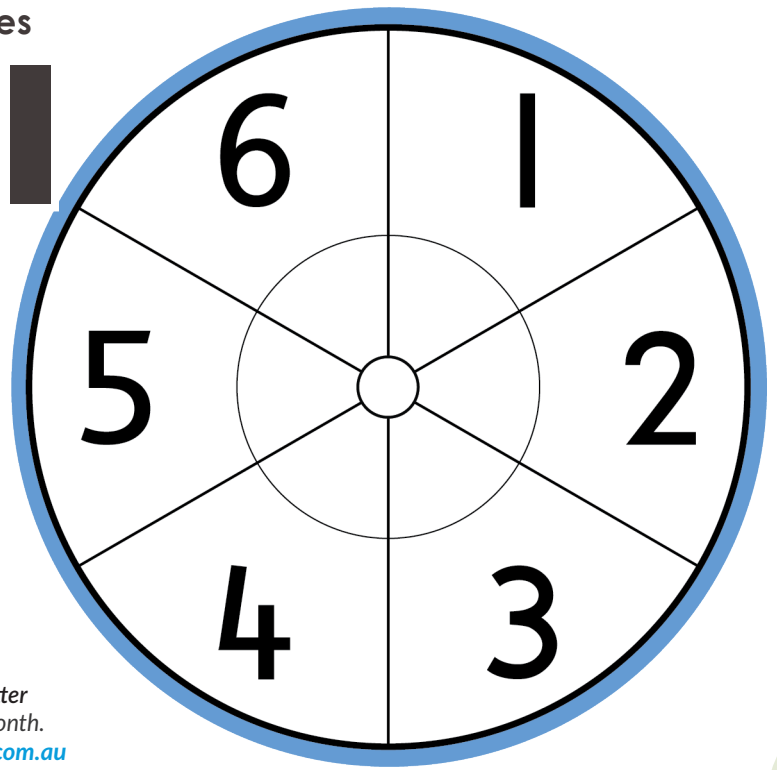


Purposeful Puzzles, Problems and Games

# Dr Paul Swan

## BOARD GAME PACK YEARS 3-4



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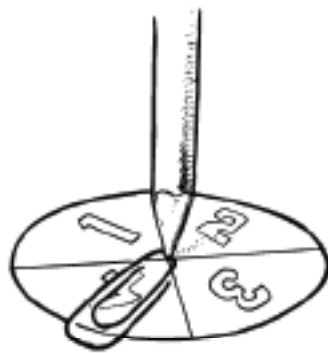
Youtube  
[www.youtube.com/DrPaulSwan](http://www.youtube.com/DrPaulSwan)

Game	Year Level & Topic	Content	AC Link(s)
Time Match (5 Minute)	Year 3   Time to 5 minute intervals (Year 3)	Measurement, Time,	ACMMG062
Time Match (Minute)	Year 3   Time to 1 minute intervals (Year 3)	Measurement, Time,	ACMMG062
Odd One Out	Years 3-4   Odd / Even Distinction	Number Odd, Even	ACMNA052, ACMNA071
Arrays Games	Years 3-4   Multiplication using the Arrays method	Number, Tables, Basic Facts, Multiplication	ACMNA056, ACMNA075
Double Up	Years 3-4   Doubling	Number, Tables, Basic Facts, Multiplication	ACMNA056, ACMNA075
Double Double Up	Years 3-4   Doubling (x2 x2)	Number, Tables, Basic Facts, Multiplication	ACMNA056, ACMNA075
Double Double Double Up	Years 3-4   Doubling (x2 x2 x2)	Number, Tables, Basic Facts, Multiplication	ACMNA056, ACMNA075

# Spinners

Spinners are a fantastic resource for maths games, probability concepts and more. Spinners can come in a number of forms.

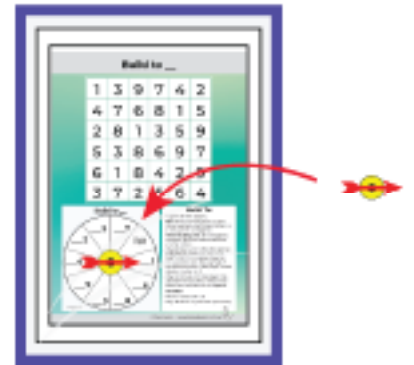
## Temporary Spinners



1. Need a spinner in a pinch? Place a paperclip onto the spinner circle so that one end of the paperclip goes around the centre on the point of a pen. It should spin around the pen point and land on different outcomes.



2. A Round Spinner is a general purpose spinner that sits on top of paper, printed / laminated games or Write and Wipe Sleeves.

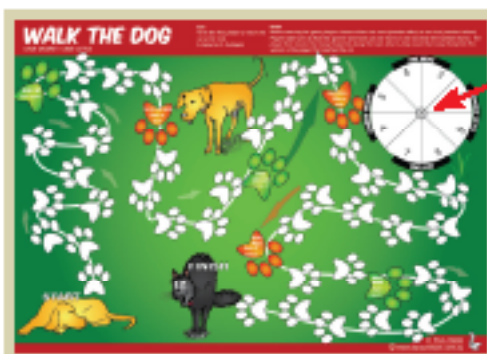


3. A Suction Spinner is another easy-to-use spinner that is particularly good together with whiteboards and write and wipe sleeves

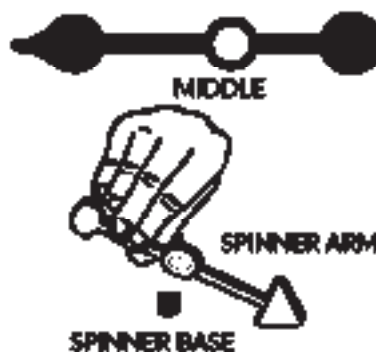
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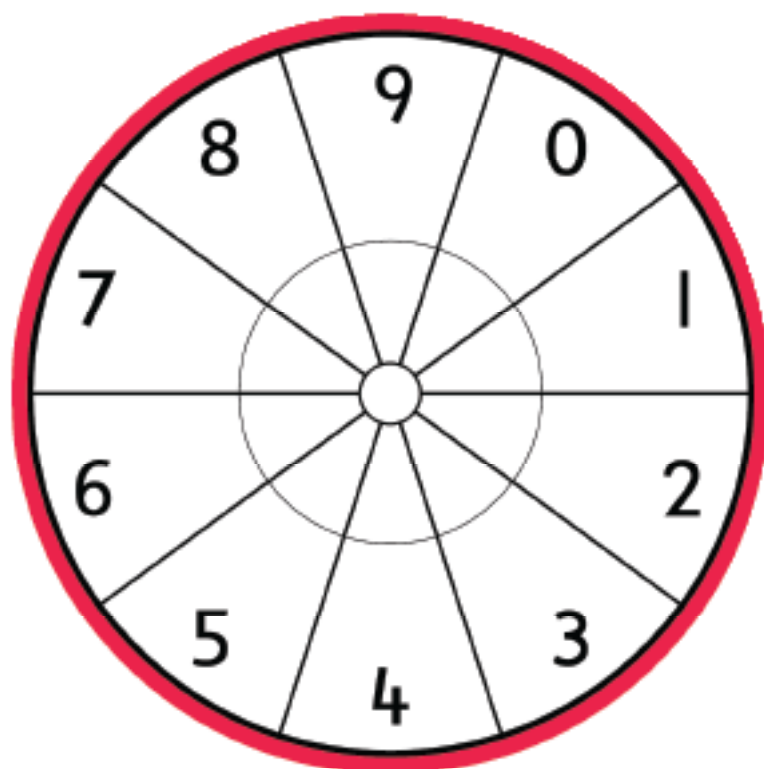
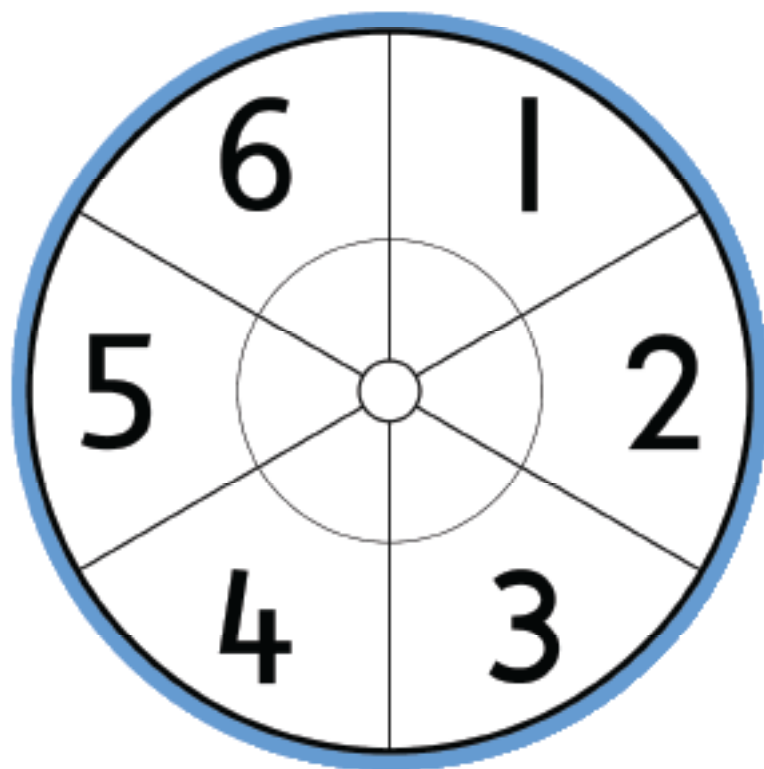
## Permanent Spinners

For a more permanent solution you can purchase plastic spinner arrows ([available from www.drpaulswan.com.au](http://www.drpaulswan.com.au)) and use a nail to make a hole through a laminated spinner. Spinner arrows come in three parts – a base, and arrow and the cap.

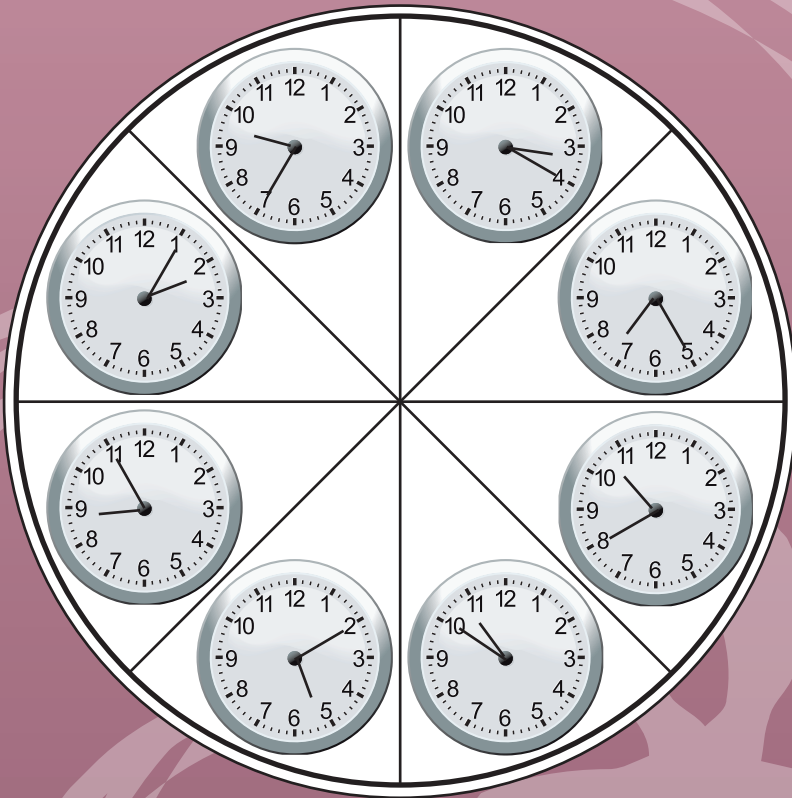


1. Use a nail to create a hole in a laminated spinner template.
2. Insert the spinner base from the back of the laminated spinner through the nail hole.
3. Click the spinner together.





# Time Match (5 Minute)



## Time Match 5 Minute

A game for two players.

**Aim:** To be the first player to place three counters, next to each other, in a row, column or diagonal.

**Materials Required:** 36 transparent counters, 18 of one colour and 18 of another colour.

- Players take turns to flick the spinner and place a counter on the board that is equivalent to the time shown on the spinner.
- Play continues until one player has placed three counters, next to each other, in a row, column or diagonal.

### Variation

- Allow a 'bump off' rule.

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7 twenty five	5 ten	9 thirty five	10:50	8:55	2 'oh' five	3 twenty	10:40
9:35	3 twenty	7:25	2:05	10 forty	5:10	7 twenty five	5:10
8:55	10 fifty	3:20	9 thirty five	10:50	2 'oh' five	10:40	8 fifty-five
9:35	5:10	10 forty	2:05	7 twenty five	9:35	3:20	10:50
2:05	7 twenty five	9:35	10:50	5 ten	3:20	10 forty	8:55
10:50	8 fifty-five	5:10	7:25	8 fifty-five	10 forty	2:05	3:20

# Time Match (5 Minute)

Students may be exposed to time in several ways prior to the formal teaching of clock reading. An analogue and digital clock should hang at the front of every classroom. Reference may be made to various times in the day. For example, 'It is nearly 12 o'clock and we have lunch at 12 o'clock' or 'it is nearly 3 o'clock; time to pack up.'

## Australian Curriculum Links

- Children in Year 1 are expected to tell time to the nearest half hour (ACMMG020) so the 'Time Match' series of games begin with telling the time to the hour. Children are introduced to analogue clocks, digital representations of time and the o'clock language.
- The second game in the series targets telling time to the half hour (ACMMG020). In this version, children have to link the analogue representation of time with the digital representation. The language of 'half past' and 'thirty' is introduced.
- The third game in the series targets telling the time to the quarter hour. Children in Year 2 are expected to tell the time to the nearest quarter of an hour (ACMMG039). In this version, children have to link the analogue representation of time with the digital representation. The language of 'quarter past', 'quarter to', and 'fifteen' and 'forty-five' is introduced.

## Teacher notes

### Half Past

A geared clock may be used to model the movement of the hands around the clock face. Point out that as the minute or longer hand moves around the clock so does the hour hand (shorter one). Turn the gears on the back of the clock and highlight the fact that at 'half past', the long hand is pointing at 6, the hour hand will be half-way between two numbers on the clock. For example, at 'half past ten' the hour hand will be positioned half way between 10 and 11.

### Quarter Past and Quarter to

The idea of 'past' and 'to' can cause difficulty for young children because of the language used to describe a time. For example 8:45, may be expressed as 'eight forty-five' and 'quarter to nine'. Note that in the first two instances the 'eight' is highlighted, whereas 'eight' is not mentioned in the third example.

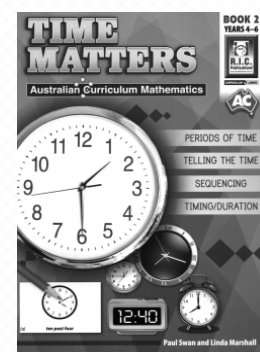
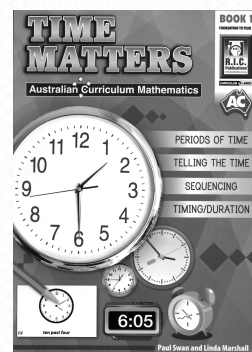
Try to expose the children to a variety of clock faces so that they become familiar with the standard clock face, a 12, 3, 6 and 9 clock face, Roman numeral clock faces and so on.

