is taken, that player misses a turn.
- Since players only have 5 counters, they will need to choose which counter to move once all 5 have been placed on the game board.
- A player wins by getting three counters in a row (in any orientation).

Options for your child

Activity too hard?

Record multiplication facts prior to playing or play with access to a multiplication grid to check the other player's answers. This gives players an opportunity to have a second attempt if they answer incorrectly initially.

Activity too easy?

Play to win with 4 or 5 counters in a row.

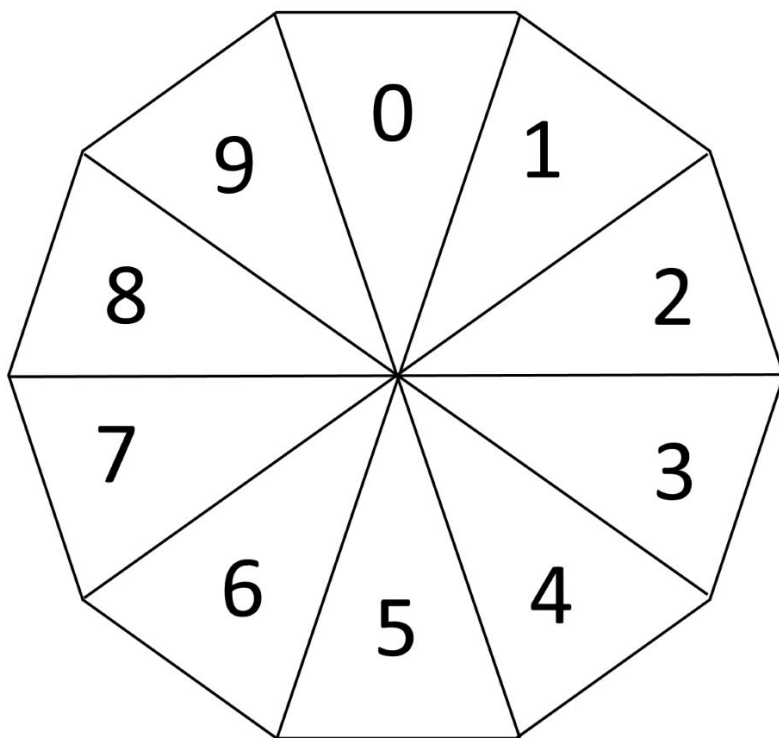
Follow-up questions to ask your child

- What are you hoping to spin?
- What spins won't help you win?
- What will you need to spin to block me?
- If you could play the game again, what is one thing you would do differently?
 - Why?

Extension/Additional activity

- Play multiple madness: twos, multiple madness: tens or make your own game board!

Activity sheet 1: 0-9 spinner



Activity sheet 3: Multiple madness twos

2	0	12	4	14
10	12	6	16	4
16	6	18	0	10
4	10	8	18	16
14	18	12	8	6

Player 1			Player 2			
Rolled	Number sentence	Covered	Rolled	Number sentence	Covered	

Week 5 - Package 4 - Year 3 and 4 Mathematics - youcubed number visuals

Things you need

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

Ideal

- [youcubed number visuals](#) video
- Activity sheet 1
- Pencils or markers

Back up

- Read the instructions about youcubed number visuals.
- Additional copies of Activity sheet 1.

Why is this activity important?

This task is designed to offer your child the opportunity to:

- see numbers
- investigate this interesting representation of numbers
- understand how numbers are made up
- engage with numbers flexibly
- think visually about numbers
- think about factors and multiples.

Before you start

Make sure your child has the required resources ready.

Check that the video is working and the audio settings are correct for your child.

What your child needs to know and do

This task encourages your child to share what they know about numbers, patterns and multiplicative thinking.

What to do next

View the [youcubed number visuals](#) video.

Encourage your child to explore the number visuals on Activity sheet 1.

Ask your child to think about what they notice. Ask them to look for different ways they see each number visual made up of other numbers and interesting patterns.

Ask your child to use colours to help them record their noticings.

Options for your child

Activity too hard?

Give your child time to look closely and carefully at the pattern and to also think creatively.

