



## MATH AT HOME

We are pleased to introduce our Math at Home resource for schools to share with their families. Inside, you will find a variety of games that can be sent home with students to play with a parent or guardian. Each of these games will help students consolidate key number sense skills that they have been working on in class. Teachers will be able to use their results from the Continuum-Based Math diagnostics to decide which games would be the most suitable for each student.

We recommend that the instruction cards and game cards be made of durable materials and/or laminated as appropriate, and then placed in resealable bags to be sent home. We also recommended that students play the game at school prior to it being sent home.



## MATH AT HOME ACKNOWLEDGEMENTS

We would like to thank all the educators involved in the creation of this project.

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# CONTENTS

Activity	CBM Columns	Page
<b>Counting</b>		
Cover the Number	C1 C2 C3 C4 C5 C8	6
Rainy Day Math Game	C1 C2 C3 C4 C5 C8	8
Shake and Spill	C1 C2 C3 C4 C5 C8	12
Building Number Sense	C1 C2 C3 C4 C8	13
Clothes Pin Number Matching	C1 C2 C3 C4 C8	15
Counting Links	C1 C2 C3 C4 C8	17
Ice Cream Math	C1 C2 C3 C4 C8	19
Memory Match Up	C1 C2 C3 C4 C8	22
Seed Counting	C1 C2 C3 C4 C8	26
Tic Tac Teen	C6	29
Forwards or Backwards	C7 C9 C10	33
Race to 31	C7	35
Number Puzzles 1 to 10	C8	37
Secret Message	C9 C10	48
Drop and Create	C9	51
Hundreds Chart Puzzle	C11	53
Oh No 99!	C12	55
Up and Down to 120	C13	57
Counting on You	C14	59
Spin-a-rama	C14	62
Number Search: Thousands	C15	65
Number Search: Counting by Tens	C16	68
Skip Count to 100	C16	71
Concentration: Ten Thousands	C17	73
Can You Count On?	C18	76
Connect Four: Tenths	C18	79
Number Search: Tenths	C18	81
Race to Ten	C18	84
Concentration: Hundred Thousands	C19	87
Connect Four: Hundredths	C20	90

Number Search: Hundredths	C20	92
Concentration: Millions	C21	95
Number Search: Thousandths	C22	98
Counting Pursuits	C23 C24 C25 C26	101
<b>Quantity</b>		
Cup and Chips	Q1 Q2	107
Finger Match	Q1 Q2	108
Number Match 1 to 5	Q2	109
Number Match 1 to 10	Q2	111
Bigger/Smaller/Same	Q3 Q4	114
Counting On (1)	Q5	117
Counting On (2)	Q5	118
Two-by-Two	Q6	120
Number Bonds	Q7	122
Reach 100	Q8	126
Reach 200	Q9	128
Reach 1000	Q9	130
Make Six Numbers: Hundreds	Q9, 10	132
Reach 10 000	Q11	138
Reach 50 000	Q11	140
Reach 10	Q12	142
Nice or Naughty: Millions	Q13	144
Reach Ten Million	Q13	146
Make Six Numbers: Hundredths	Q14	148
Nice or Naughty: Hundredths	Q14	154
Reach 5	Q14	156
Nice or Naughty: Thousandths	Q15	158
The Regrouping Game	Q16	160
Triple Jump	Q17	162
Decimal Triple Jump	Q18	163
Oh No, A Billion!	Q19, 21	164
<b>Operations/Computations</b>		
One Pig	Phase 2	165
Shut the Box	Phase 2	166

Swish Ten	Phase 2	167
Unlucky 13	Phase 2	168
How Close to 100?	Phase 3	169
Odd Pig Out	Phase 3	171
Two Pig	Phase 3	172
Picking Percentages	Phase 4	173
Swish Multiples of Ten	Phase 4	174
Integer War 1	Phase 5	175
Integer War 2	Phase 5	176
Swish Ten: Integers	Phase 5	177
Swish Multiples of Ten: Integers	Phase 5	178
Target	Phase 5	179



## COVER THE NUMBER

### Materials:

- Game board, one die
- Counters


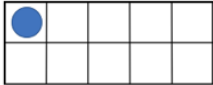

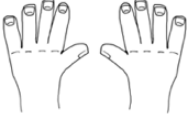

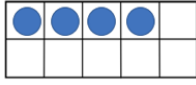




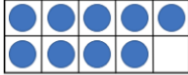





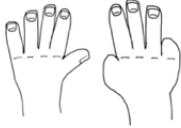
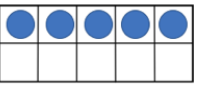
### Instructions:

1. Start at the indicated rectangle.
2. Roll a dice and move around the outside of the gameboard.
3. Cover a number in the middle with a counter according to whichever number they land on.
4. Continue until all the numbers are covered

### What this is good for:

- Careful counting including knowing that the order in which the objects are counted doesn't affect how many there are.

C1, C2, C3, C4, C5, C8

<p>Start here</p> 				
	<h1>Cover the number</h1>			
	<div> <div>1</div> <div>2</div> <div>3</div> <div>4</div> <div>5</div> <div>6</div> <div>7</div> <div>8</div> <div>9</div> </div> <div> <div>2</div> <div>3</div> <div>4</div> <div>5</div> <div>6</div> <div>7</div> <div>10</div> </div>			
				
				
				



## RAINY DAY MATH GAME

### Materials:

- Clouds with numbers up to ten – foam/raindrops

### Instructions:

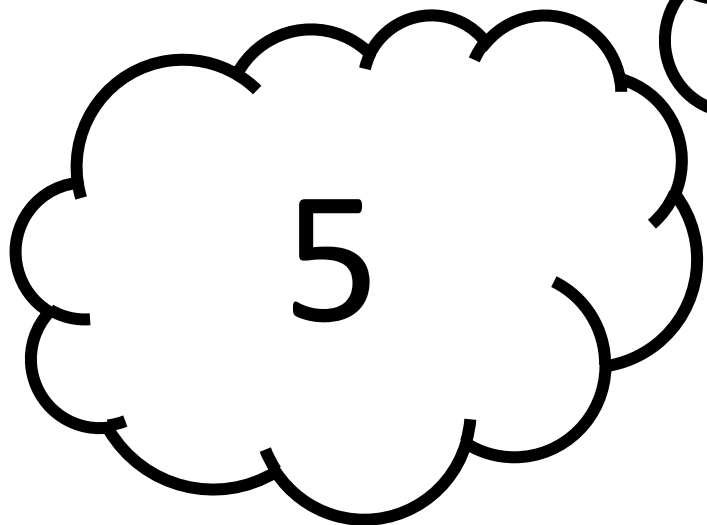
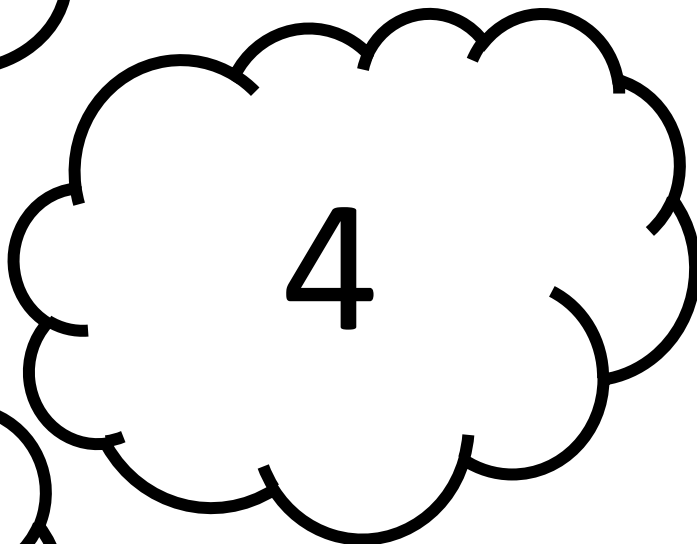
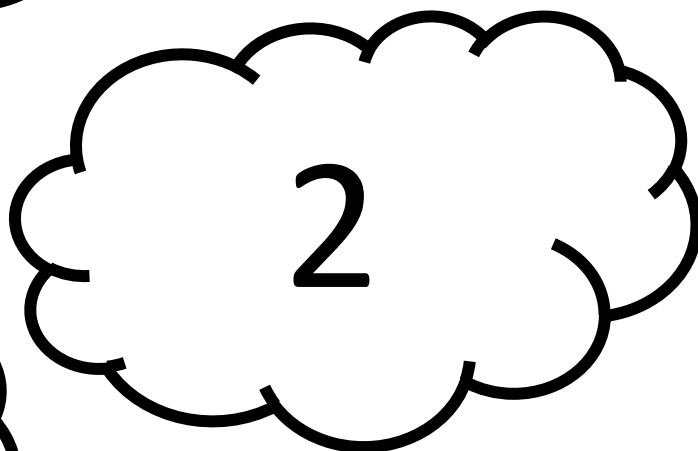
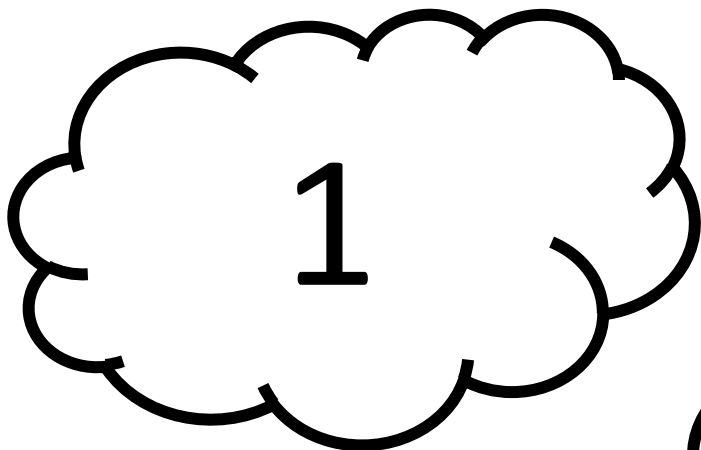
1. Choose a cloud.
2. Match the number of raindrops to the numeral on the cloud