### 5 Minutes and 1 Minute

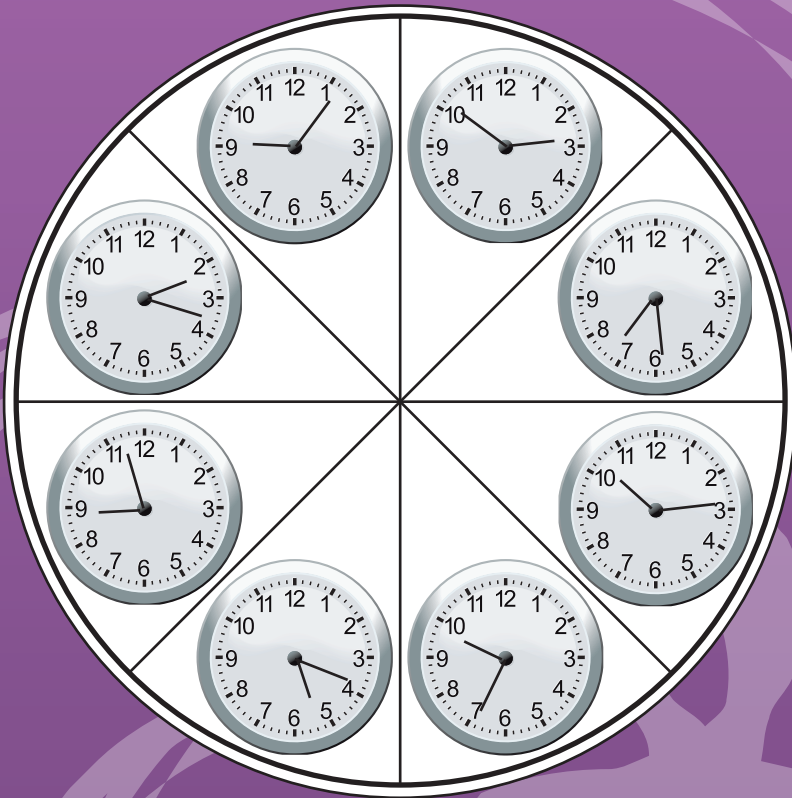
At Year 3 level, students are expected to tell the time to the nearest minute (ACMMG062). Students will need to read the calibration marks between each 5 minute interval. Initially students might be taught to read to the nearest 5 minutes (children will need to be able to skip count by 5s). Later they will need to count on in one minute periods from the previous five minute interval. Students may then notice that in the case of "19 minutes past", it is easier to look at the 20 minute interval marker and count back one minute. Students will need to make judgments when the minute hand points between two one-minute interval markers. There are clear links between reading a calibrated scale, such as an analogue clock face, and number lines. so Teachers may wish to consider teaching number lines in detail prior to teaching children to reading a sophisticated number line, with a double scale, that goes around a circle.

### Extensions to the rules

- Allow a 'bump off' rule, that is, one player may remove another player's counter from the board and replace it with one of their own.
- Require the players to place 4 counters in a row, diagonal or column.



# Time Match Minute



## Time Match Minute

A game for two players.

**Aim:** To be the first player to place three counters, next to each other, in a row, column or diagonal.

**Materials Required:** 36 transparent counters, 18 of one colour and 18 of another colour.

- Players take turns to flick the spinner and place a counter on the board that is equivalent to the time shown on the spinner.
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### Variation

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seven twenty nine	5 nineteen	nine 'oh' six	<b>9:34</b>	eight fifty- seven	2 eighteen	two fifty- one	<b>10:14</b>
<b>9:06</b>	2 fifty-one	<b>7:29</b>	2 eighteen	ten fourteen	<b>5:19</b>	<b>7:29</b>	five nineteen
<b>8:57</b>	nine thirty-four	<b>2:51</b>	9 'oh' six	9 thirty-four	<b>2:18</b>	<b>10:14</b>	8 fifty seven
<b>9:06</b>	<b>5:19</b>	10 fourteen	<b>2:18</b>	seven twenty nine	<b>9:06</b>	<b>2:51</b>	<b>9:34</b>
<b>2:18</b>	<b>7:29</b>	<b>9:06</b>	9 thirty-four	<b>5:19</b>	<b>2:51</b>	ten fourteen	<b>8:57</b>
<b>9:34</b>	eight fifty- seven	5 nineteen	<b>7:29</b>	8 fifty- seven	10 fourteen	<b>2:18</b>	<b>2:51</b>

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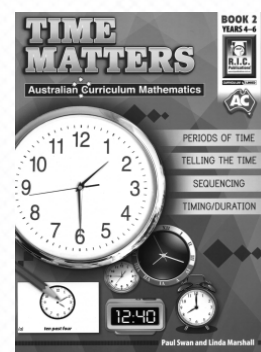
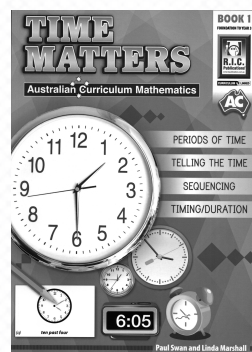
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### Extensions to the rules

- Allow a 'bump off' rule, that is, one player may remove another player's counter from the board and replace it with one of their own.
- Require the players to place 4 counters in a row, diagonal or column.



# ODD ONE OUT

**Materials:** Dice counters in two colours.  
 A game for two players.  
**Aim:** To be the player with the most counters.

**Rules:** Players take turns to roll a dice and move that many squares. If you land on an odd number place a counter in your opponent's scorebox.

Start	1	2	3	4	5	6	7	8
								9
32	33	34	35	36	37	38		10
31							39	11
30		50					40	12
29		49					41	13
28		48					42	14
27		47	46	45	44	43		15
26								16
25	24	23	22	21	20	19	18	17

Scorebox: Player 1	Scorebox: Player 2



# ARRAYS GAME 1 (QUICK)

2x, 3x, 5x, 10x tables

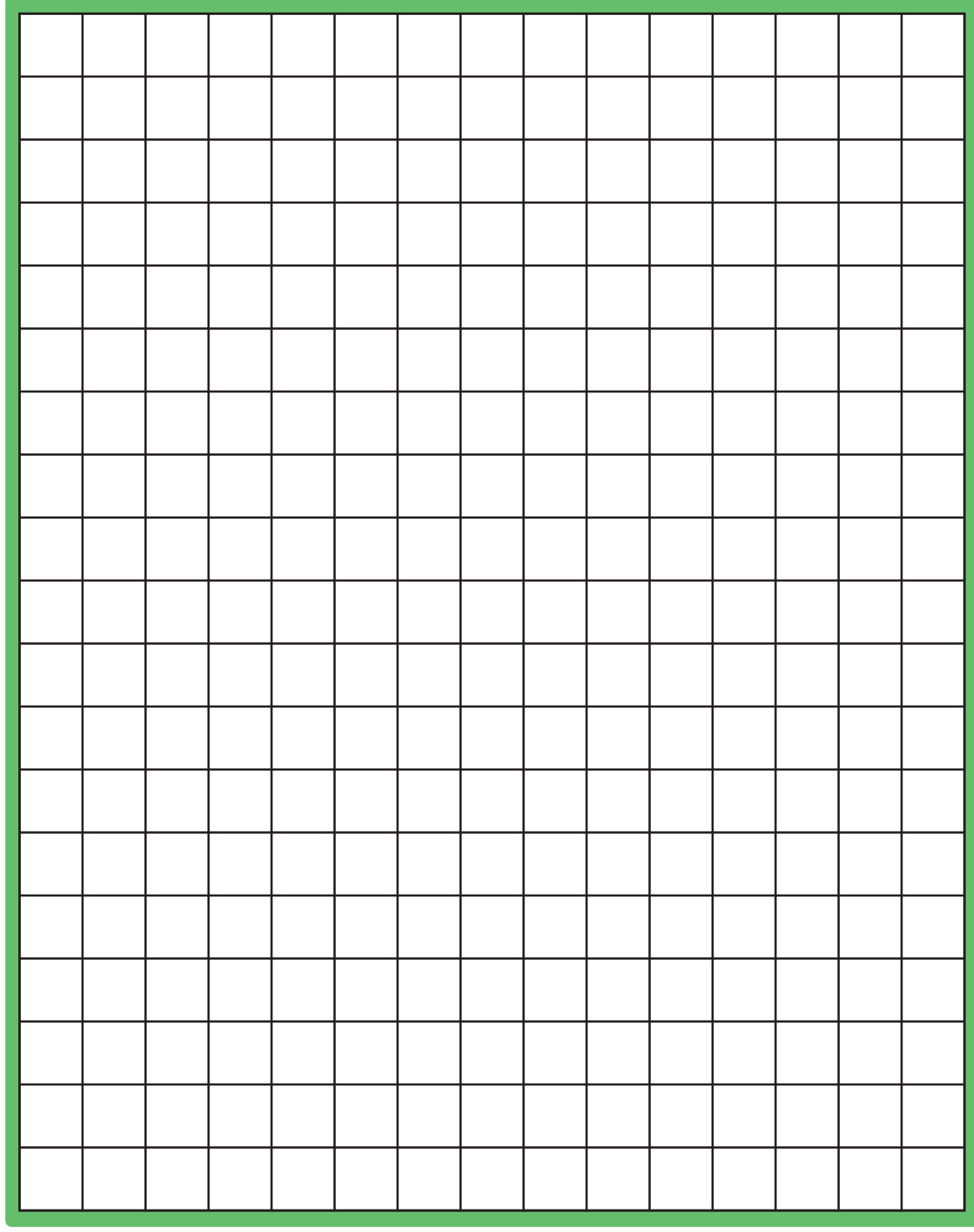
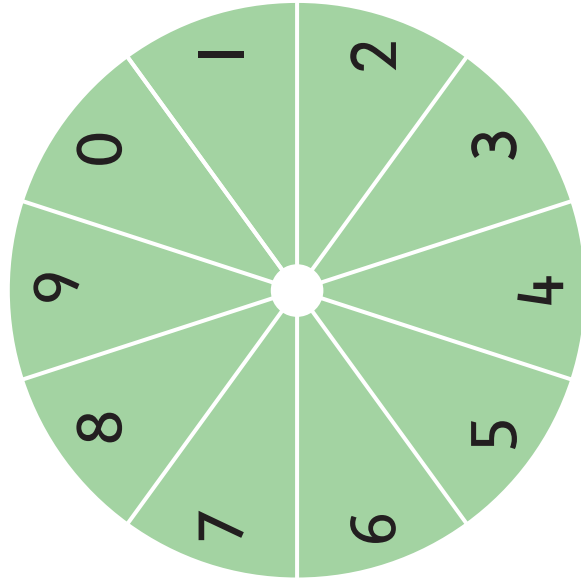
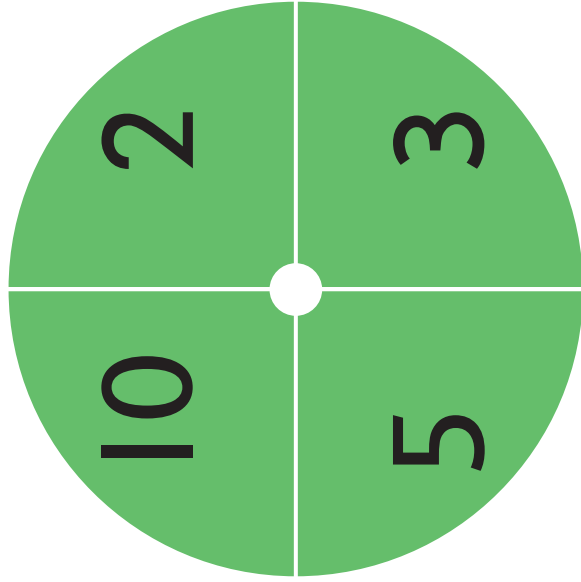
**Aim:** To colour (capture the most area).

**Materials:** Two different coloured pens or erasable markers.

A game for two players.

**Rules:**

Each player flicks the spinners and draws a rectangle (array) according to what is indicated on the spinners. The player should lightly shade the inside of the rectangle and write the calculation. A time limit can be set and the winner is the player who captures the most area in this time period.



# ARRAYS GAME 1

2x, 3x, 5x, 10x tables

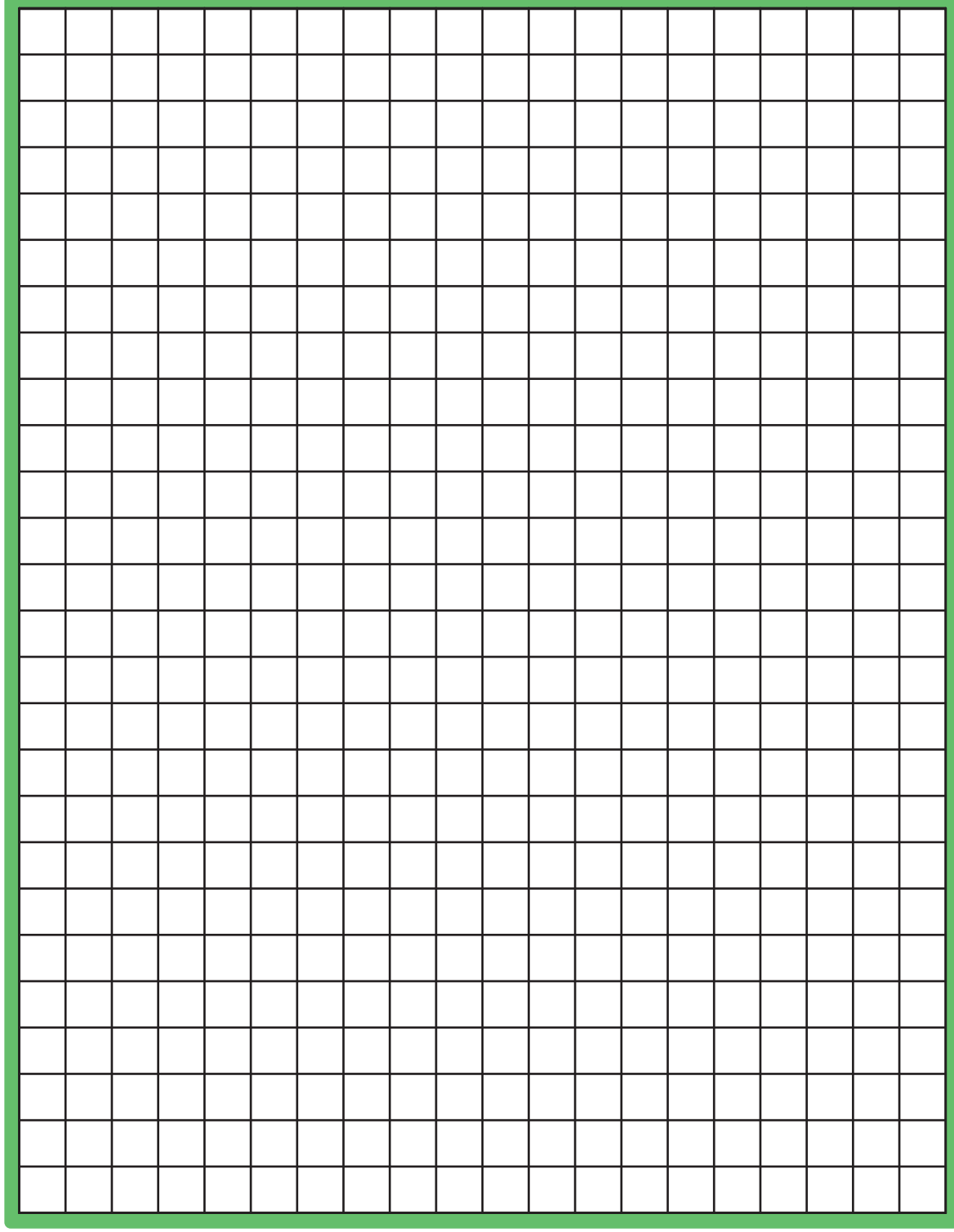
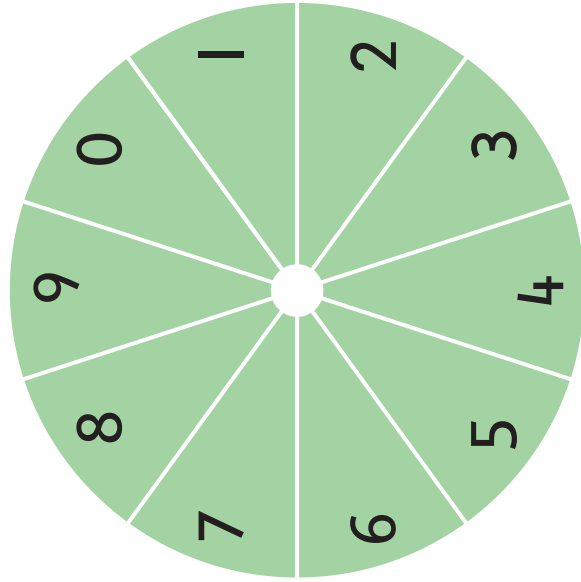
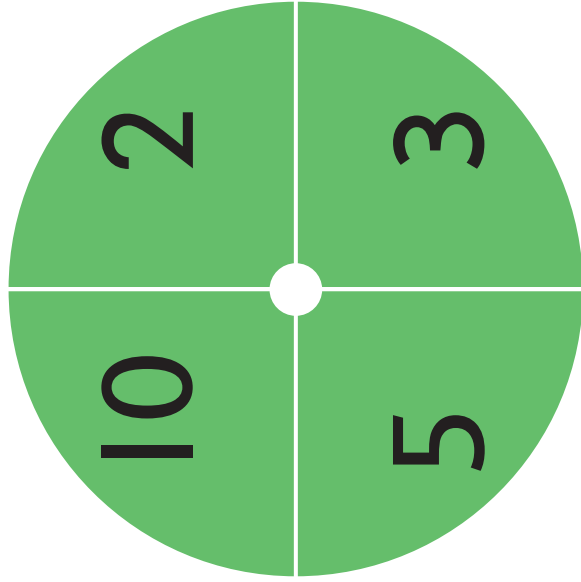
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# ARRAYS GAME 2 (QUICK)