Encourage your child to watch the video again. They may like another opportunity to think about the mathematical ideas explored in the video.

Celebrate all the creative thinking your child notices, even if they are not sure if it is accurate. Then encourage them to explore their thinking further.

Ask your child to write the number that each visual represents on Activity sheet 1.

Activity too easy?

Your child may ask questions about the patterns in some of the representations. Encourage them to share how they might change the number visuals. Also ask them to share their reasoning about their design.

Ask your child to explore all the multiples of 3, 4, 5, etc.

Follow-up questions to ask your child

- What did you see in the number visuals?
- Do you notice anything interesting about the way the numbers are shown?
- Can you also see the number 4 inside of 20?
 - How many different ways can you see numbers inside of 20?
- What patterns do you see?
- Can you share your thinking about... ?
- I see you have used (colour), here (point to number visuals). Why did you choose to use (colour) here?
- What does each set of multiples have in common?
 - Are there any differences?

Extension/Additional activity

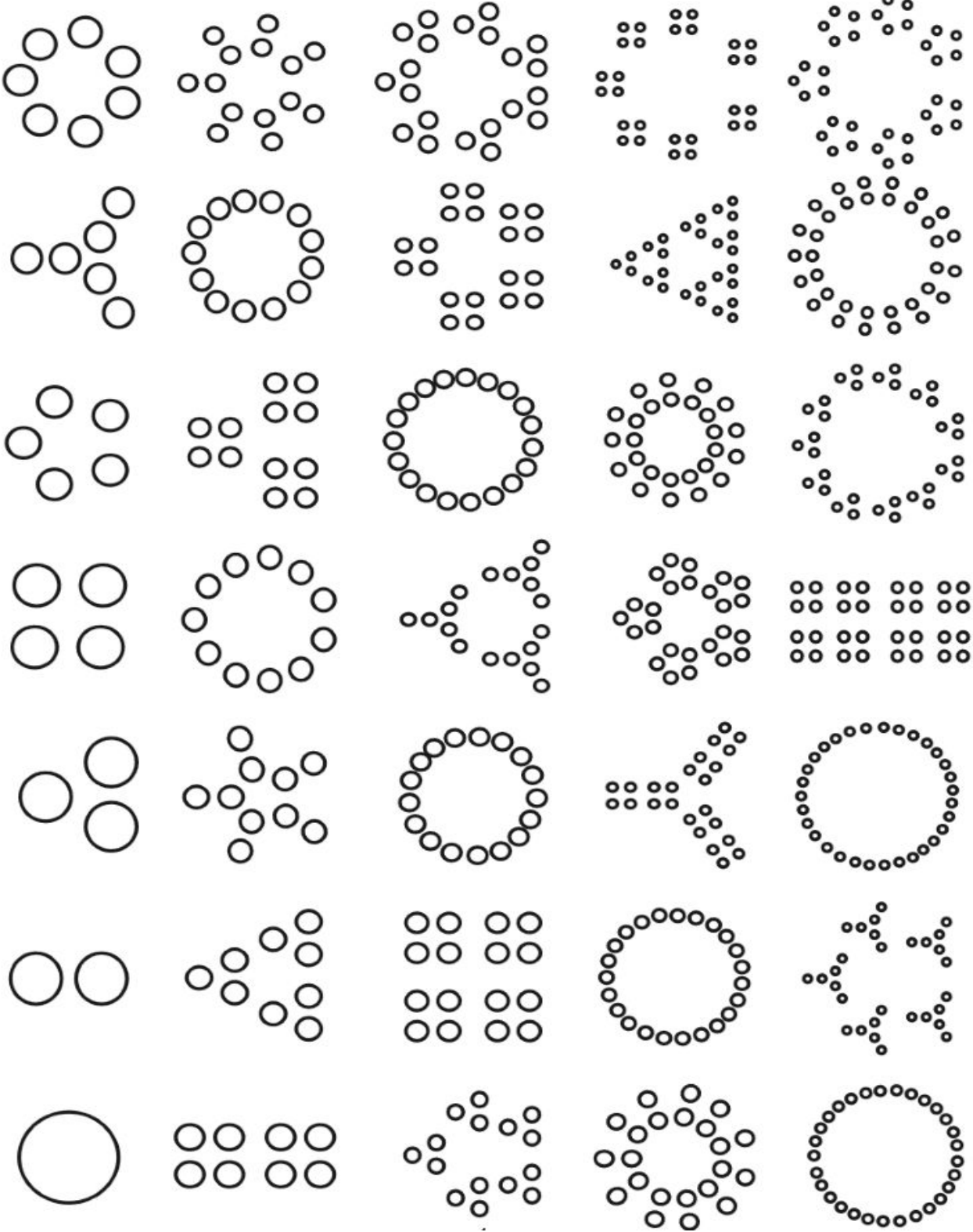
Share additional copies of Activity sheet 1 so your child can explore a new pattern with different colors.