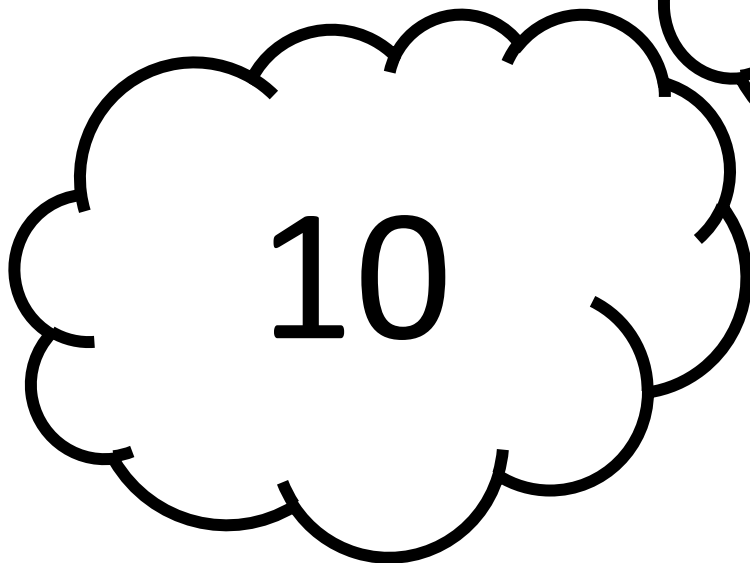
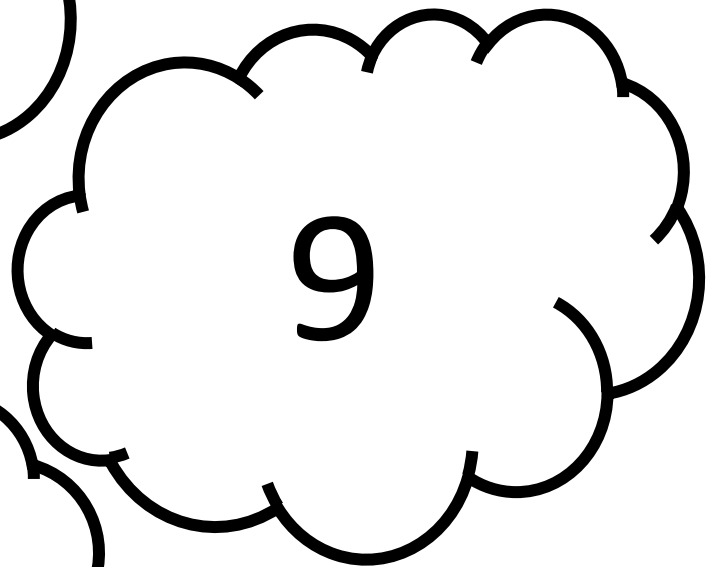
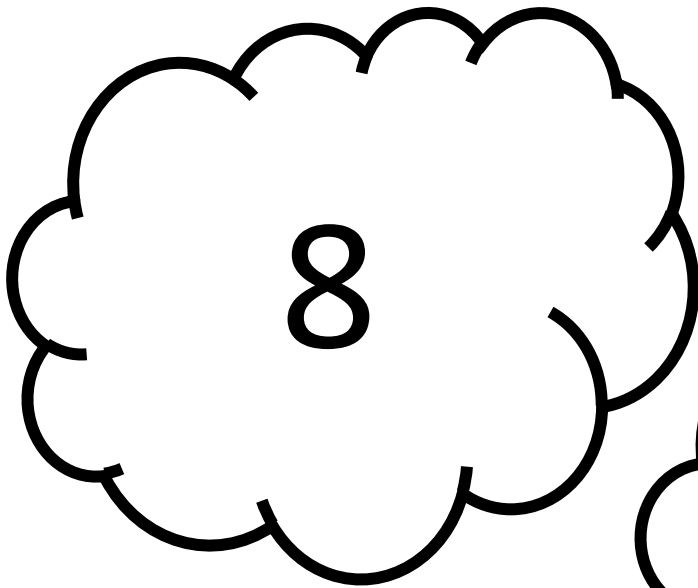
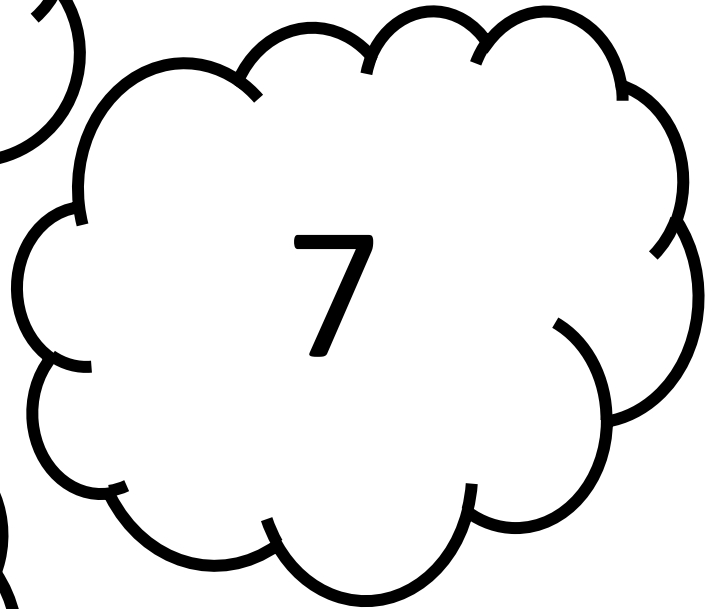
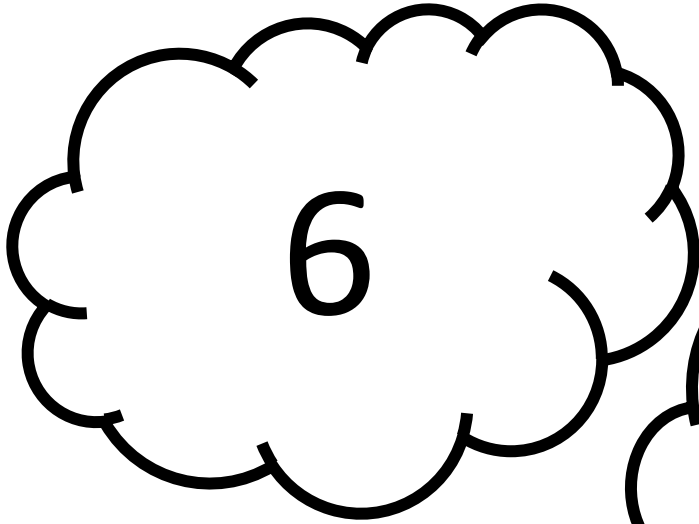
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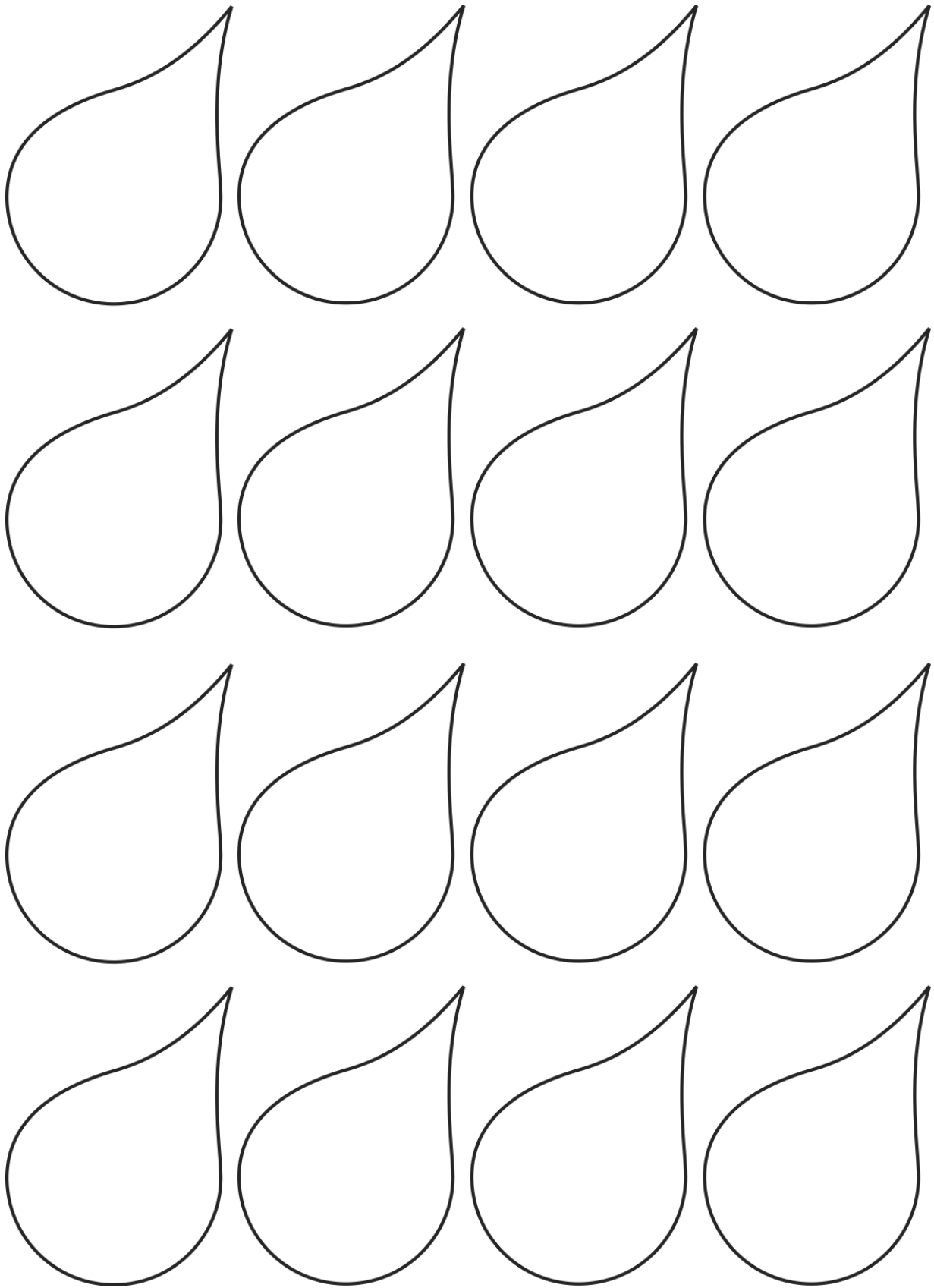
- Careful counting including knowing that the order in which the objects are counted doesn't affect how many there are.