2x, 3x, 5x, 10x tables (commutative)

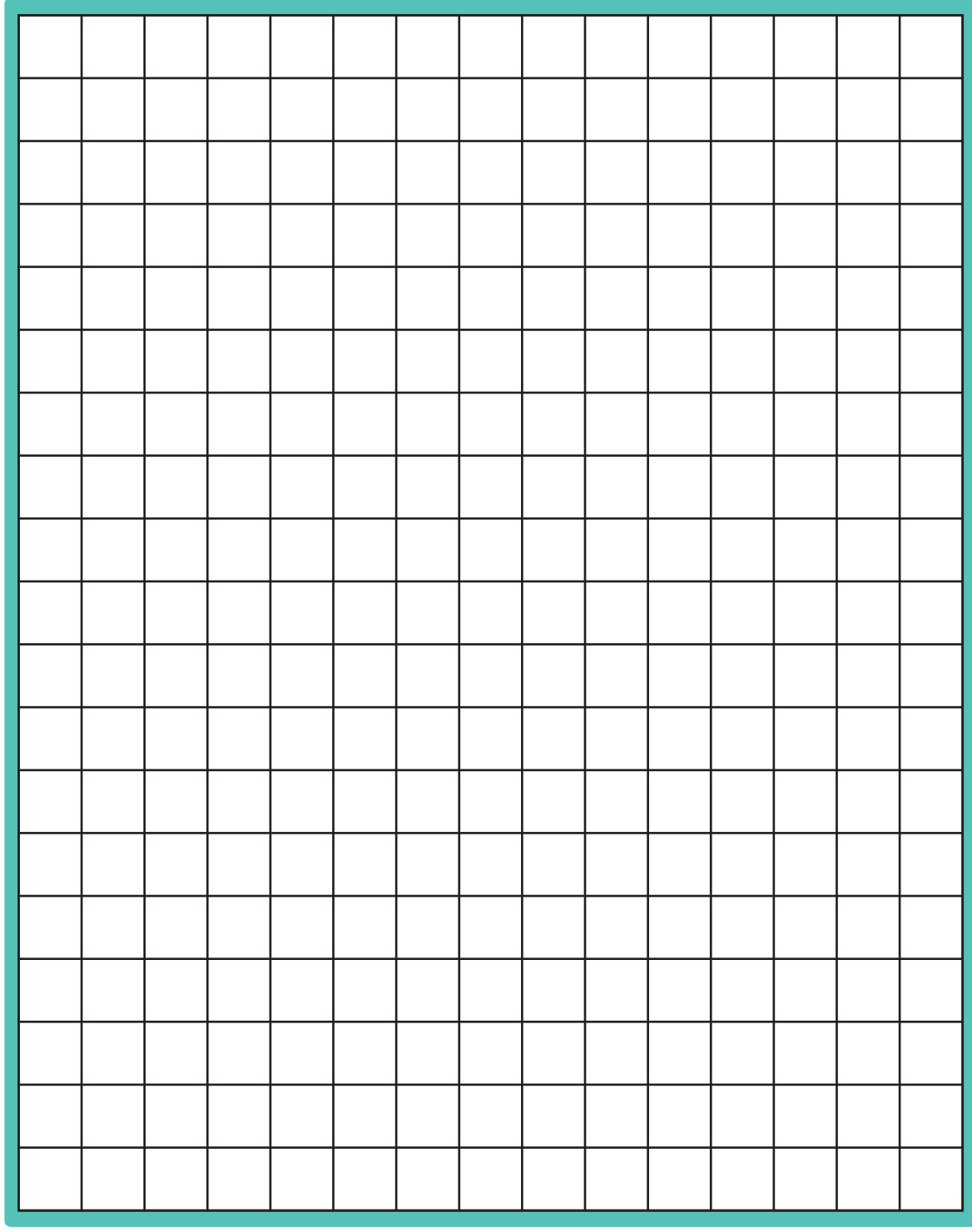
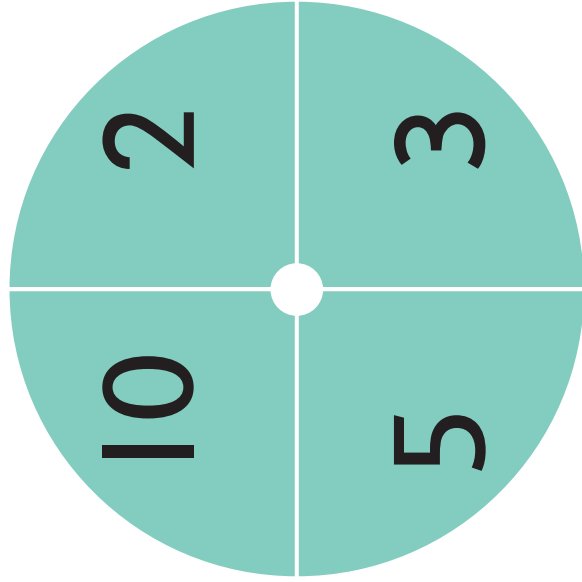
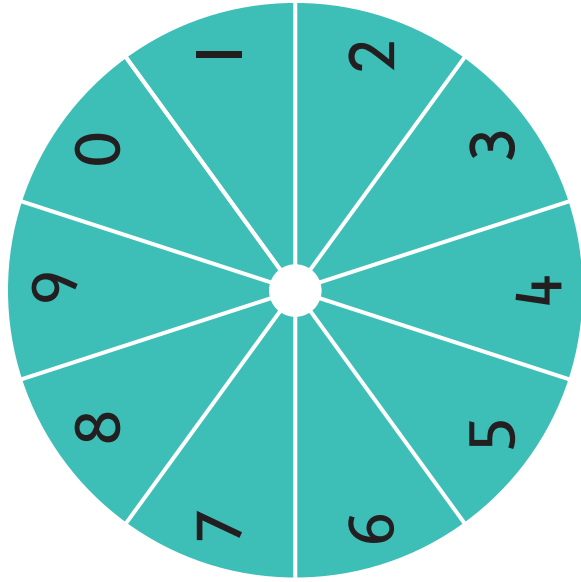
**Aim:** To colour (capture the most area).

**Materials:** Two different coloured pens or erasable markers.

A game for two players.

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# ARRAYS GAME 2

2x, 3x, 5x, 10x tables (commutative)

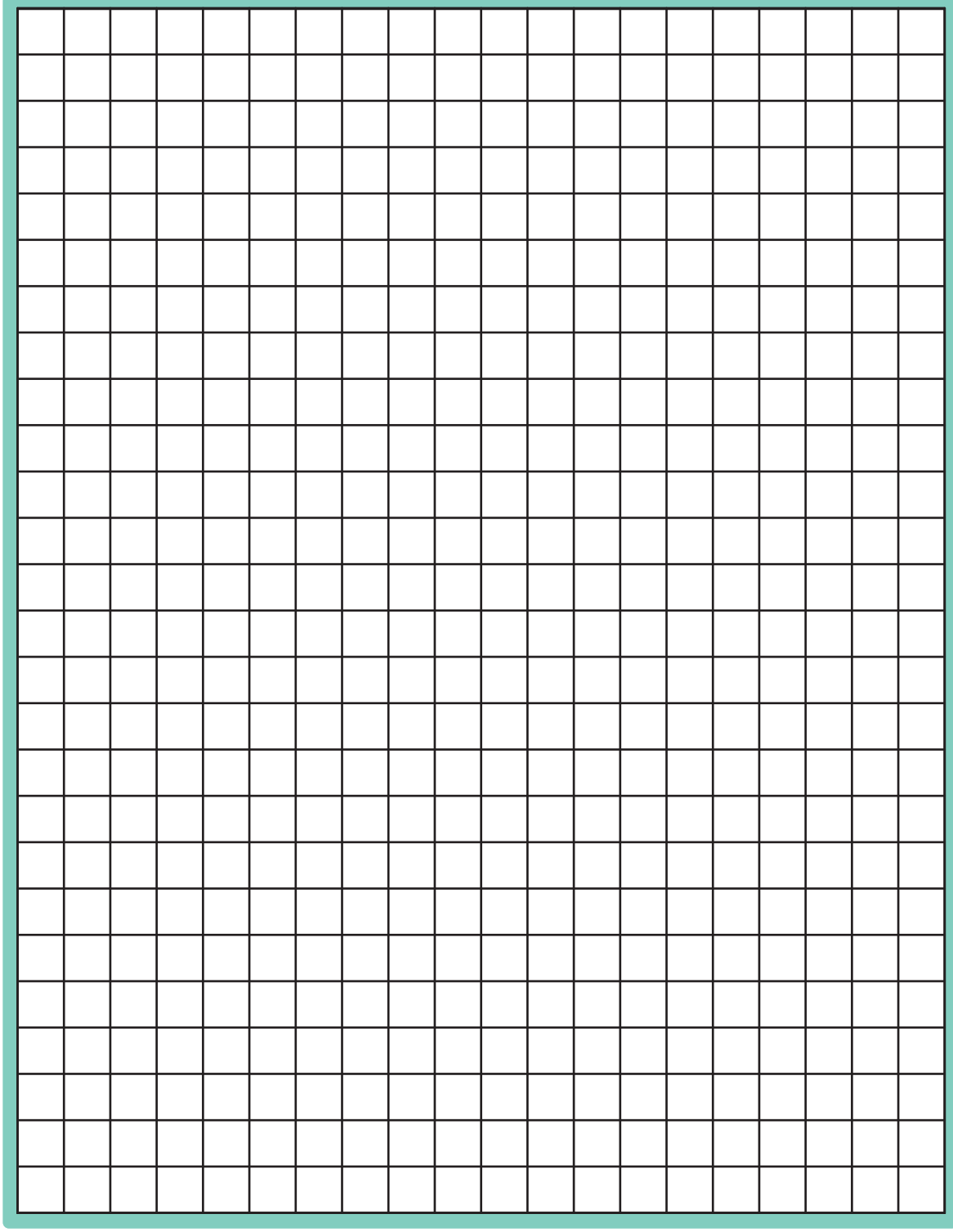
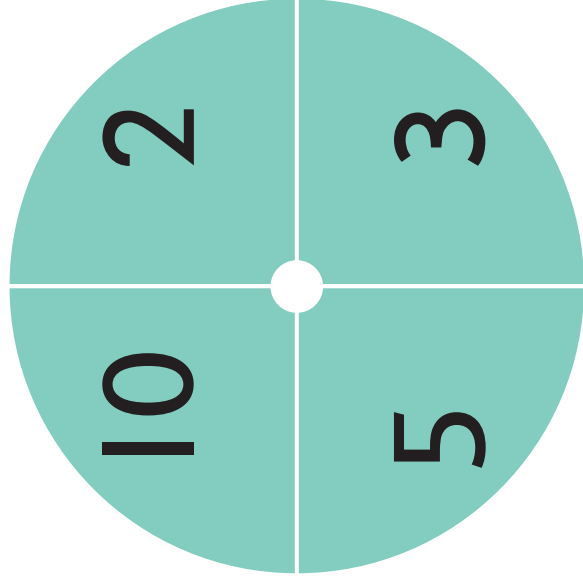
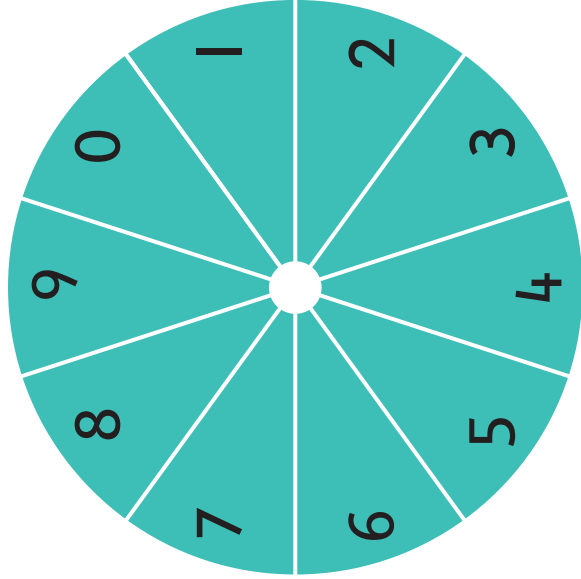
**Aim:** To colour (capture the most area).

**Materials:** Two different coloured pens or erasable markers.

A game for two players.

**Rules:**

Each player flicks the spinners and draws a rectangle (array) according to what is indicated on the spinners. The player should lightly shade the inside of the rectangle and write the calculation. A time limit can be set and the winner is the player who captures the most area in this time period.