Encourage your child to draw other numbers not featured or create their own visualization for numbers (for example 1 – 20).

You can find out more about youcubed number visuals at [youcubed](https://youcubed.org/) from Stanford University.

Activity sheet 1

Explore the number visuals and record the different ways you see each number visual made up of other numbers.



Week 5 - Package 5 - Year 3 and 4 Mathematics - Same and different

Things you need

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

Ideal

- [Same and different](#) video
- Activity sheet 1
- Pencil
- Colour pencils or markers

Back up

Read the instructions about Same and different.

Why is this activity important?

This task is designed to offer your child the opportunity to:

- see how different visuals helps us see how numbers are made up of smaller numbers
- see how visuals can help us see multiplicative situations for example seeing 6 as 3 twos instead of $5 + 1$
- see how some numbers can be partitioned into equal groups in different ways, whereas others can't be partitioned into equal sized groups
- see how the same value can look quite different.

Before you start

Make sure your child has the required resources ready.

Check that the video is working and the audio settings are correct for your child.

What your child needs to know and do

This task encourages your child to share what they know about numbers, patterns and multiplicative thinking.

What to do next

View the [Same and different](#) video.

Encourage your child to explore the two different number visuals on Activity sheet 1.

Ask your child to think about what they notice is the same in these visual representations of the numbers 1- 20 and what is different. Do they find anything cool or something that they are curious about? Have your child record their noticings.

Options for your child

Activity too hard?

Give your child some thinking time to look closely and carefully at the number visuals.

Encourage your child to watch the video again. They may like another opportunity to think about the mathematical ideas explored in the video.

Celebrate all the creative thinking your child notices, even if they are not sure if it is accurate. Then encourage them to explore their thinking further.

Activity too easy?

Ask your child to create the next row for Dan's number visual.

Encourage your child to look at the top row of each number visual and draw a representation for 35?

Follow-up questions to ask your child

- What's the same in these visual representations of the numbers 1- 20?
 - What's different?
- What are some things you find cool and/or are curious about?
- Were you surprised by Dan's visual number representation?

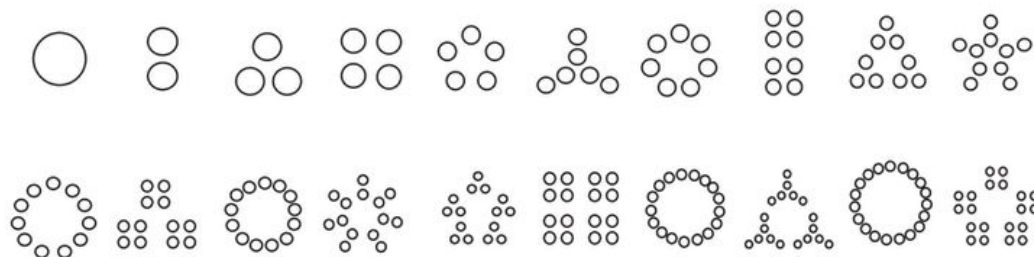
- What did this help you notice?

Extension/Additional activity

Ask your child to create their own number visuals.

You can find out more about youcubed number visuals at [youcubed](#) from Stanford University and [prime club colour chart](#) from mathforlove.

Activity sheet 1



From: YouCubed and math for love

What's the same in these visual representations of the numbers 1- 20?

What's different in these visual representations of the numbers 1-20?