C1 C2 C3 C4 C5 C8











## SHAKE & SPILL

### Materials:

- Plastic cup
- Counters
- Deck of cards without face cards

### Instructions:

1. Player A picks a card and does not show the other player the number
2. Player A puts that number of counters in the cup.
3. Player B (students) shakes and spills the counters onto the table.
4. Player B has to count number of counters.
5. Player A then reveals the card.

### What this is good for:

- Counting carefully especially knowing that the last number said tells "how many" in the whole collection.

C1, C2, C3, C4, C5, C8



## “BUILDING” NUMBER SENSE

### Materials

- Game card
- Lego or snap cubes
- Dice

### Instructions:

1. Choose a square on the placemat.
2. Say the number
3. Use blocks to build a tower on that number on the placement

### Challenge:

- Roll one die.
- Say the number and find it on the placemat.
- Use blocks to build a tower on that number on the placement

### What this is good for:

- Careful counting including using counting as a strategy to solve problems.

C1, C2, C3, C4, C8

## “Building” Number Sense

1

6

2

5

4

3

2

1

4



## CLOTHES PIN NUMBER MATCHING

### Materials:

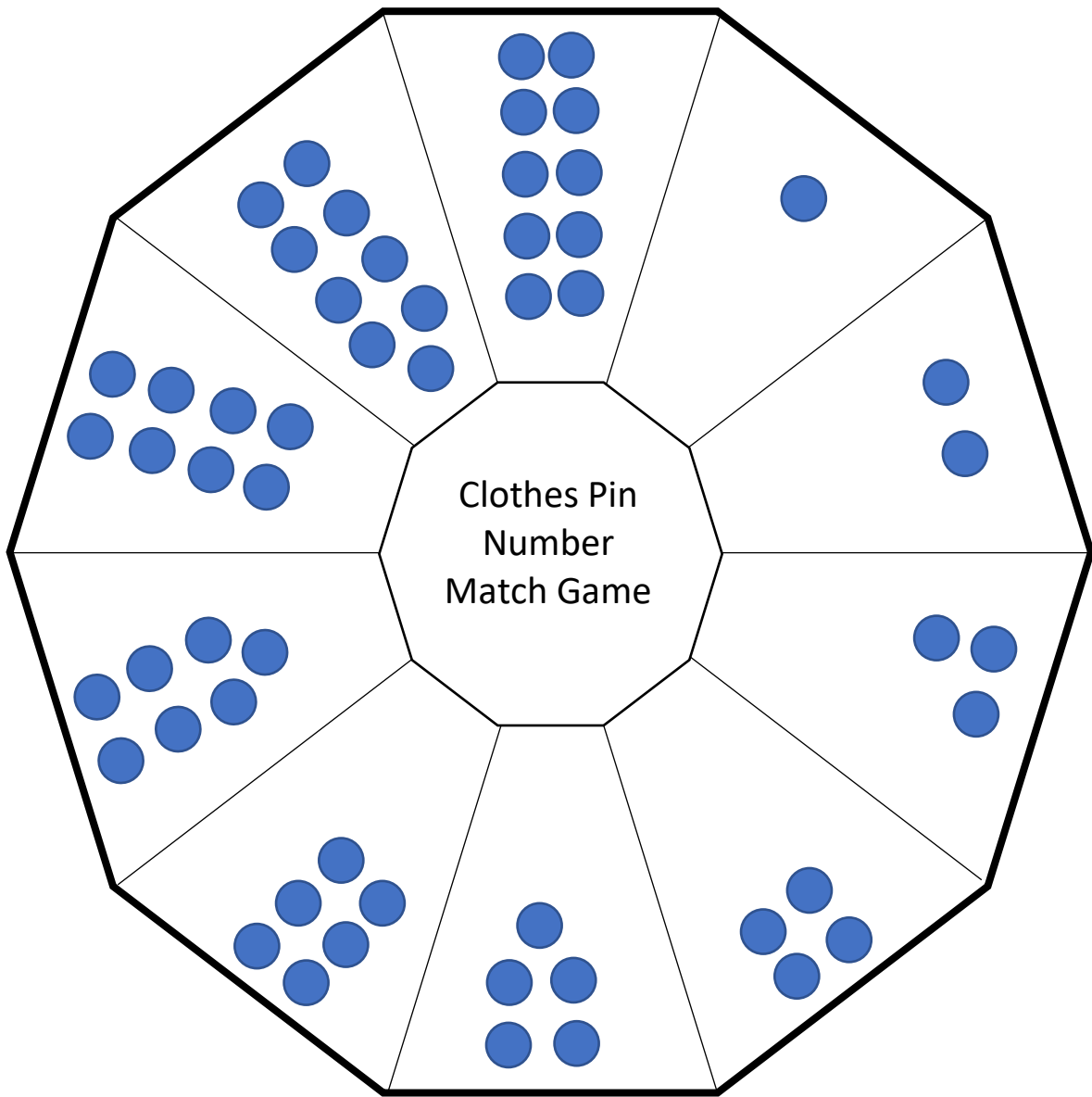
- Game card
- Clothes pins with numbers 1-10

### Instructions:

1. Players need to count the dots and match with the corresponding number clip

### What this is good for:

- Selects counting as a strategy to solve problems, without prompting  
C1, C2, C3, C4, C8







## COUNTING LINKS

### Materials:

- Paper clips
- Laminated tickets

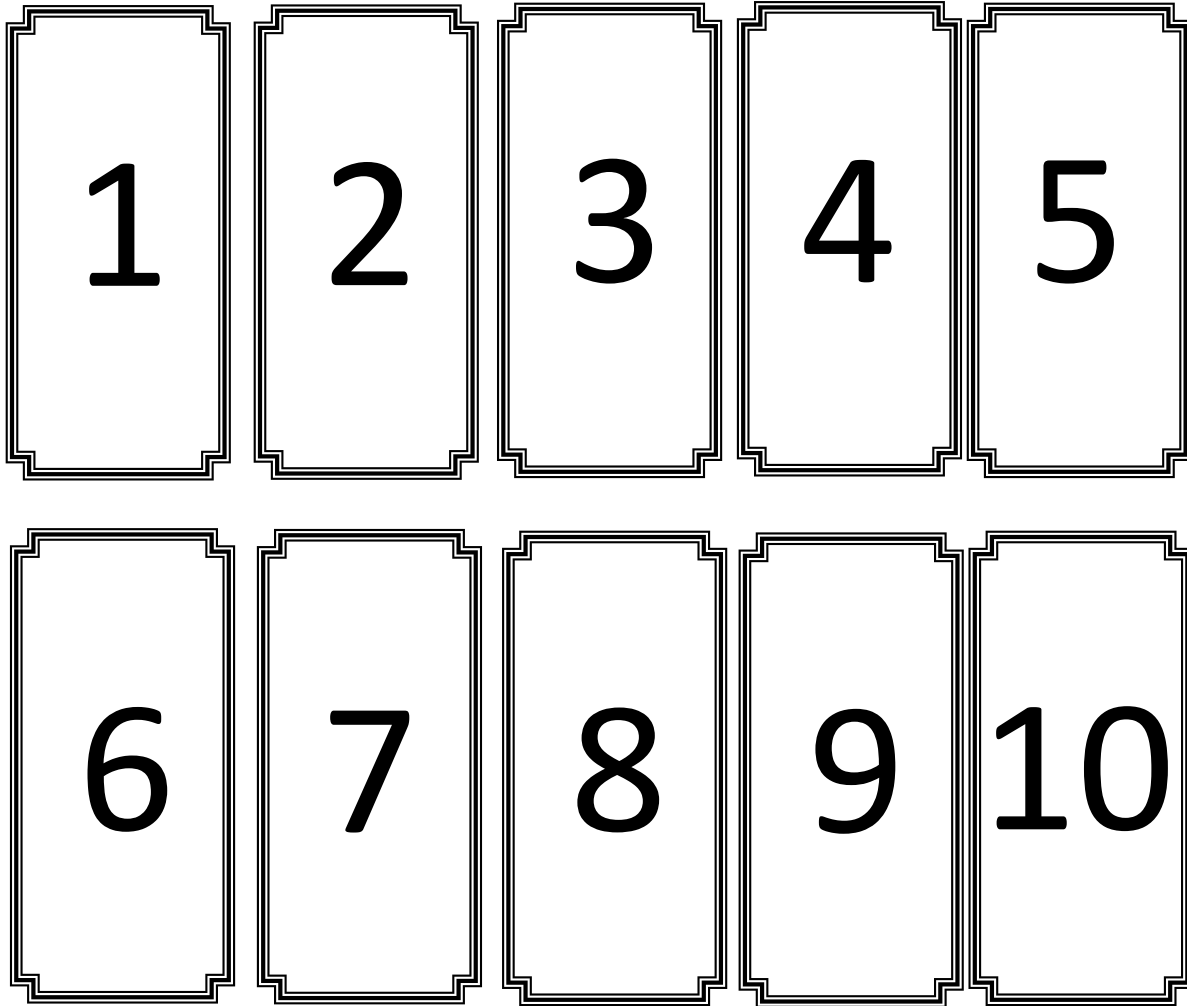
### Instructions:

1. Choose a ticket
2. Attach the appropriate number of clips to the corresponding ticket.

### What this is good for:

- Careful counting including using counting as a strategy to solve problems, without prompting.