# ARRAYS GAME 3 (QUICK)

Up to 6 x 6

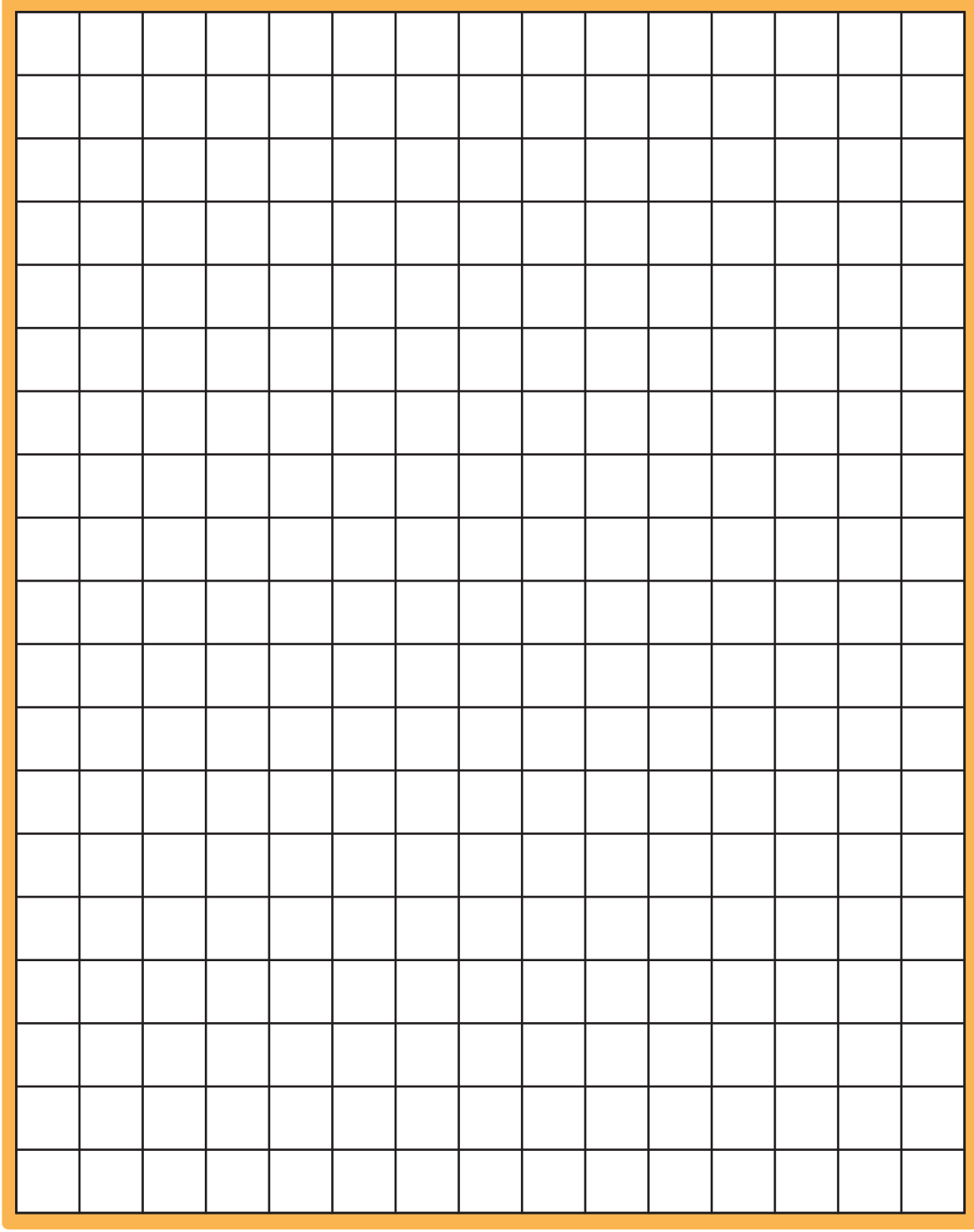
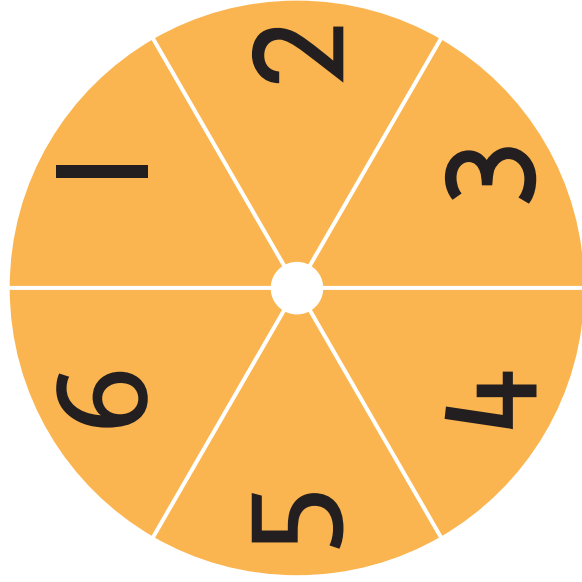
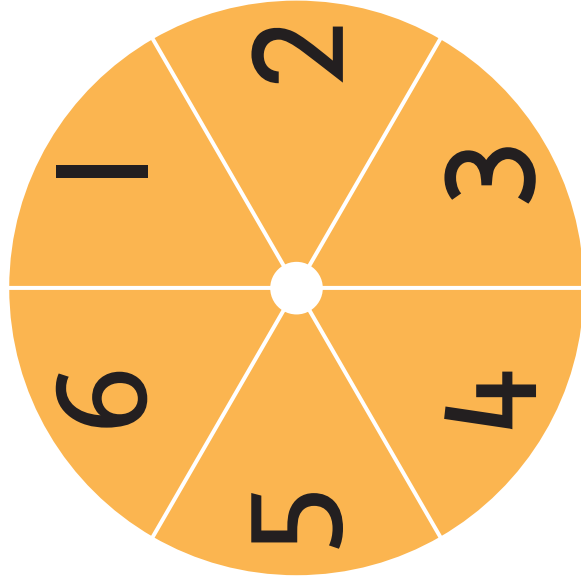
**Aim:** To colour (capture the most area).

**Materials:** Two different coloured pens or erasable markers.

A game for two players.

**Rules:**

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# ARRAYS GAME 3 (QUICK)

Up to 6 x 6

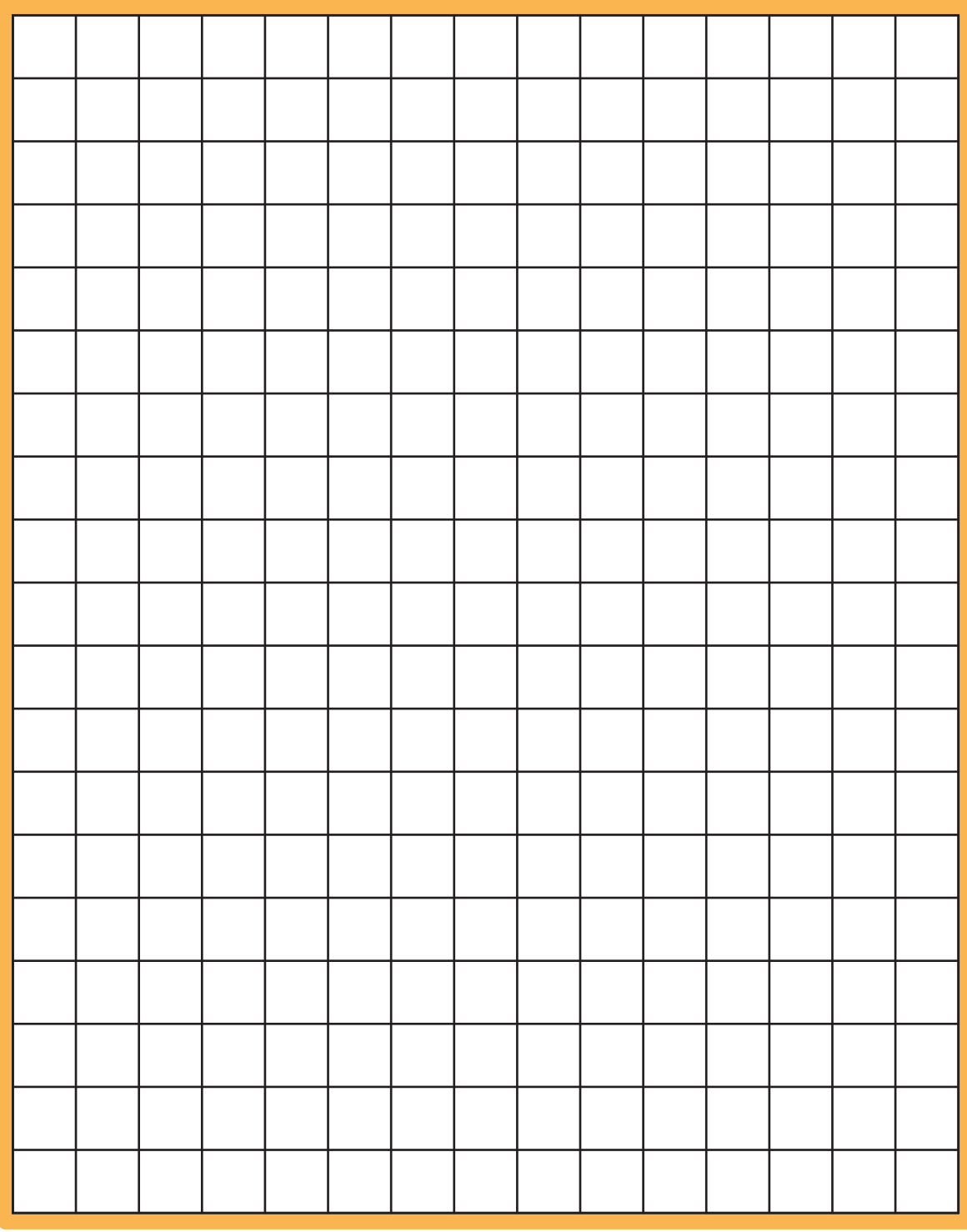
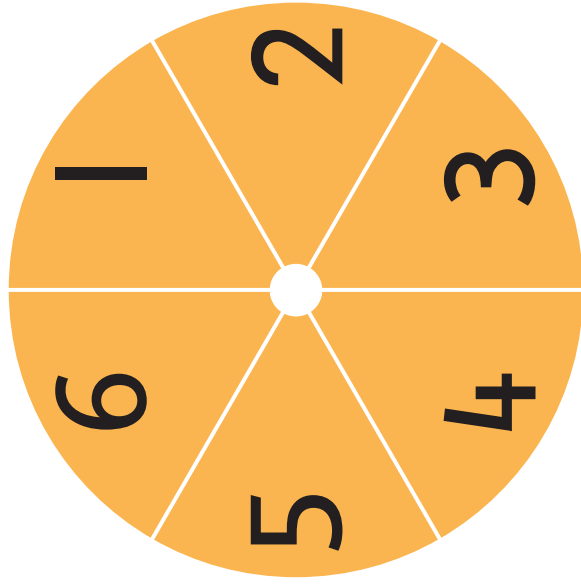
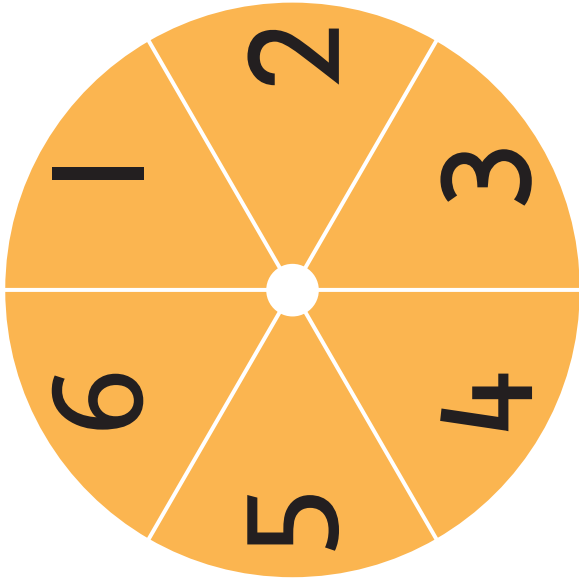
**Aim:** To colour (capture the most area).

**Materials:** Two different coloured pens or erasable markers.

A game for two players.

**Rules:**

Each player flicks the spinners and draws a rectangle (array) according to what is indicated on the spinners. The player should lightly shade the inside of the rectangle and write the calculation. A time limit can be set and the winner is the player who captures the most area in this time period.



# ARRAYS GAME 4

2x, 4x, 6x, 8x tables

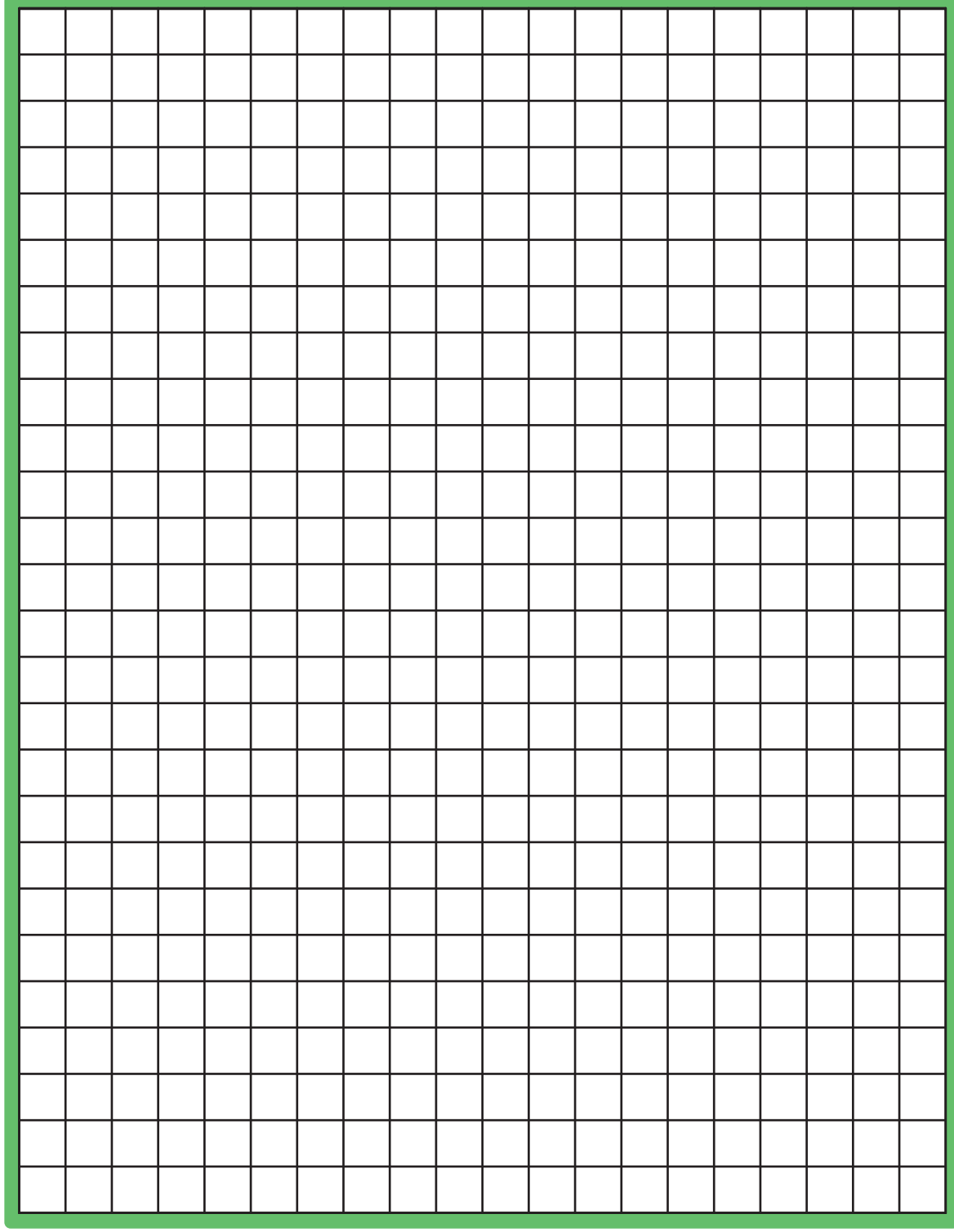
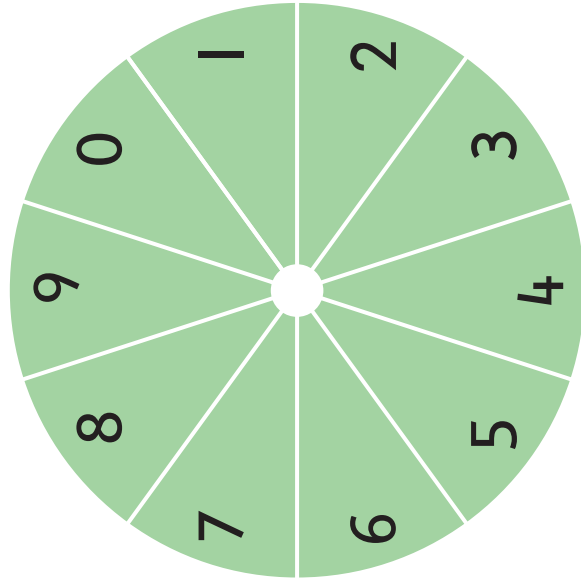
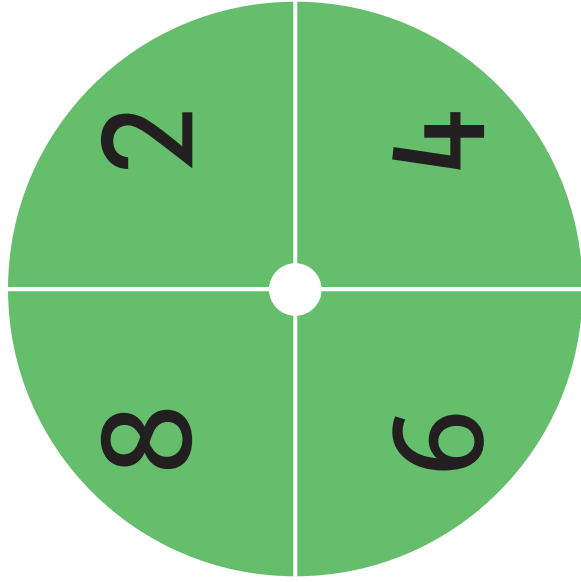
**Aim:** To colour (capture the most area).

**Materials:** Two different coloured pens or erasable markers.

A game for two players.