C1, C2, C3, C4, C8





## ICE CREAM MATH

### Materials:

- Ice cream scoops
- Ice cream cone with numbers to 10

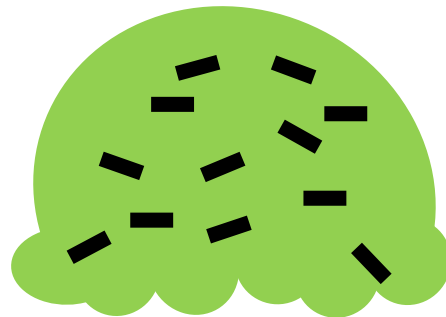
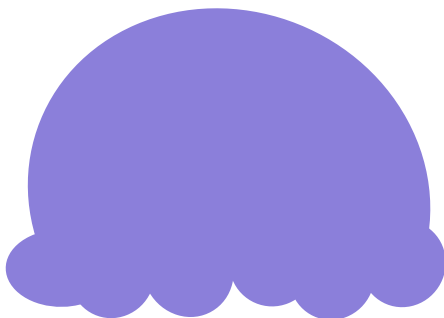
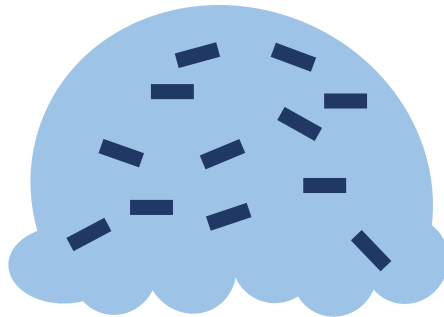
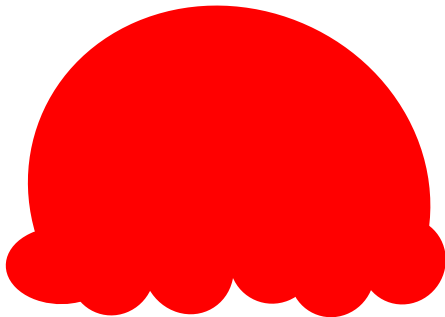
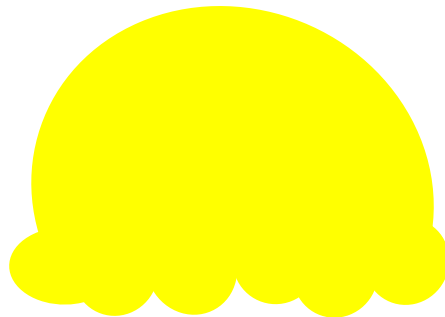
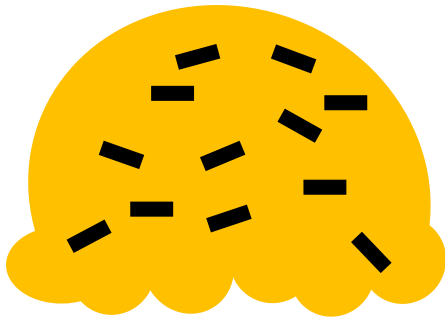
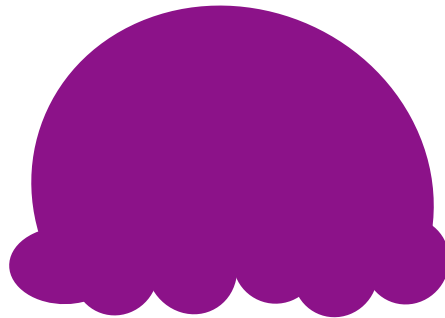
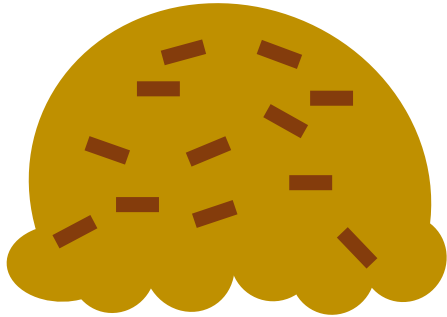
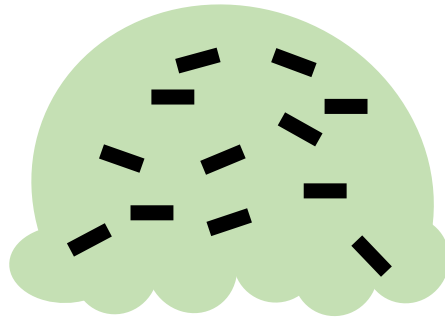
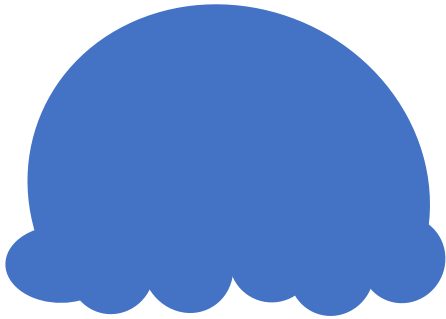
### Instructions:

1. Choose an ice-cream cone.
2. Count out scoops and match to number on the cone.

### What this is good for:

- Counts each object one at a time
- Knows the number tells “how many” in a collection
- Names and interprets numerals to 10

C1 C2 C3 C4 C8





1

2

3



4

5

6



7

8

9

10



## MEMORY MATCH UP

### Materials:

- Cards with numerals (1-10)
- Cards with dots

### Instructions:

1. Put cards, face up, in four rows of five.
2. Match number symbols to the correct quantity

### Challenge

- Shuffle the cards and place the cards face down.
- Take turns to turn over two cards at a time.
- If they match, you keep them.

### What this is good for:

- Knows the order in which the objects are counted doesn't affect how many there are

C1, C2, C3, C4, C8

1

2

3

4

5

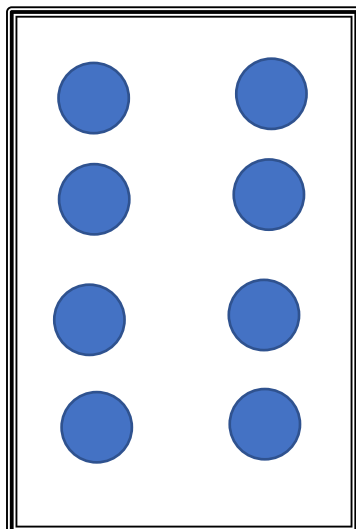
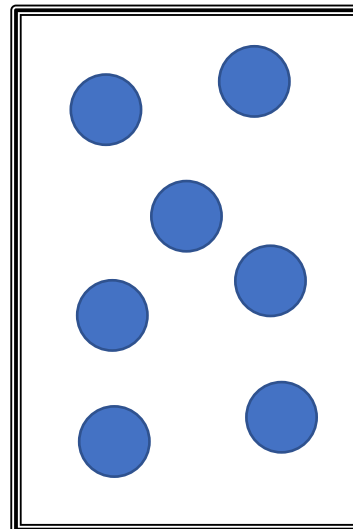
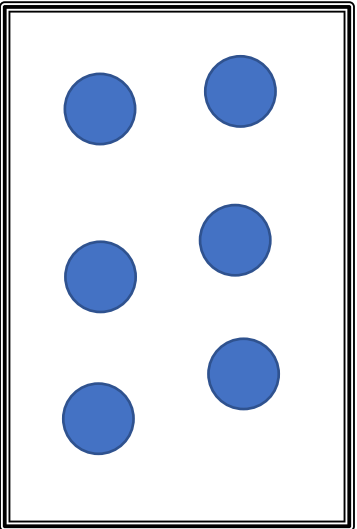
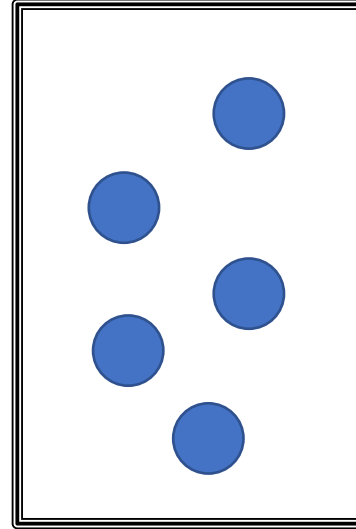
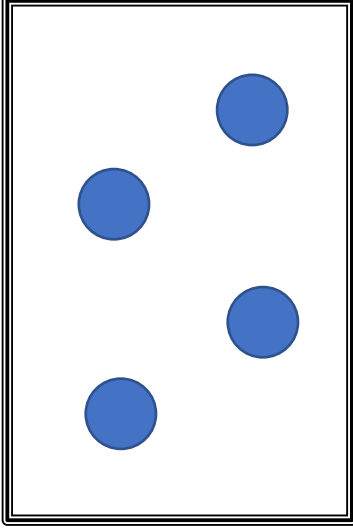
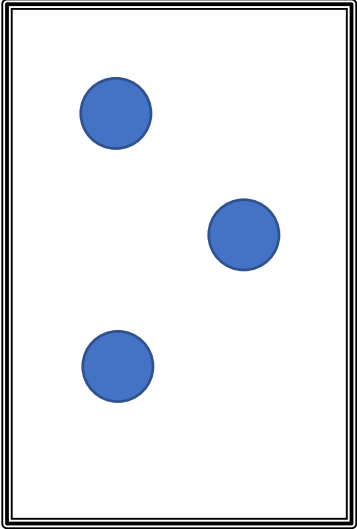
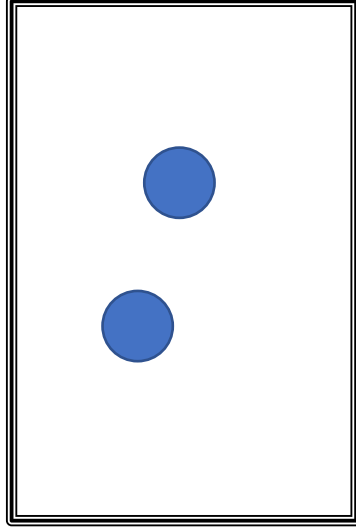
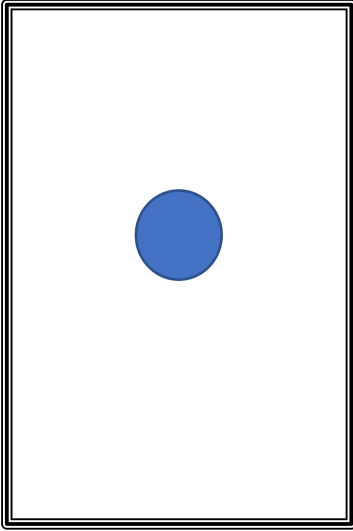
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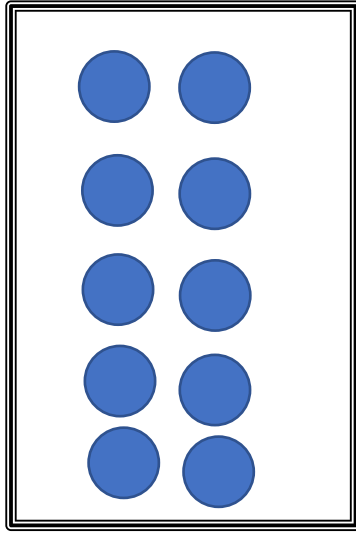
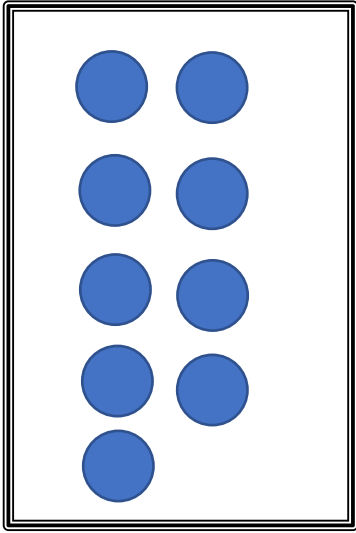
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9

10









## SEED COUNTING

### Materials

- Game card (watermelon slice)
- Buttons/Counters to act as seeds
- Cards with numerals 1-10

### Instructions:

1. Pick a card
2. Use watermelon slice and count out that many buttons (seeds) to add the slice
3. Clear off the watermelon slice.
4. Continue until you have done all the cards 1-10

### What this is good for:

- Careful counting including using counting as a strategy to solve problems.

C1, C2, C3, C4, C8

1

2

3

4

5

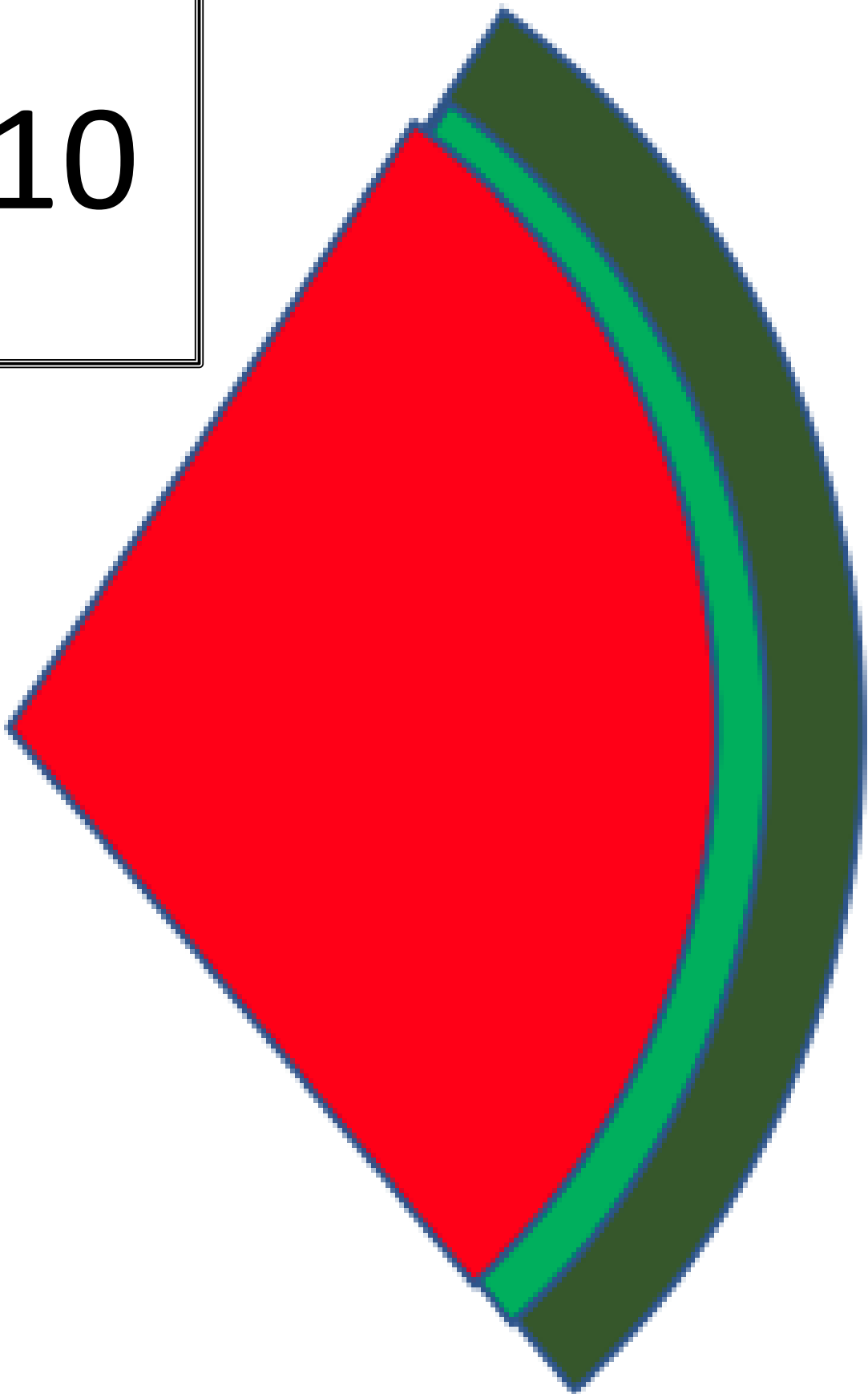
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## TIC-TAC-TEEN

### Materials:

- Ten frame cards
- Game board
- Optional: Counters (two different colours)

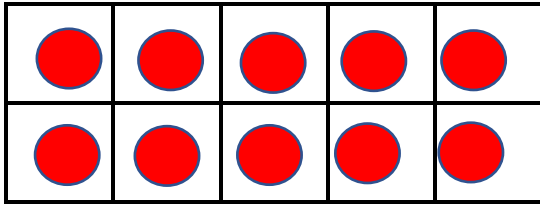
### Instructions:

1. Player A chooses a ten-frame card and places it on the game board in the dotted box. Decide what number between 10 and 20 has been created.
2. Player A looks for that number on the game board and places their counter on it or puts an O on it
3. Player B takes a turn and puts their counter or an X on the number they get.
4. First player to get three in a row, wins.