**Rules:**

Each player flicks the spinners and draws a rectangle (array) according to what is indicated on the spinners. The player should lightly shade the inside of the rectangle and write the calculation. A time limit can be set and the winner is the player who captures the most area in this time period.



# ARRAYS GAME 5

3x, 6x, 9x tables

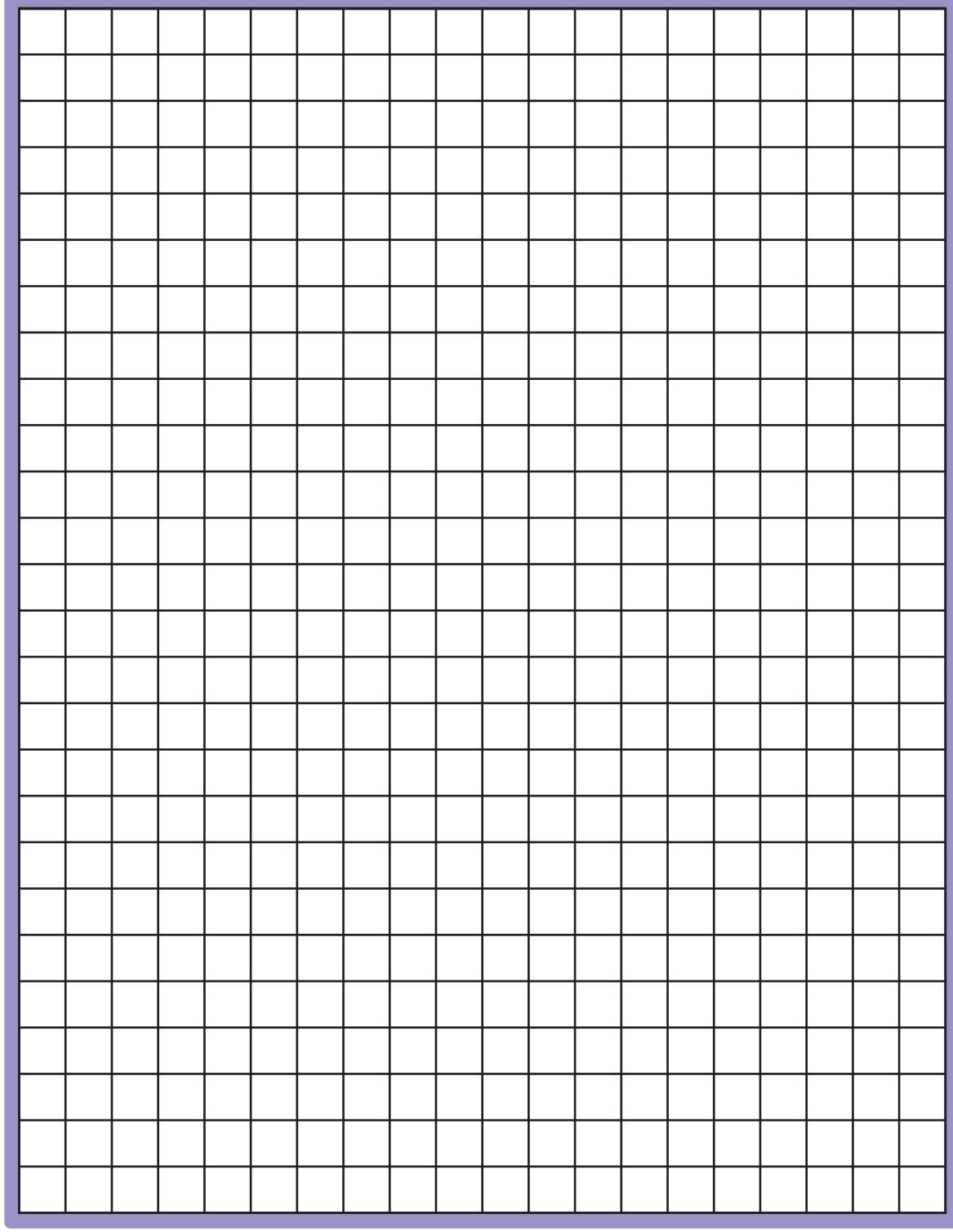
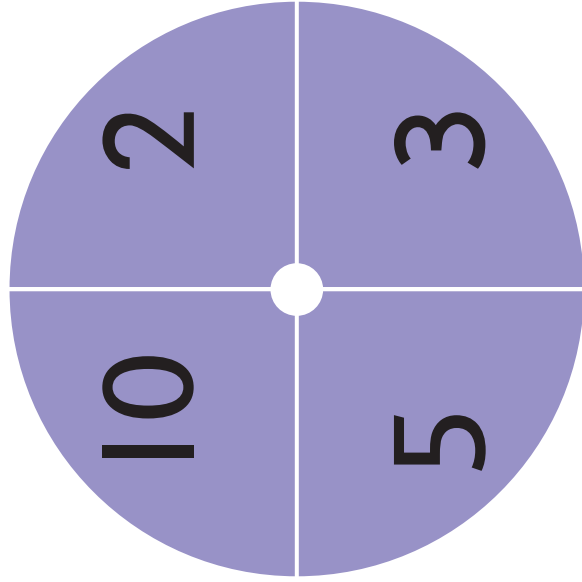
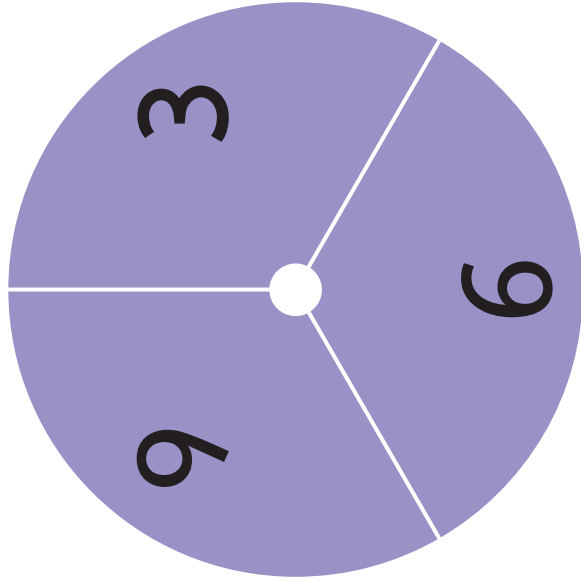
**Aim:** To colour (capture the most area).

**Materials:** Two different coloured pens or erasable markers.

A game for two players.

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# ARRAYS GAME 6

Up to 9 x 9

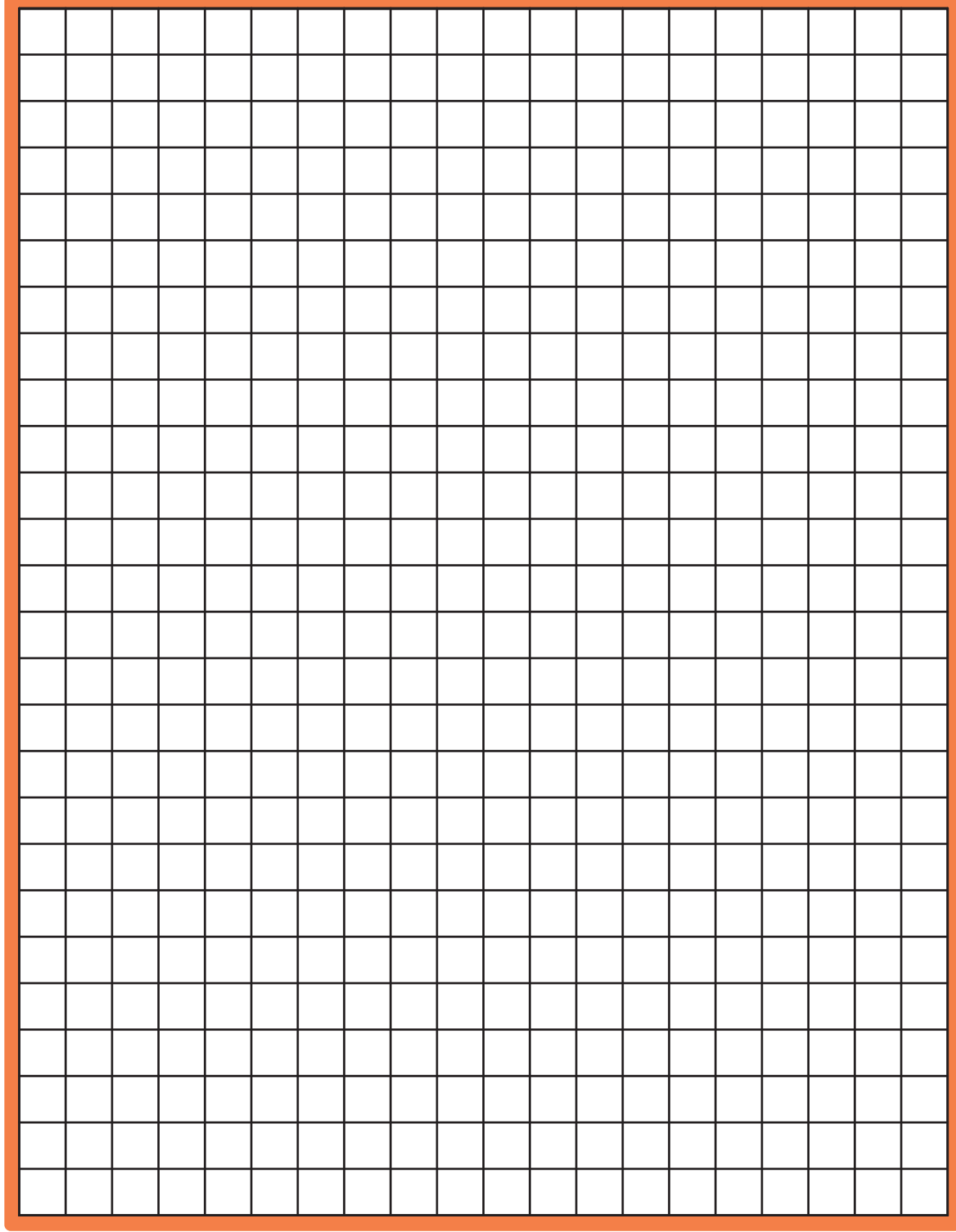
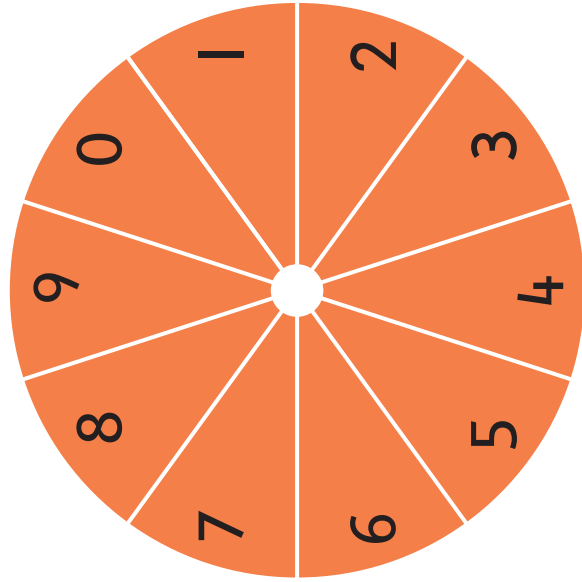
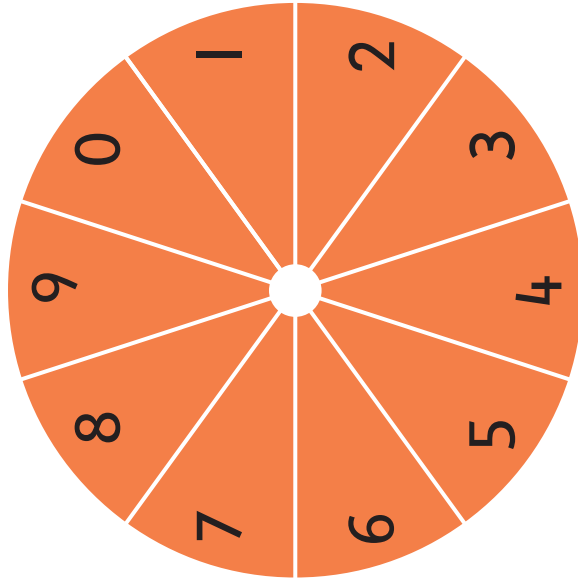
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# DOUBLE UP

**Materials:** A dice, counters in two colours.  
A game for two players.

**Aim:** To place four counters in a row, column or diagonal.

**Rules:** Roll the dice and move along the track. Double the number you stand on and place a counter on that number in the centre square. The first player with four in a row wins.

1	3	5	7	9	2	4	6	8
8								1
6	2	6	18	14	8	4	3	
4	8	14	12	16	2	10	5	
2	4	16	2	6	10	18	7	
9	10	6	16	12	18	14	9	
7	12	2	16	8	4	18	2	
5	6	14	4	10	12	8	4	
3								6
1	START	←-----●						8

# DOUBLE DOUBLE UP

**Materials:** A dice, counters in two colours.  
A game for two players.  
**Aim:** To place four counters in a row, column or diagonal.

**Rules:** Roll the dice and move along the track. Double double the number you land on and place a counter on that number in the centre square. The first player with four in a row wins.

1	3	5	7	9	2	4	6	8
8								1
6	4	24	28	20	12	8	3	
4	16	8	12	36	24	20	5	
2	8	36	20	28	32	4	7	
9	32	24	4	16	28	8	9	
7	12	28	36	20	32	24	2	
5	36	16	12	4	16	32	4	
3								6
1	START	←-----●						8

# DOUBLE (X2, X2) UP

**Materials:** A dice, counters in two colours.  
A game for two players.

**Aim:** To place four counters in a row, column or diagonal.

**Rules:** Roll the dice and move along the track. Double three times (x2, x2, x2) the number you land on and place a counter on that number in the centre square. The first player with four in a row wins.

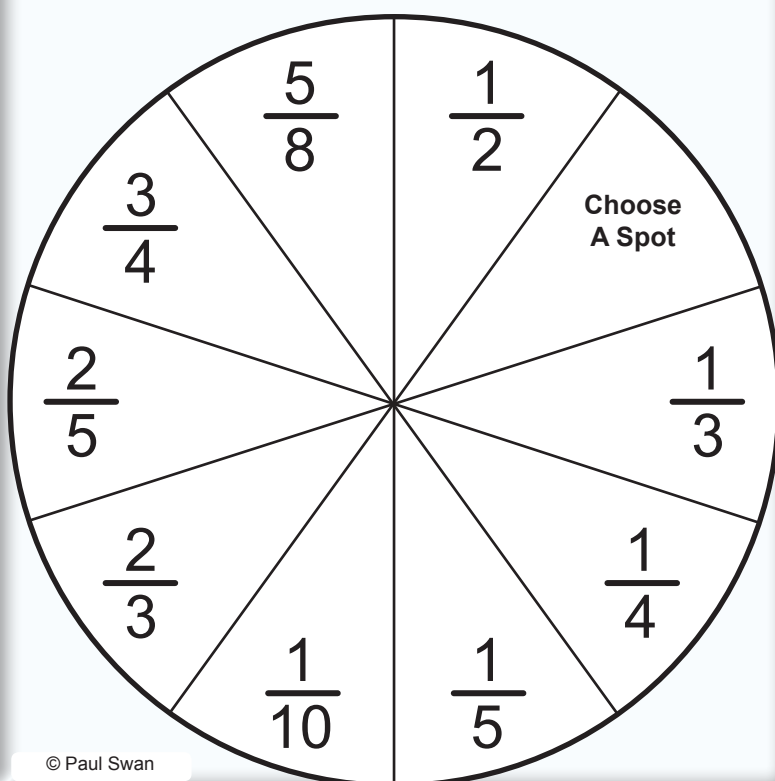
1	3	5	7	9	2	4	6	8
8								1
6	8	48	56	40	24	16		3
4	32	16	24	72	48	40		5
2	16	72	40	56	64	8		7
9	64	48	8	32	56	16		9
7	24	56	72	40	64	48		2
5	72	32	24	8	32	64		4
3								6
1	START							8



# Fraction Decimal Percentage Match

50%	0.25	62.5%	$\frac{40}{100}$	0.20	$33\frac{1}{3}\%$
20%	0.4	$66\frac{2}{3}\%$	0.75	0.5	$\frac{10}{100}$
$0.\overline{33}$	0.75	50%	0.25	0.10	0.625
0.1	25%	75%	$0.\overline{66}$	62.5%	40%
$66\frac{2}{3}\%$	$\frac{5}{50}$	$\frac{75}{100}$	0.2	$33\frac{1}{3}\%$	0.625
25%	$\frac{4}{10}$	$0.\overline{33}$	10%	$0.\overline{66}$	$\frac{20}{100}$

## Fraction Decimal Percentage Match



© Paul Swan

## Fraction Decimal Percentage Match

A game for two players.

**Aim:** To be the first player to place three counters next to each other, in a row, column or diagonal.

**Materials Required:** 36 transparent counters, 18 of one colour and 18 of another colour.

- Players take turns to flick the spinner and place a counter on the board that is equivalent to the fraction shown on the spinner.
- Play continues until one player has placed three counters, next to each other, in a row, column or diagonal.

### Variation

- Play 4 in a row, column or diagonal.
- Allow a 'bump off' rule.

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## Fraction Decimal Percentage Match

This fraction game is designed to help students link representations of fractions with the name of the fraction and the symbol representing the fraction. In this case fractions are linked to:

decimal fractions, that is, fractions where the denominator is 10, 100, 1000 (a power of 10), and

percentages, that is a fraction where the denominator is 100. The word percent, literally means out of every 100

### Australian Curriculum Links

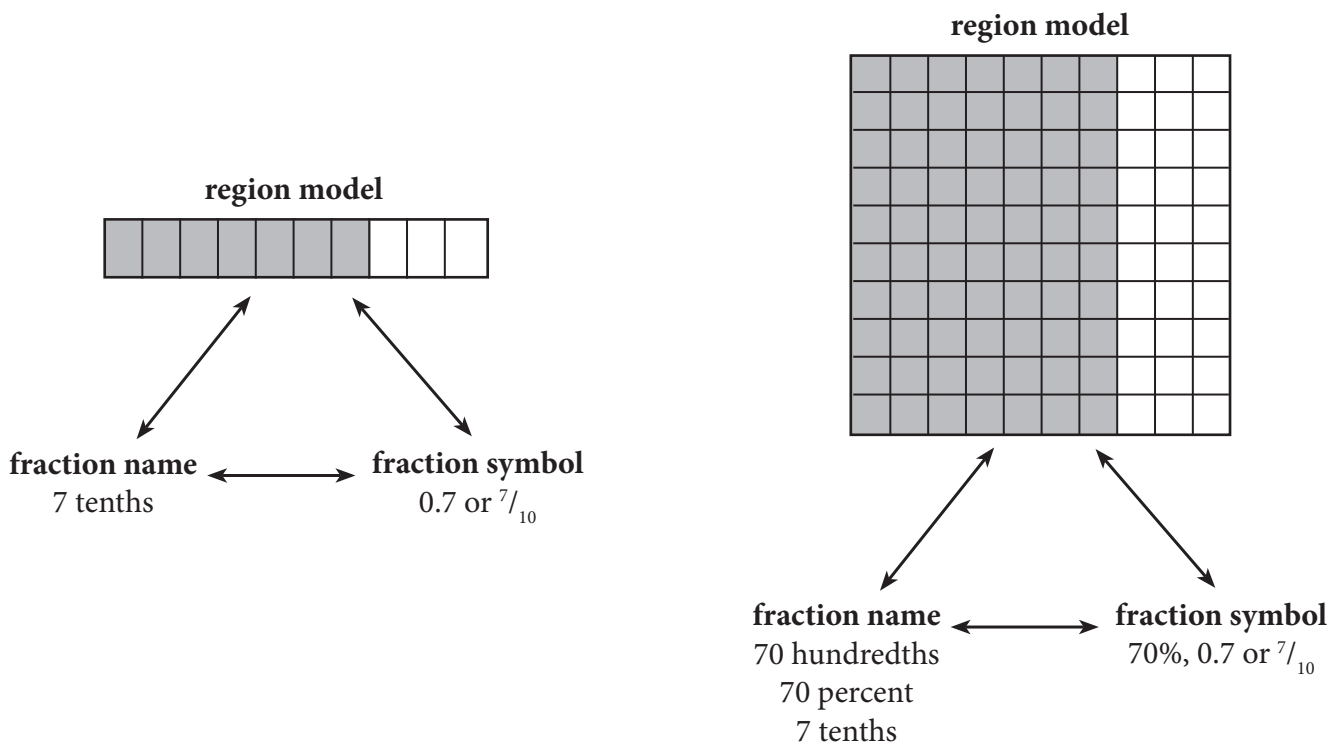
Yr 5 ACMNA102: Compare and order common unit fractions and locate and represent them on a number line.

Yr 6 ACMNA125: Compare fractions with related denominators and locate and represent them on a number line.

### Teacher notes

The region model referred to in the first game in this series – Equivalent Fraction Match 1 is extended in this game. The example on the left shows the links between the model, name and symbols. Note that 0.7 is 7 tenths.

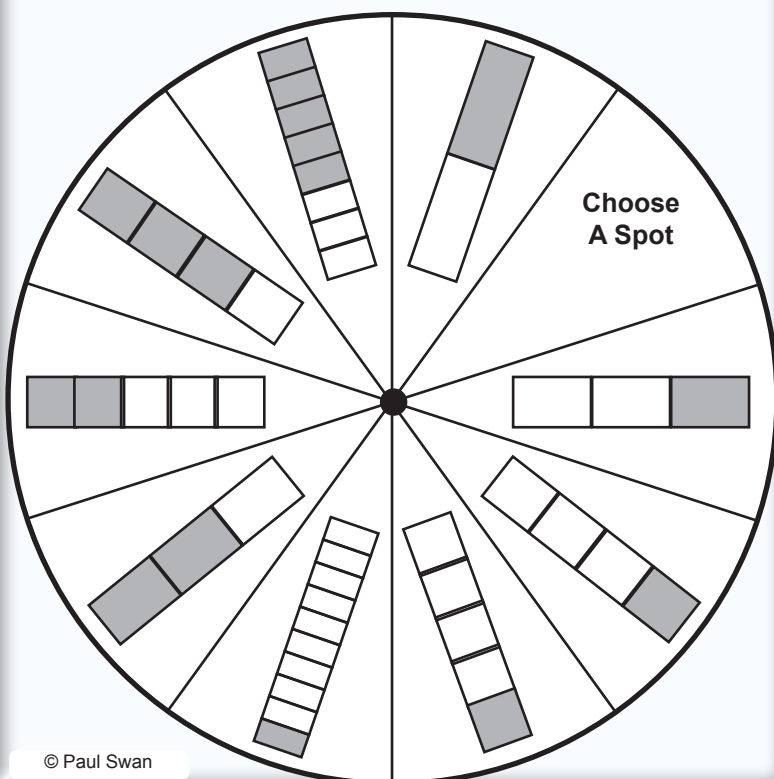
A base ten (MAB) flat is an ideal model for showing hundredths.



# Equivalent Fraction Match 1

$\frac{1}{2}$	1 fourth	$\frac{5}{8}$	$\frac{2}{5}$	1 fifth	1 third
$\frac{2}{5}$	2 fifths	2 thirds	$\frac{3}{4}$	$\frac{1}{2}$	1 tenth
1 third	3 fourths	1 half	$\frac{1}{4}$	$\frac{1}{10}$	5 eighths
1 tenth	$\frac{1}{4}$	$\frac{3}{4}$	2 thirds	$\frac{5}{8}$	2 fifths
$\frac{2}{3}$	1 half	3 quarters	$\frac{1}{5}$	$\frac{1}{3}$	$\frac{5}{8}$
1 quarter	$\frac{1}{5}$	$\frac{1}{3}$	1 tenth	$\frac{2}{3}$	1 fifth

## Equivalent Fraction Match 1



© Paul Swan

## Equivalent Fraction Match 1

A game for two players.

**Aim:** To be the first player to place three counters next to each other, in a row, column or diagonal.

**Materials Required:** 36 transparent counters, 18 of one colour and 18 of another colour.

- Players take turns to flick the spinner and place a counter on the board that is equivalent to the fraction shown on the spinner.
- Play continues until one player has placed three counters, next to each other, in a row, column or diagonal.

### Variation

- Play 4 in a row, column or diagonal.
- Allow a 'bump off' rule.

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## Equivalent Fraction Match 1: Region Model

This fraction game is designed to help students link representations of fractions with the name of the fraction and the symbol representing the fraction.

### Australian Curriculum Links

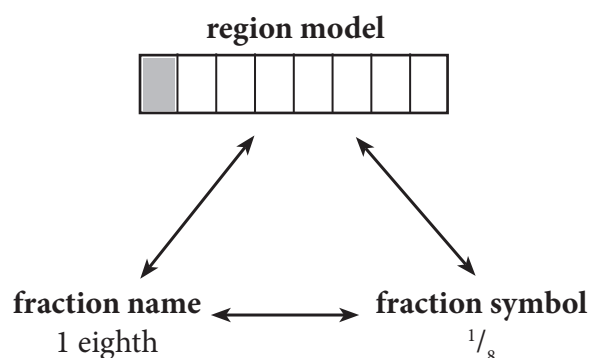
Yr 5 ACMNA102: Compare and order common unit fractions and locate and represent them on a number line.

Yr 6 ACMNA125: Compare fractions with related denominators and locate and represent them on a number line.

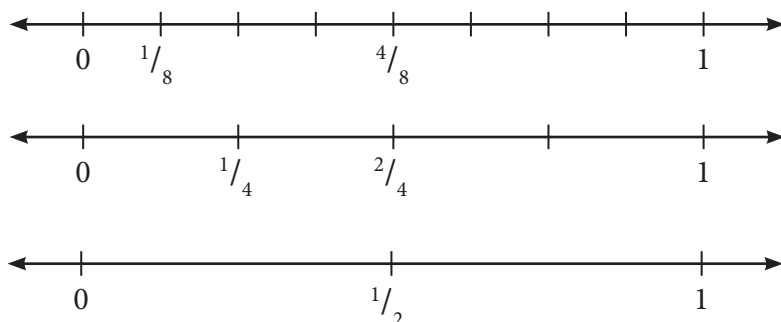
### Teacher notes

A unit fraction is one where the numerator (top number) is one (1). A fraction is named by the number of equal parts. The word denominator is derived from the word to name.

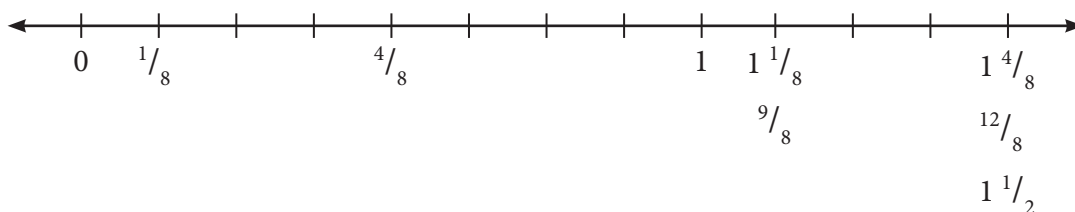
Prior to playing this game, students should be given opportunities to partition regions into equal sized parts. Links should be made to the naming of fractions and associated symbols. It is simpler for students to partition a rectangular region rather than a circular one so it is recommended that when students are first learning about fraction, circles be avoided.



The Australian Curriculum Mathematics makes specific mention of number lines. The number line is a different fraction model. A student may be given an empty number line and asked to divide it equally to represent fractions. For example a number line may be marked into 8 equal parts. Each division would represent 1 eighth of the distance between 0 and 1. If a second line was marked into 4 equal division over the same length then links between fractions may be made.



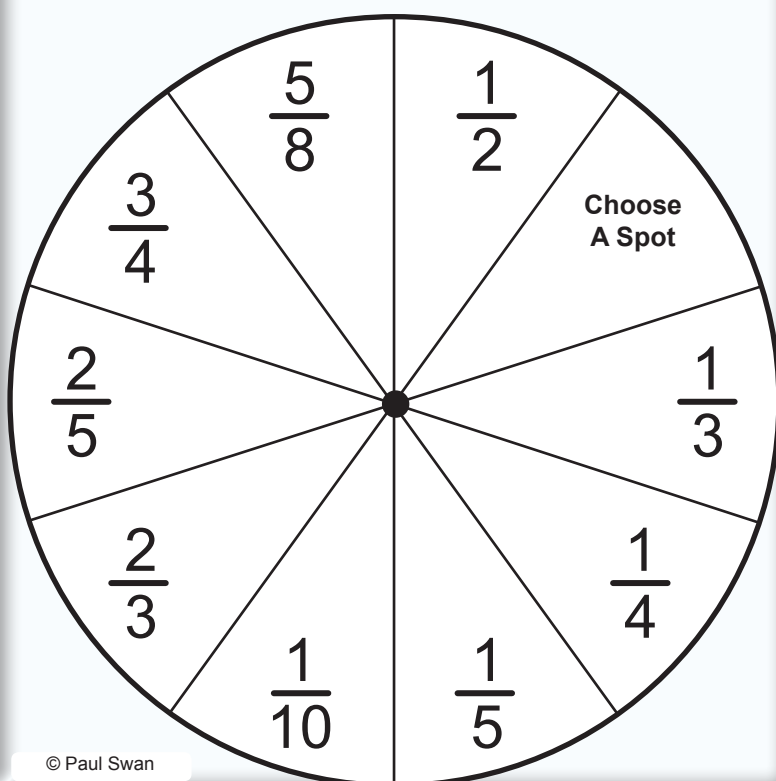
The number may be extended to show that fractions may be greater than one.



# Equivalent Fraction Match (2)

$\frac{2}{4}$	$\frac{2}{8}$	$\frac{10}{16}$	$\frac{12}{30}$	$\frac{6}{30}$	$\frac{3}{9}$
$\frac{3}{5}$	$\frac{4}{10}$	$\frac{20}{30}$	$\frac{6}{8}$	$\frac{5}{10}$	$\frac{2}{20}$
$\frac{4}{12}$	$\frac{15}{20}$	$\frac{4}{8}$	$\frac{3}{12}$	$\frac{10}{100}$	$\frac{15}{24}$
$\frac{3}{30}$	$\frac{4}{16}$	$\frac{9}{12}$	$\frac{6}{9}$	$\frac{5}{8}$	$\frac{20}{50}$
$\frac{12}{18}$	$\frac{3}{6}$	$\frac{30}{40}$	$\frac{4}{20}$	$\frac{5}{15}$	$\frac{20}{32}$
$\frac{5}{20}$	$\frac{10}{25}$	$\frac{10}{30}$	$\frac{5}{50}$	$\frac{4}{6}$	$\frac{2}{10}$

## Equivalent Fraction Match (2)



© Paul Swan

## Equivalent Fraction Match (2)

A game for two players.

**Aim:** To be the first player to place three counters, next to each other, in a row, column or diagonal.

**Materials Required:** 36 transparent counters, 18 of one colour and 18 of another colour.

- Players take turns to flick the spinner and place a counter on the board that is equivalent to the fraction shown on the spinner.
  - Play continues until one player has placed three counters next to each other, in a row, column or diagonal.
- Variation**
- Play 4 in a row, column or diagonal.
  - Allow a 'bump off' rule.

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## Equivalent Fraction Match 2

The series of Fraction Match games focus on:

- matching shaded regions with equivalent fractions (symbols) and words,
- matching equivalent fractions (this game) and
- matching fractions, decimal fractions and percentages.

### Australian Curriculum Links

Yr 5 (ACMNA102): Compare and order common unit fractions and locate and represent them on a number line.