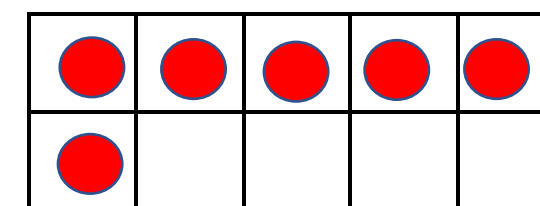
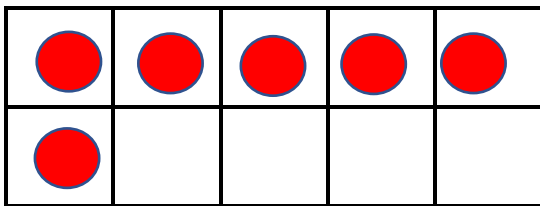
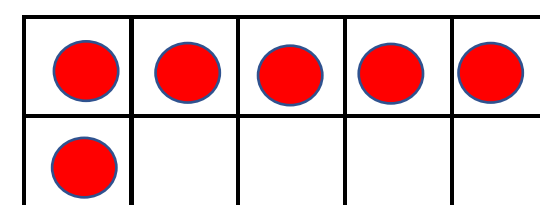
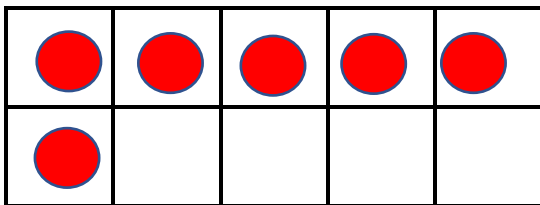
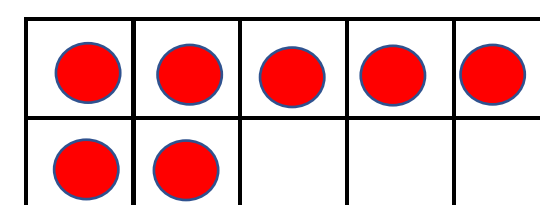
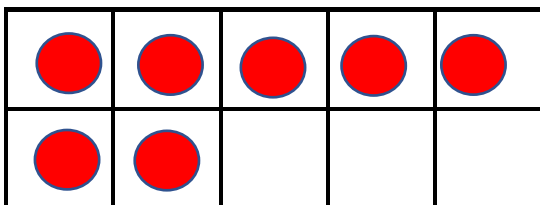
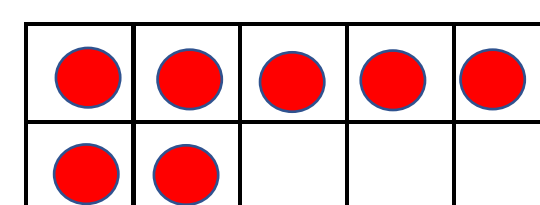
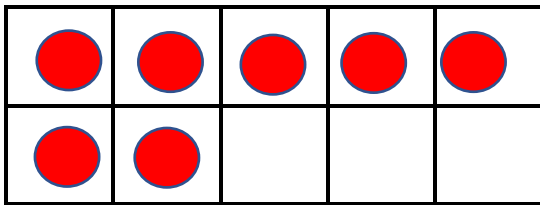
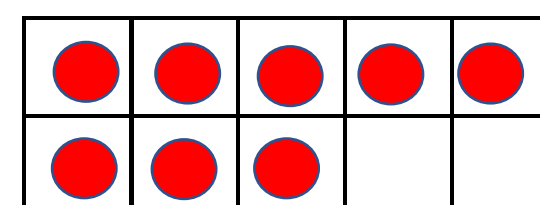
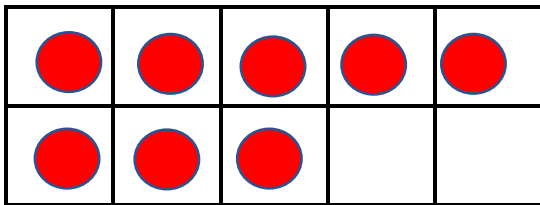
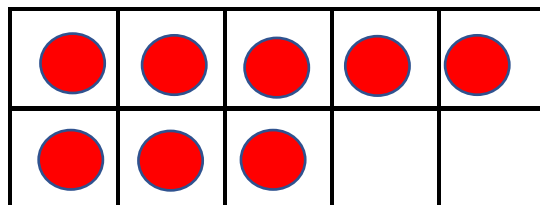
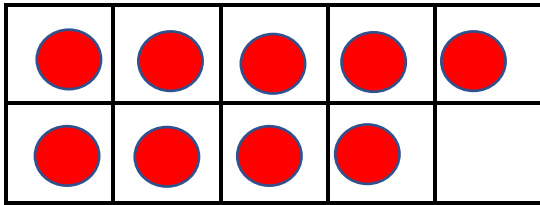
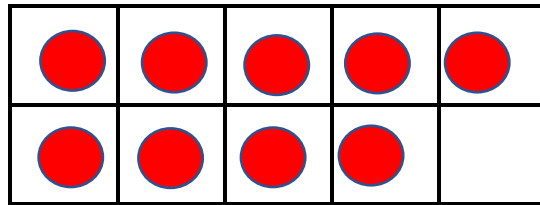
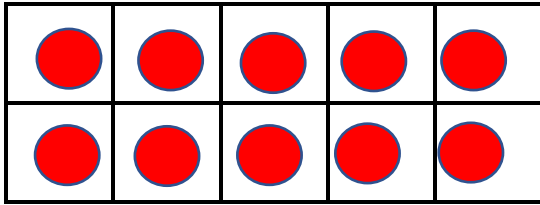
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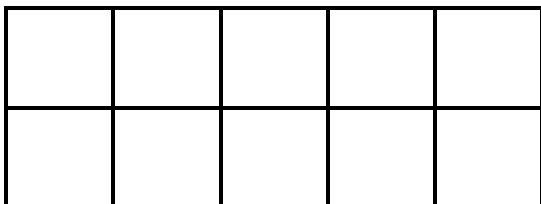
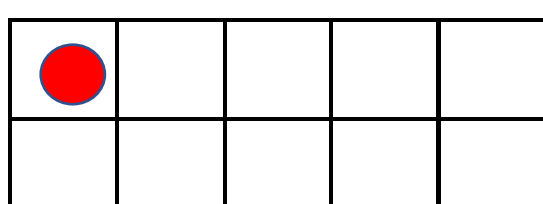
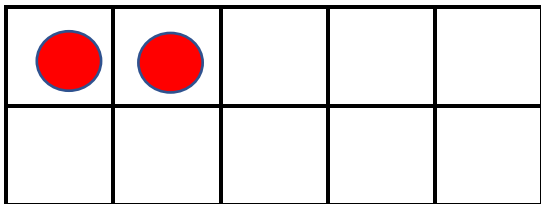
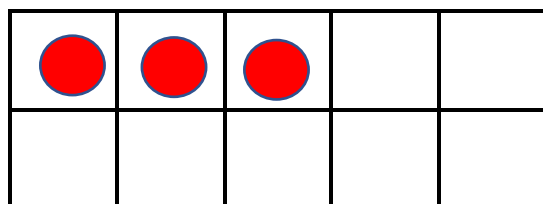
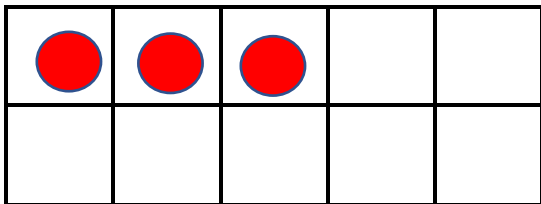
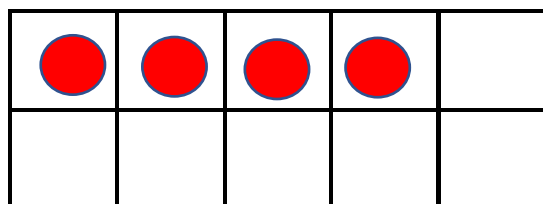
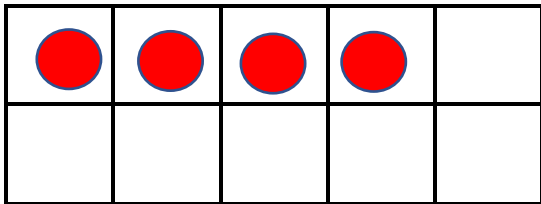
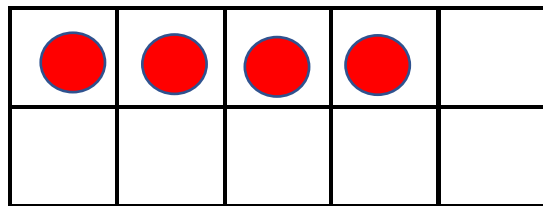
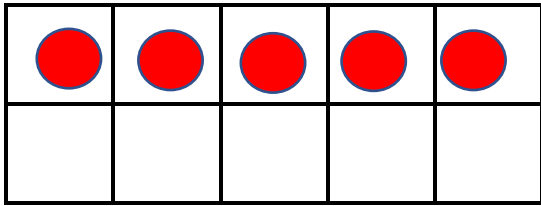
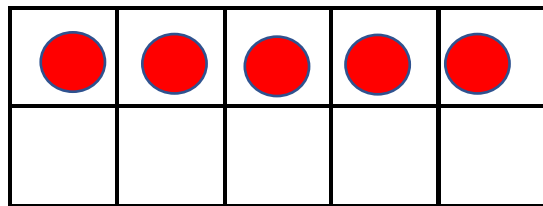
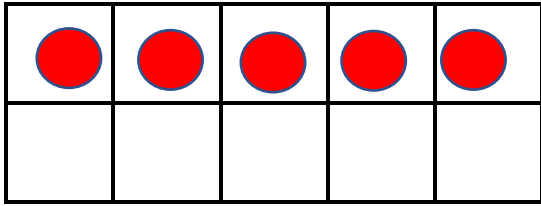
- Getting students to learn about the teens.

C6



10	11	12	13	14
13	14	15	16	17
14	15	16	17	18
15	16	17	18	19
16	17	18	19	20









## FORWARDS OR BACKWARDS

### Materials:

- Game board
- Two-colour counter

### Instructions:

1. Flip a counter so that it lands on the game board. If necessary, move the counter so that it covers the nearest square.
2. If the counter lands with yellow facing up, count forward aloud from that number until you reach 31.
3. If the counter lands with red facing up, count backward aloud from that number until you reach 1.

### What this is good for:

- Counting by rote forwards and backwards to and from 31.

C7, C9, C10

1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20
21	22	23	24	25
26	27	28	29	30
31				



## RACE TO 31

### Materials:

- Game board
- One die
- Dry Erase markers

### Instructions:

5. Player A rolls the die and moves the correct number of spaces while saying aloud the numbers on the game board (e.g. a 4 is rolled, the player says "1, 2, 3, 4")
6. Player B takes a turn
7. Player A rolls the die another time and continues counting aloud from where he/she left off e.g., a 3 is rolled, the player says "5, 6, 7")
8. Player B takes a turn.
9. The first player to 31, wins

### Challenge:

- Start at 31 and count backwards

### What this is good for:

- Counting to 31

C7

WINNER	
31	31
30	30
29	29
28	28
27	27
26	26
25	25
24	24
23	23
22	22
21	21
20	20
19	19
18	18
17	17
16	16
15	15
14	14
13	13
12	12
11	11
10	10
9	9
8	8
7	7
6	6
5	5
4	4
3	3
2	2
1	1
START	

Race to 31



## NUMBER PUZZLES 1-10

### Materials:

- Set of 40 puzzle pieces

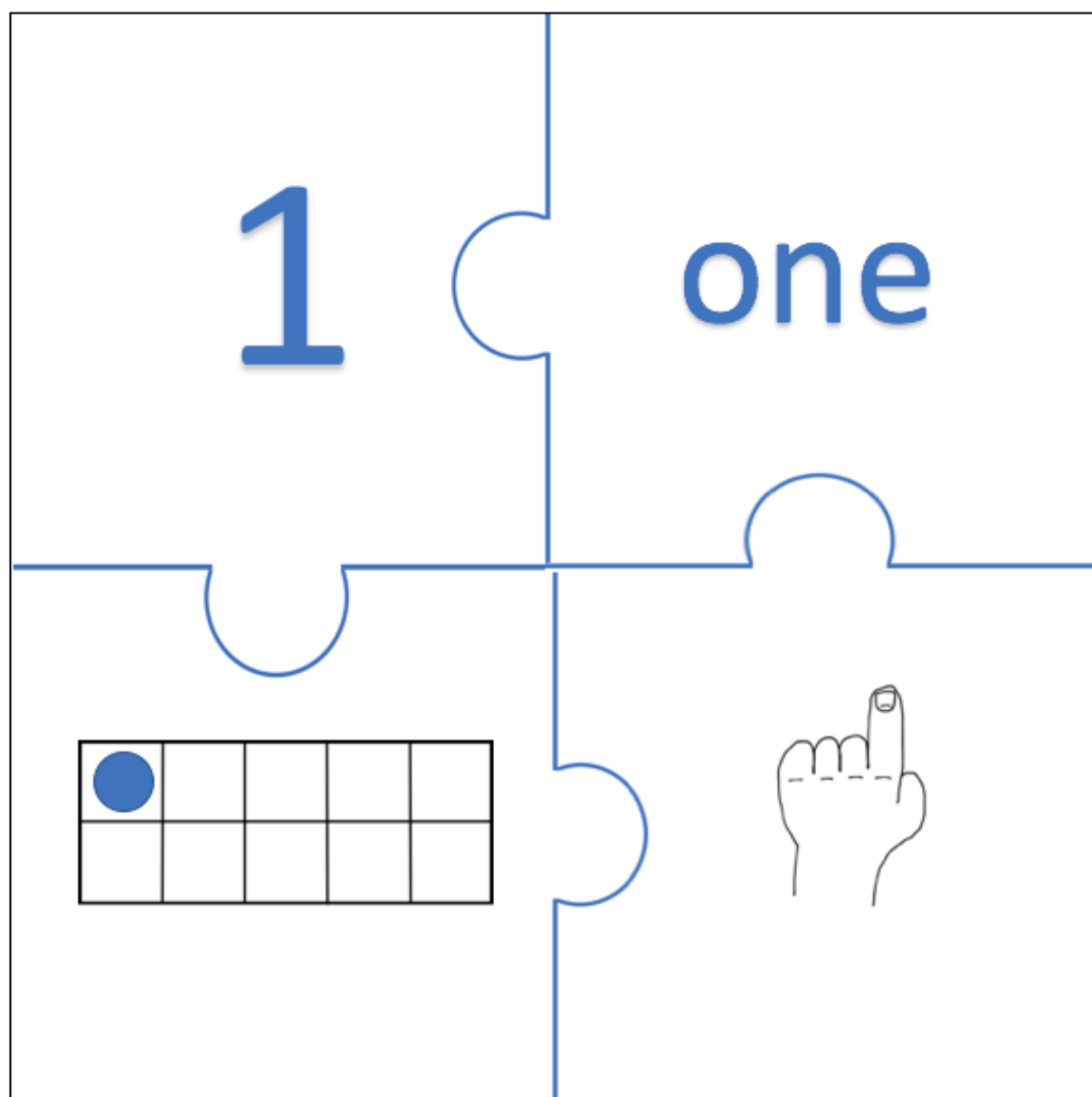
### Instructions:

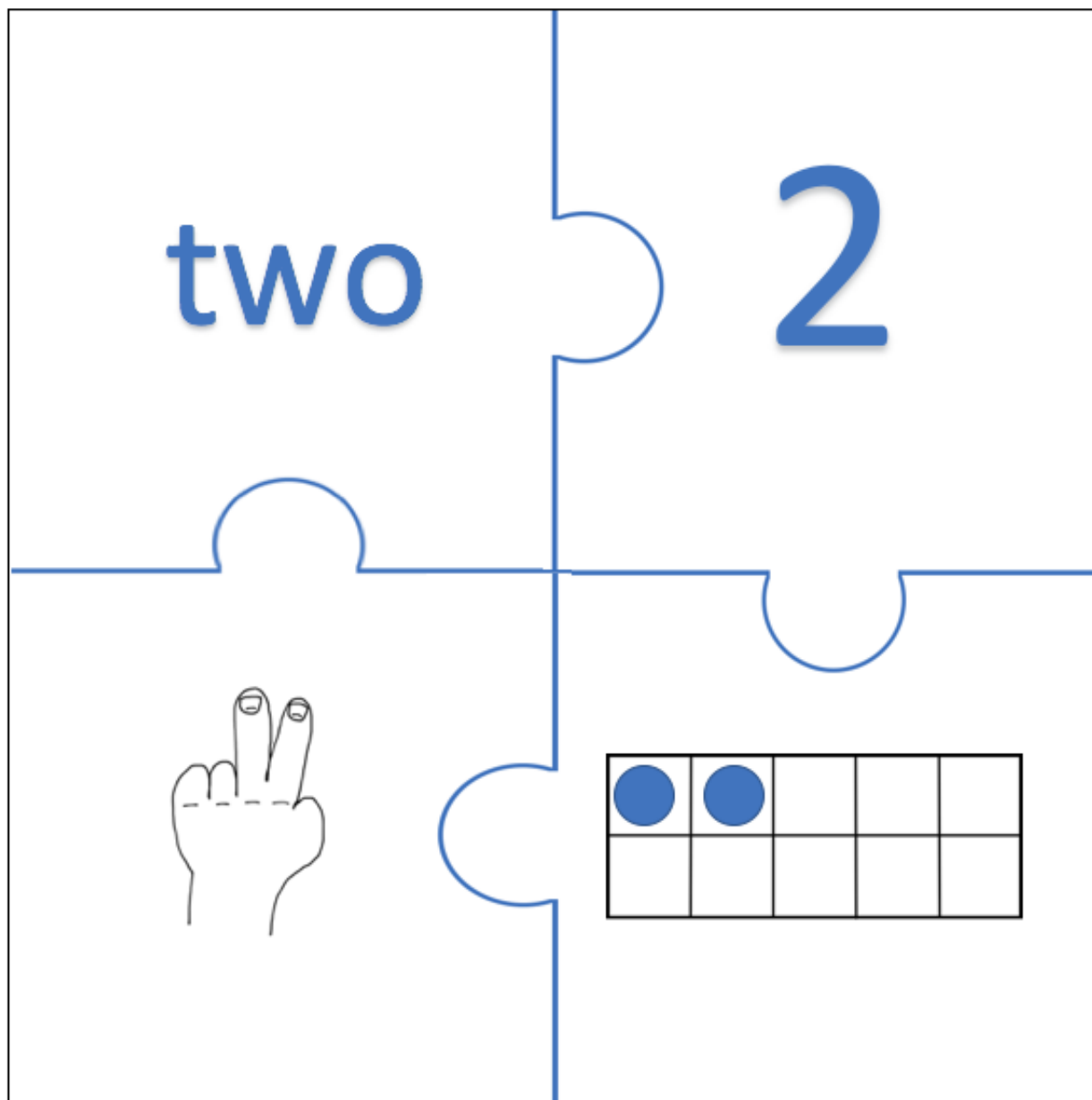
1. Assemble each 4-piece mini puzzle for each number 1-10

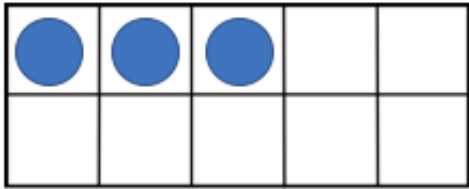
### What this is good for:

- Names and interprets numerals to 10
- Connects various representations of numbers