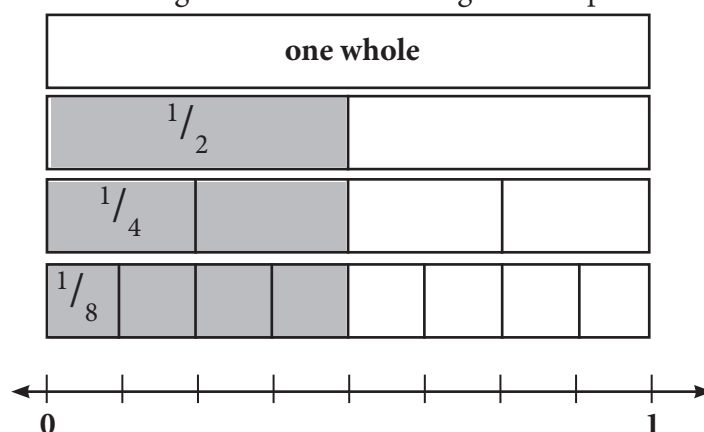
Yr 6 ACMNA125: Compare fractions with related denominators and locate and represent them on a number line.

### Teacher notes

The language used to describe fractions can cause confusion. Consider that one-half may be thought of as  $\frac{1}{2}$ ,  $\frac{2}{4}$ ,  $\frac{3}{6}$  as well as 0.5 (5 tenths) or 50%.

Prior to playing this game, which involves linking fraction names, students will need to be exposed to a variety of 'hands on' tasks. Here are just two examples.

Fraction ideas may be built from partitioning a region (one whole) into equal size parts. If the same size region is partitioned into different, but related, equal parts, the fractions can represent the same value. In the example below 1 half, 2 fourths and 4 eighths are the same length and represent the same fraction.



Eventually links may be made to number lines

Paper folding also, may be used to illustrate that a shaded region may be represented by several fractions. For example, 3 fourths may be created by partitioning a region into four equal size pieces and shading four of them.



Folding the original piece, once, lengthwise, and then opening it will create 8 equal pieces, 6 of which are shaded, or 6 eighths.

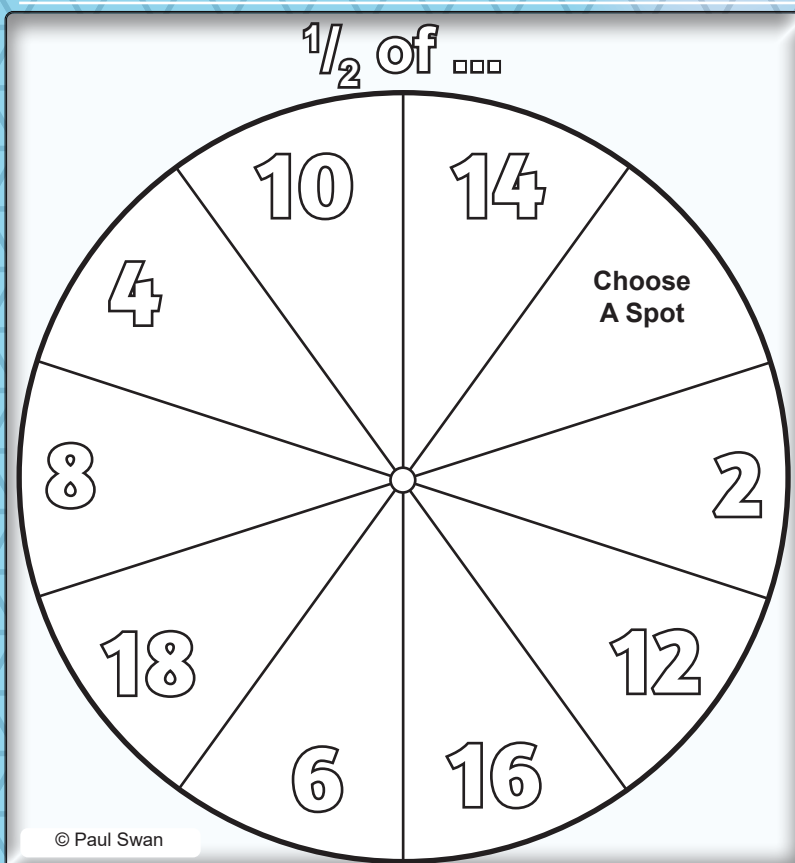


If the original piece was folded in three, lengthwise, then unfolded, it would show 12 equal pieces, of which 9 were shaded, or 9 twelfths.



# The Halving Game | $\frac{1}{2}$ of ...

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



## The Halving Game:

A game for two players.

**Aim:** To be the first player to place three counters, next to each other, in a row, column or diagonal.

**Materials Required:** 36 transparent counters, 18 of one colour and 18 of another colour.

- Players take turns to flick the spinner and place a counter on the board that represents **half** of the number shown on the spinner. For example, if the spinner shows 14, the player would place a counter on 7.
- Play continues until one player has placed three counters, next to each other, in a row, column or diagonal.

### Variation

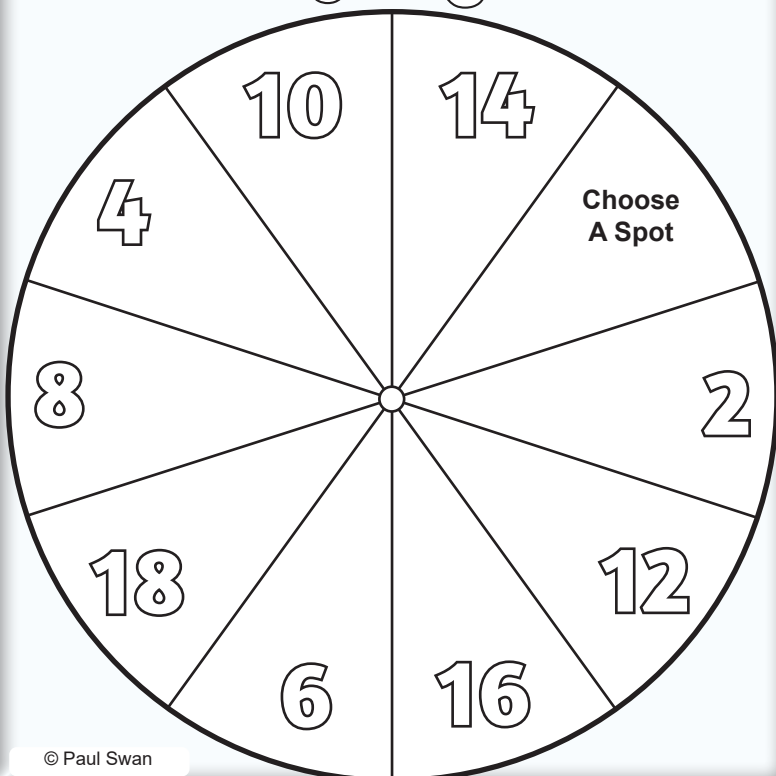
- Allow a 'bump off' rule

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# The 50% game

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

## The 50% game



© Paul Swan

### The 50% Game:

A game for two players.

**Aim:** To be the first player to place three counters, next to each other, in a row, column or diagonal.

**Materials Required:** 36 transparent counters, 18 of one colour and 18 of another colour.

- Players take turns to flick the spinner and place a counter on the board that represents 50% of the number shown on the spinner. For example, if the spinner shows 14, the player would place a counter on 7.
- Play continues until one player has placed three counters, next to each other, in a row, column or diagonal.

#### Variation

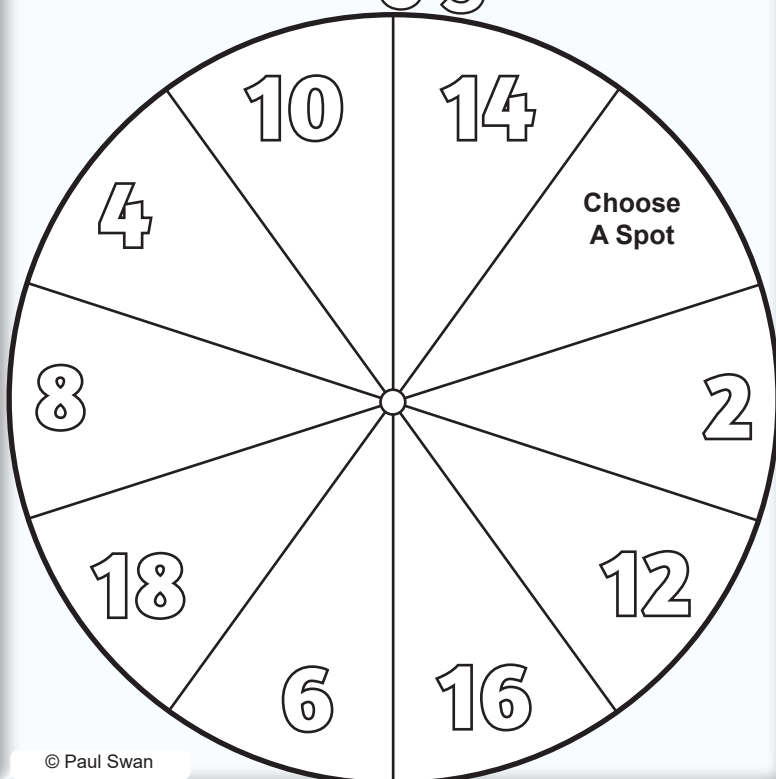
- Allow a 'bump off' rule

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# The 0.5 game

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

## The 0.5 game



© Paul Swan

### The 0.5 Game:

A game for two players.

**Aim:** To be the first player to place three counters, next to each other, in a row, column or diagonal.

**Materials Required:** 36 transparent counters, 18 of one colour and 18 of another colour.

- Players take turns to flick the spinner and place a counter on the board that represents **0.5x (of)** the number shown on the spinner. For example, if the spinner shows 14, the player would place a counter on 7.
- Play continues until one player has placed three counters, next to each other, in a row, column or diagonal.

#### Variation

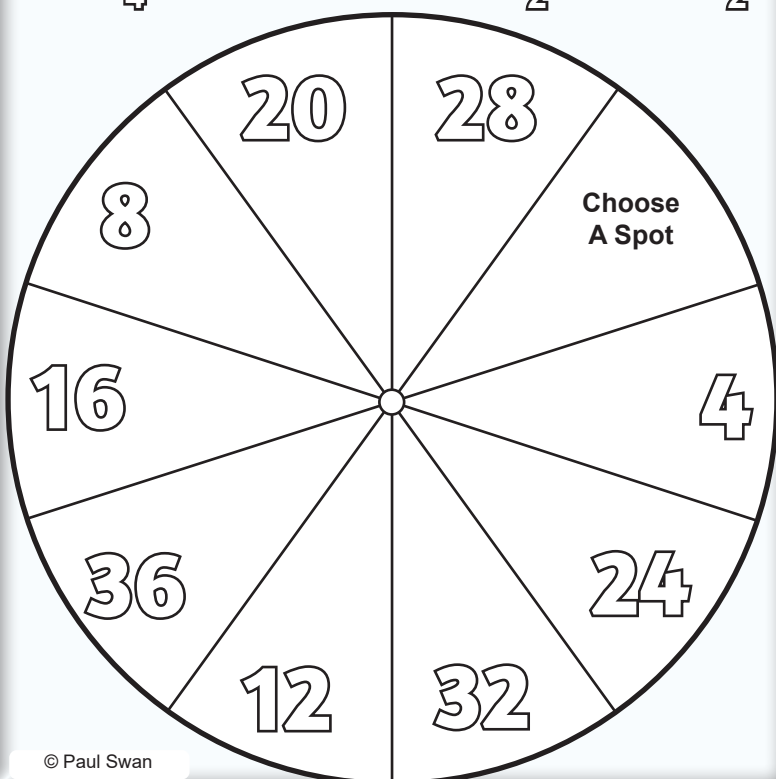
- Allow a 'bump off' rule

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# The Quarter Game ( $\frac{1}{4}$ )

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

$\frac{1}{4}$  of ... or  $\frac{1}{2}$  of a  $\frac{1}{2}$



© Paul Swan

## The Quarter Game:

A game for two players.

**Aim:** To be the first player to place three counters, next to each other, in a row, column or diagonal.

**Materials Required:** 36 transparent counters, 18 of one colour and 18 of another colour.

- Players take turns to flick the spinner and place a counter on the board that represents **one quarter** of the number shown on the spinner. For example, if the spinner shows 28, the player would place a counter on 7.
- Play continues until one player has placed three counters, next to each other, in a row, column or diagonal.

### Variation

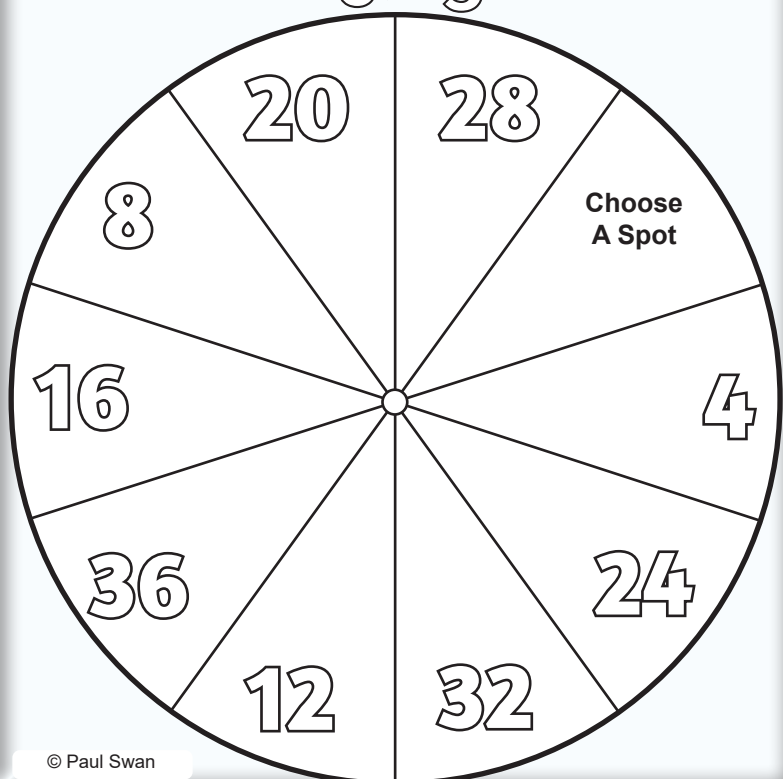
- Allow a 'bump off' rule

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# The 25% Game

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

## The 25% game



© Paul Swan

### The 25% Game:

A game for two players.

**Aim:** To be the first player to place three counters, next to each other, in a row, column or diagonal.

**Materials Required:** 36 transparent counters, 18 of one colour and 18 of another colour.

- Players take turns to flick the spinner and place a counter on the board that represents 25% of the number shown on the spinner. For example, if the spinner shows 28, the player would place a counter on 7.
- Play continues until one player has placed three counters, next to each other, in a row, column or diagonal.

#### Variation

- Allow a 'bump off' rule

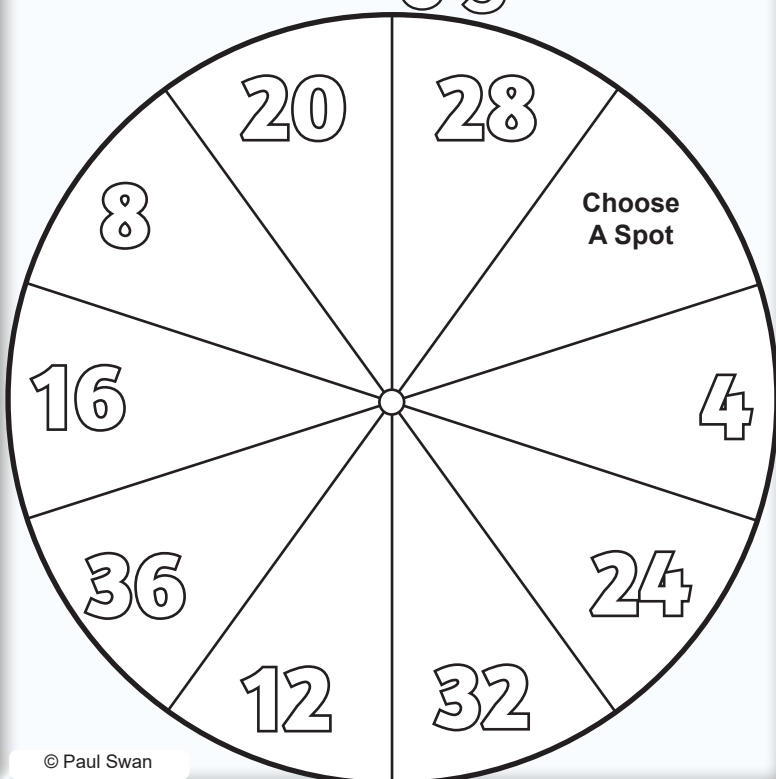
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# The 0.25 game

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

## The 0.25 game



© Paul Swan

### The 0.25 Game:

A game for two players.

**Aim:** To be the first player to place three counters, next to each other, in a row, column or diagonal.

**Materials Required:** 36 transparent counters, 18 of one colour and 18 of another colour.

- Players take turns to flick the spinner and place a counter on the board that represents **0.25x (of)** the number shown on the spinner. For example, if the spinner shows 28, the player would place a counter on 7.
- Play continues until one player has placed three counters, next to each other, in a row, column or diagonal.

#### Variation

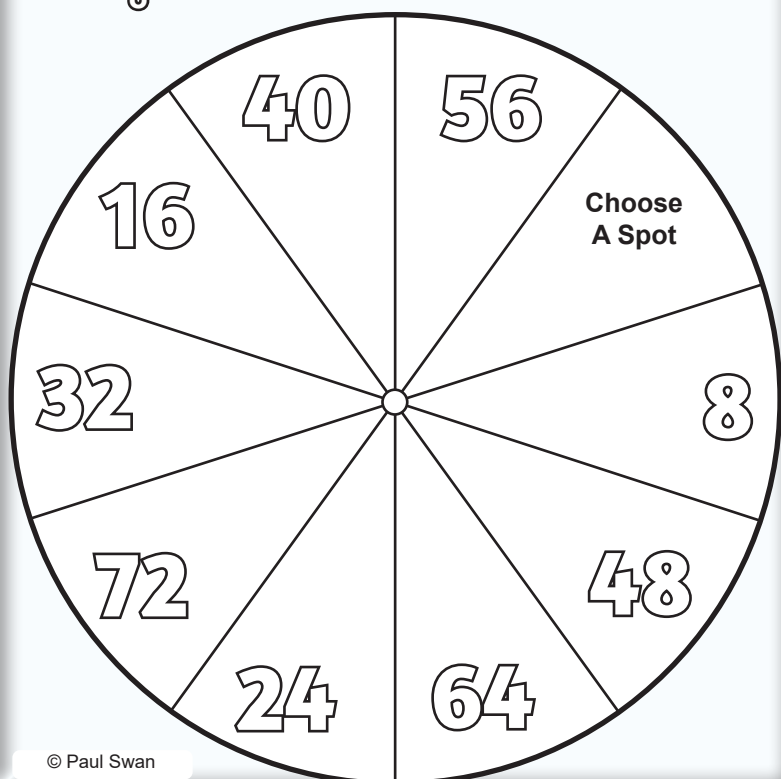
- Allow a 'bump off' rule

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# The Eighths Game ( $\frac{1}{8}$ ) | $\frac{1}{2}$ of a $\frac{1}{2}$ of a $\frac{1}{2}$

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

$\frac{1}{8}$  of ... or  $\frac{1}{2}$  of a  $\frac{1}{2}$  of a  $\frac{1}{2}$



© Paul Swan

## The Eighths Game:

A game for two players.

**Aim:** To be the first player to place three counters, next to each other, in a row, column or diagonal.

**Materials Required:** 36 transparent counters, 18 of one colour and 18 of another colour.

- Players take turns to flick the spinner and place a counter on the board that represents **one eighth** of the number shown on the spinner. For example, if the spinner shows 56, the player would place a counter on 7.
- Play continues until one player has placed three counters, next to each other, in a row, column or diagonal.

### Variation

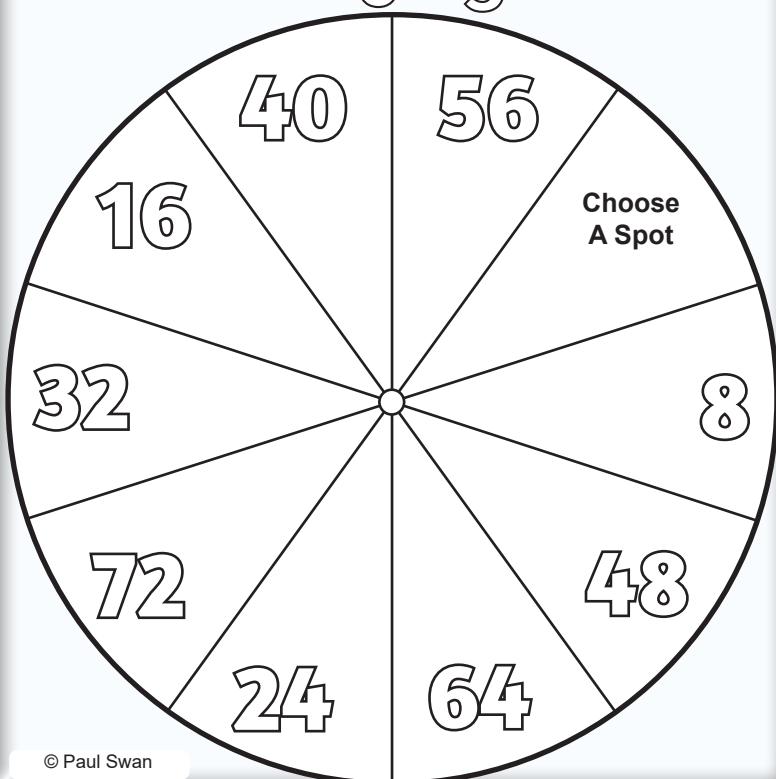
- Allow a 'bump off' rule

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# The 12.5% Game

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

## The 12.5% game



© Paul Swan

## The 12.5% Game:

A game for two players.

**Aim:** To be the first player to place three counters, next to each other, in a row, column or diagonal.

**Materials Required:** 36 transparent counters, 18 of one colour and 18 of another colour.

- Players take turns to flick the spinner and place a counter on the board that represents 12.5% of the number shown on the spinner. For example, if the spinner shows 56, the player would place a counter on 7.
- Play continues until one player has placed three counters, next to each other, in a row, column or diagonal.

### Variation

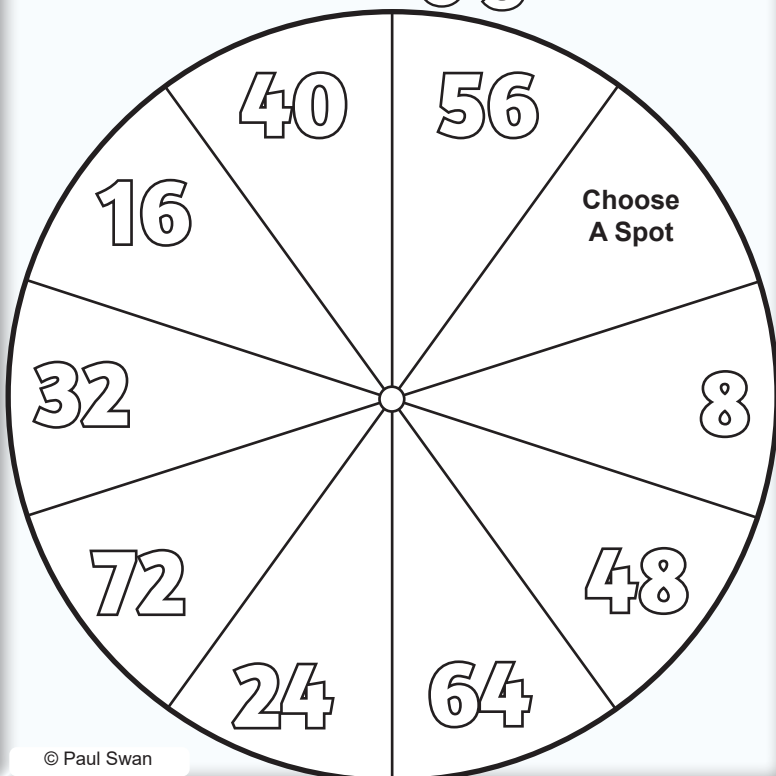
- Allow a 'bump off' rule

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# The 0.125 game

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

## The 0.125 game



© Paul Swan

## The 0.125 Game:

A game for two players.

**Aim:** To be the first player to place three counters, next to each other, in a row, column or diagonal.

**Materials Required:** 36 transparent counters, 18 of one colour and 18 of another colour.

- Players take turns to flick the spinner and place a counter on the board that represents  $0.125x$  (of) the number shown on the spinner. For example, if the spinner shows 56, the player would place a counter on 7.
- Play continues until one player has placed three counters, next to each other, in a row, column or diagonal.

### Variation

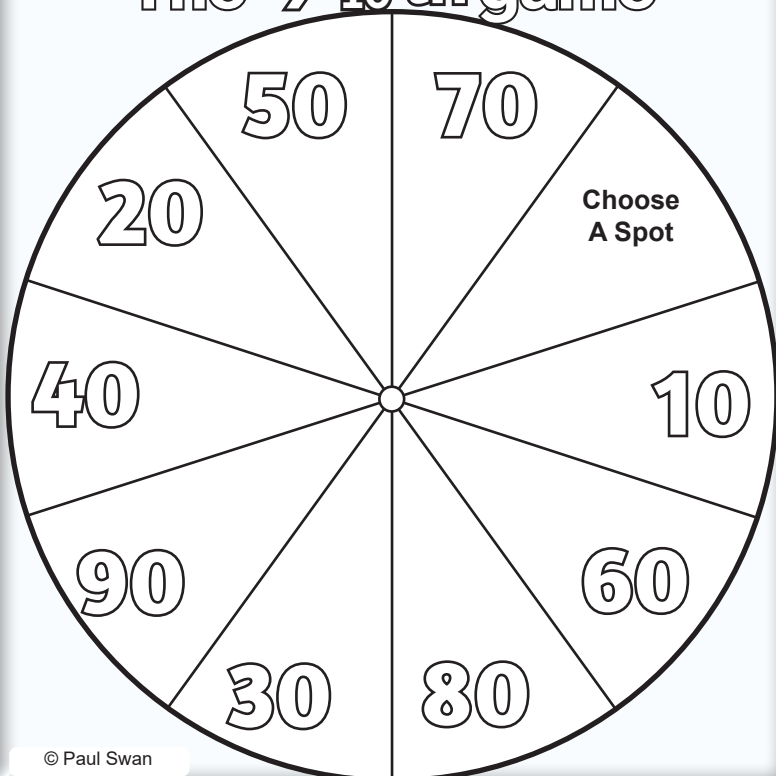
- Allow a 'bump off' rule

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# The $\frac{1}{10}$ th Game | $\frac{1}{10}$ of ...

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

## The $\frac{1}{10}$ th game



© Paul Swan

### The $\frac{1}{10}$ th Game:

A game for two players.

**Aim:** To be the first player to place three counters, next to each other, in a row, column or diagonal.

**Materials Required:** 36 transparent counters, 18 of one colour and 18 of another colour.

- Players take turns to flick the spinner and place a counter on the board that represents  $\frac{1}{10}$ th of the number shown on the spinner. For example, if the spinner shows 30, the player would place a counter on 3.
- Play continues until one player has placed three counters, next to each other, in a row, column or diagonal.

#### Variation

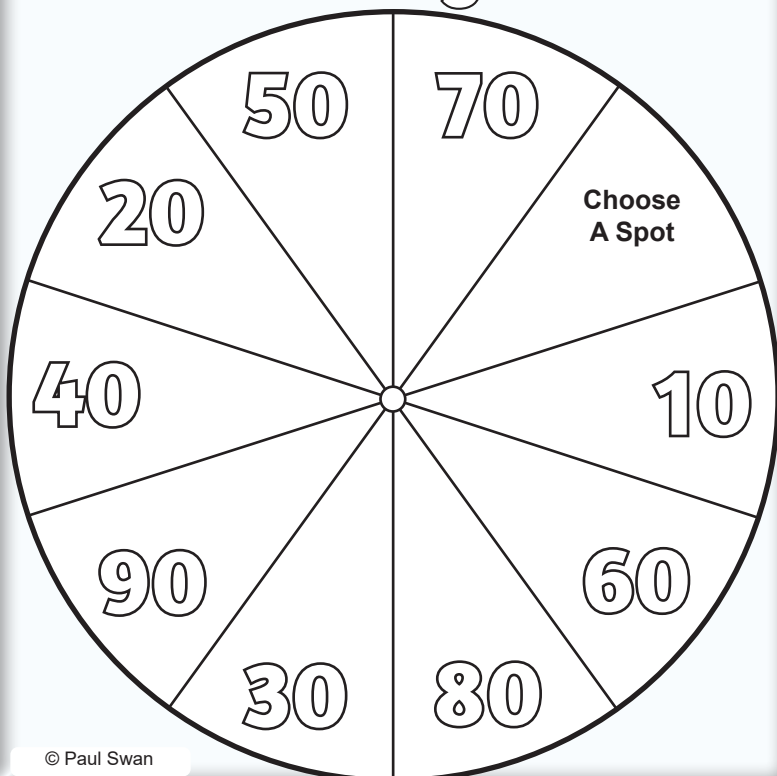
- Allow a 'bump off' rule

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# The 10% Game | 10% of ...

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

## The 10% game



© Paul Swan

### The 10% Game:

A game for two players.

**Aim:** To be the first player to place three counters, next to each other, in a row, column or diagonal.

**Materials Required:** 36 transparent counters, 18 of one colour and 18 of another colour.

- Players take turns to flick the spinner and place a counter on the board that represents **10%** of the number shown on the spinner. For example, if the spinner shows 30, the player would place a counter on 3.
- Play continues until one player has placed three counters, next to each other, in a row, column or diagonal.

#### Variation

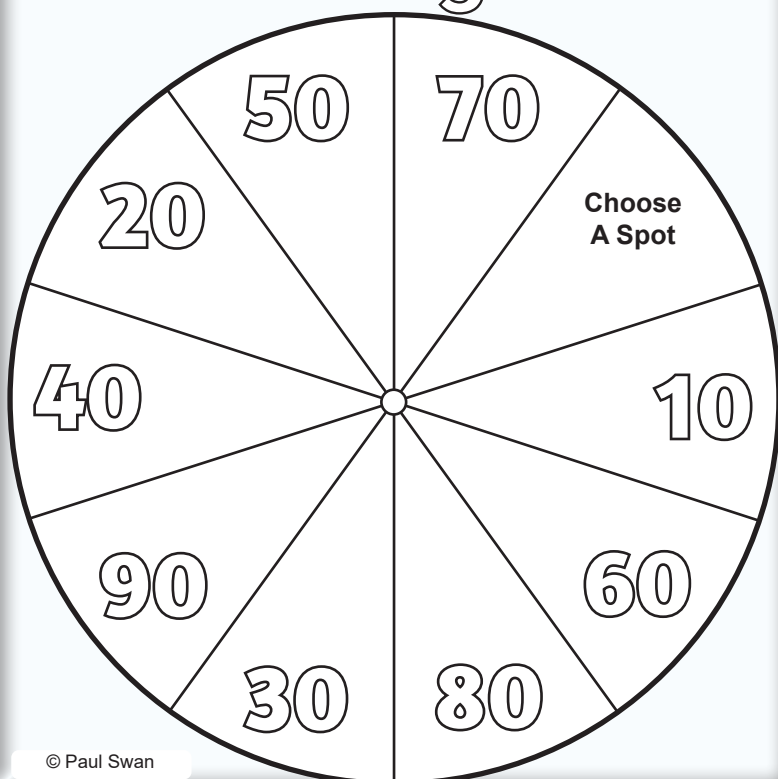
- Allow a 'bump off' rule

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# The 0.1 game

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

## The 0.1 game



© Paul Swan

### The 0.1 Game:

A game for two players.

**Aim:** To be the first player to place three counters, next to each other, in a row, column or diagonal.

**Materials Required:** 36 transparent counters, 18 of one colour and 18 of another colour.

- Players take turns to flick the spinner and place a counter on the board that represents **0.1x (of)** the number shown on the spinner. For example, if the spinner shows 40, the player would place a counter on 4.
- Play continues until one player has placed three counters, next to each other, in a row, column or diagonal.

#### Variation

- Allow a 'bump off' rule

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