C8





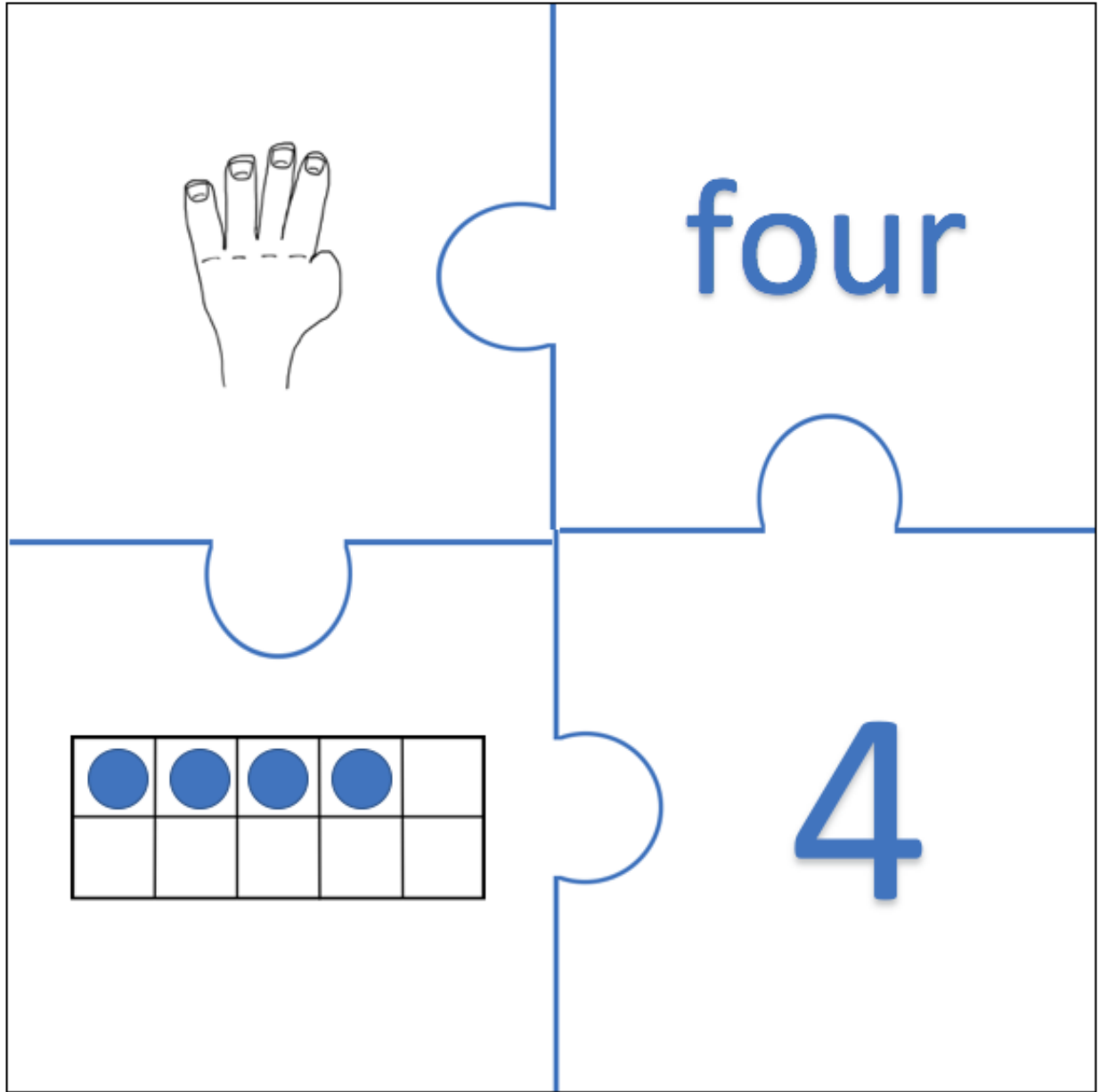


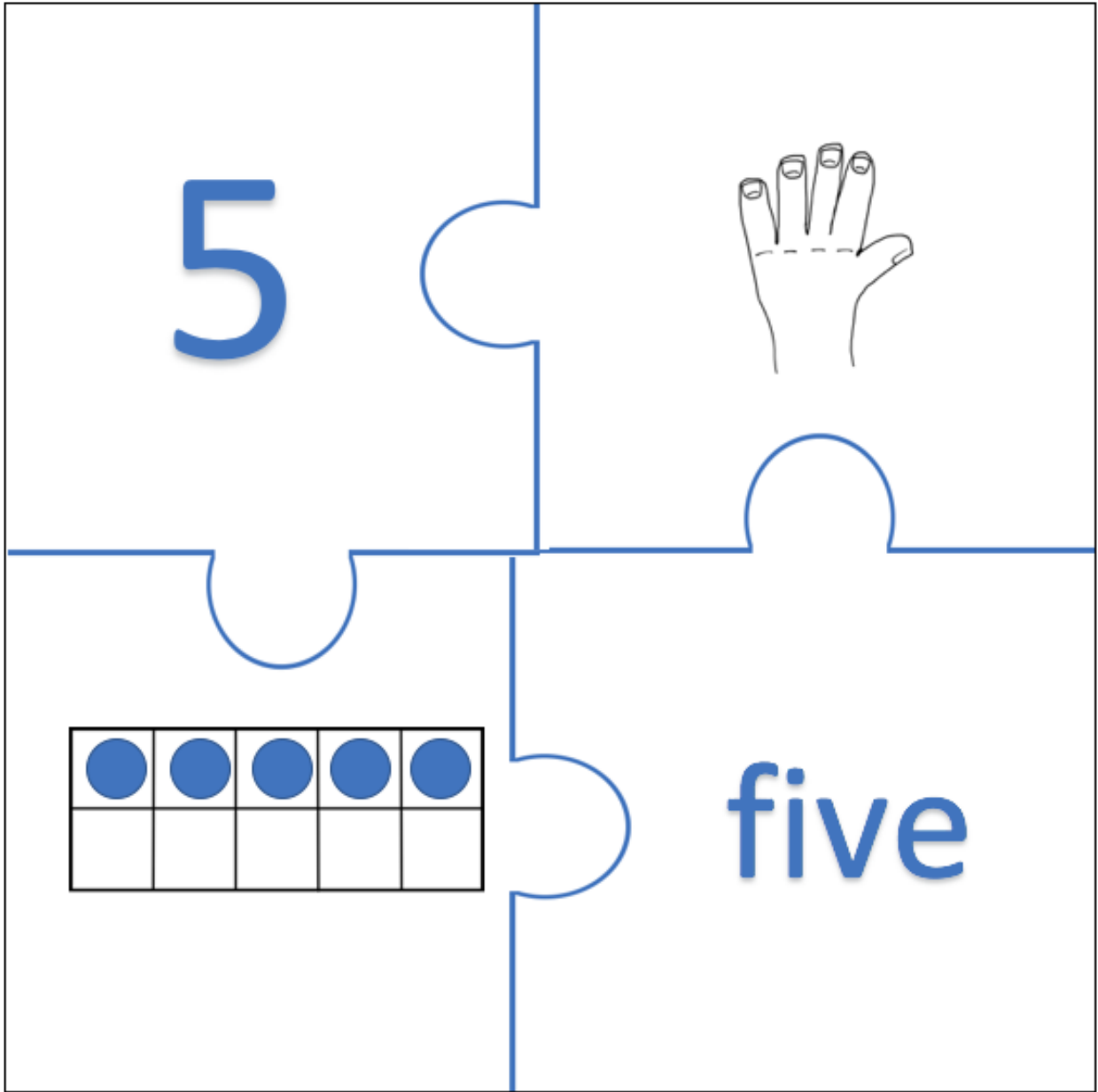
three

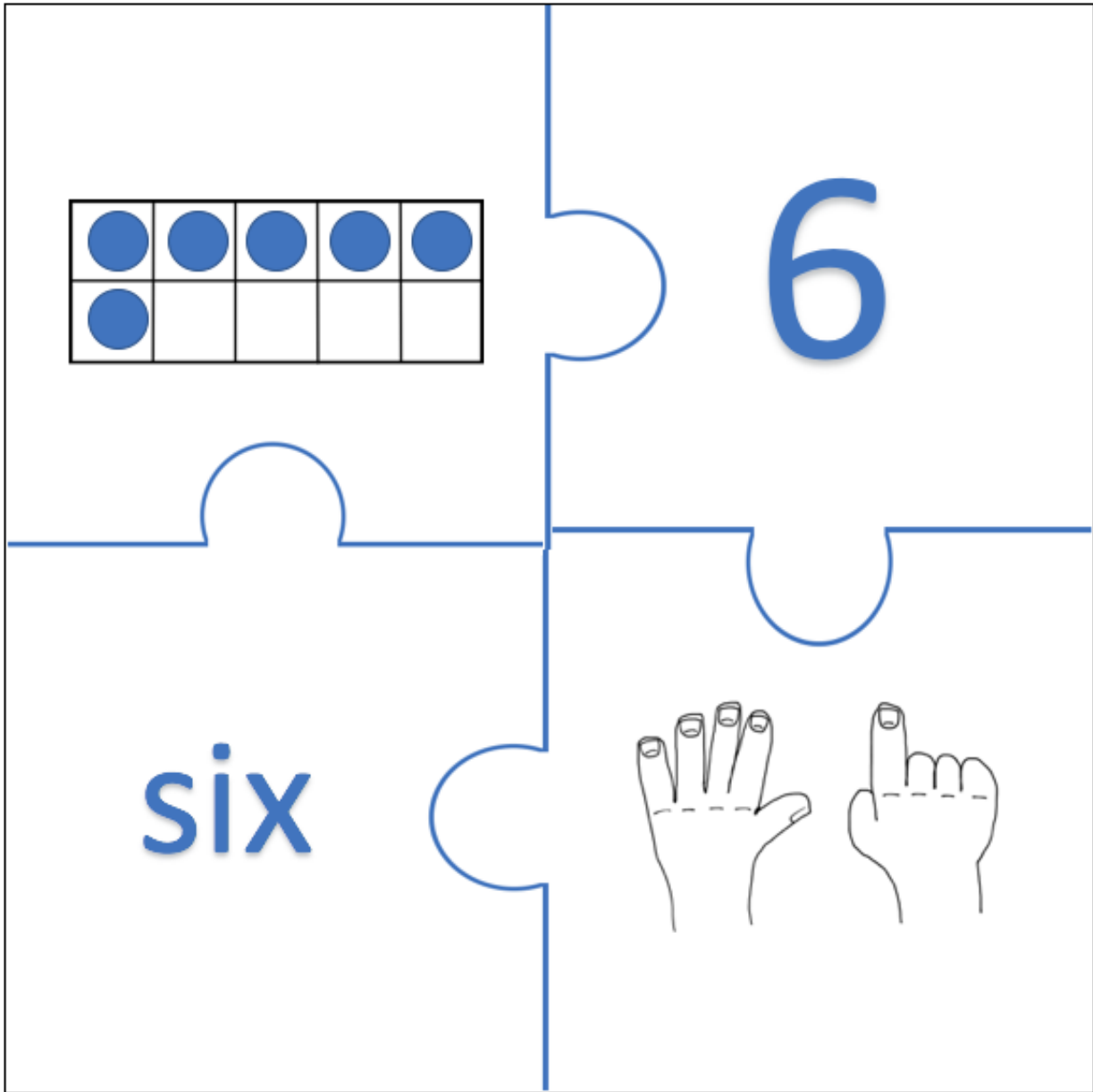
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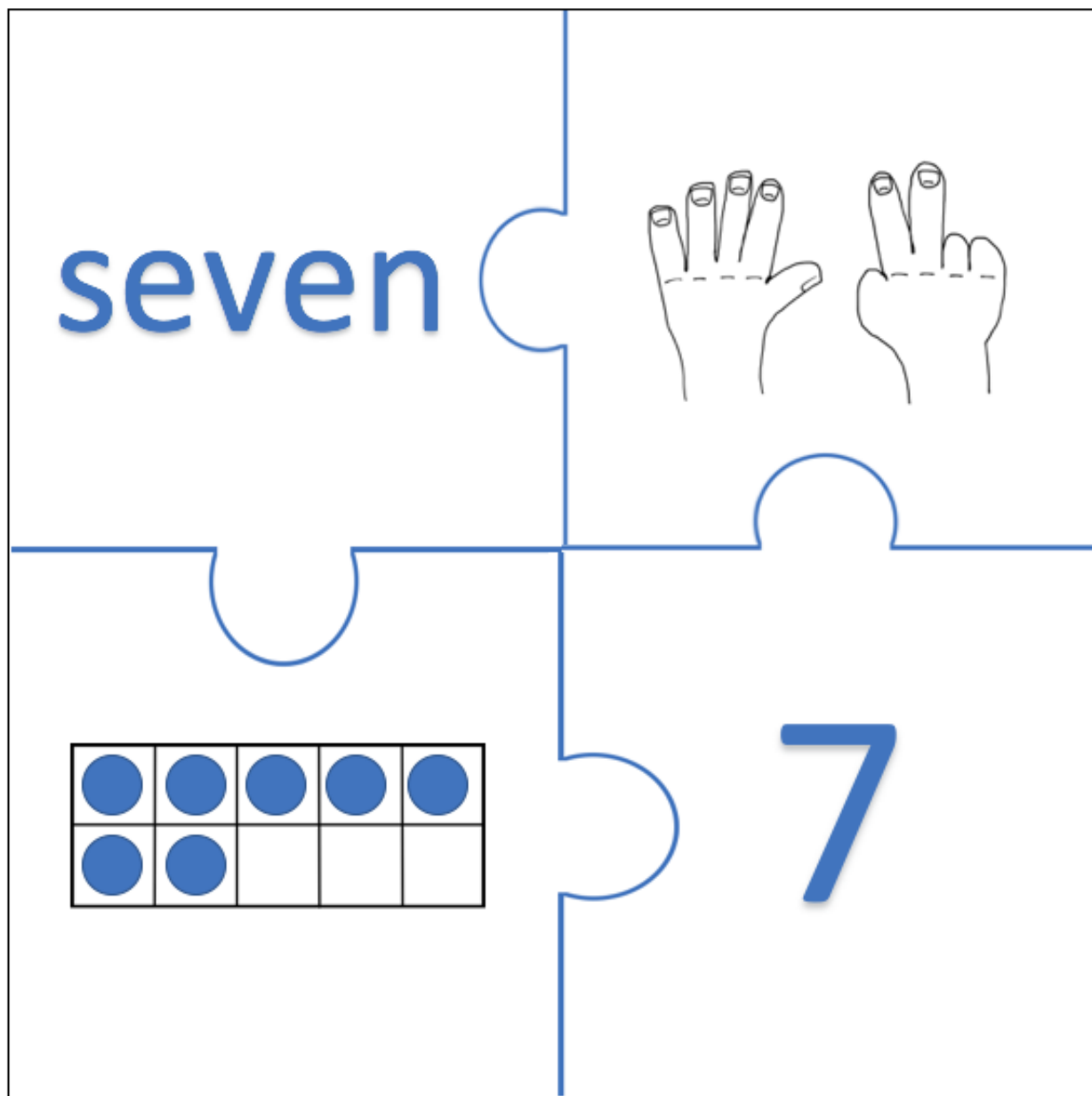


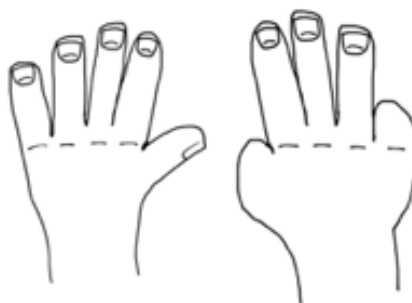
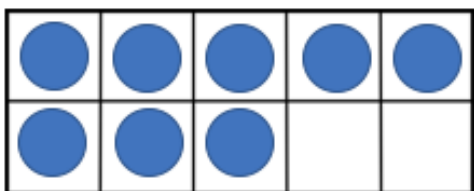






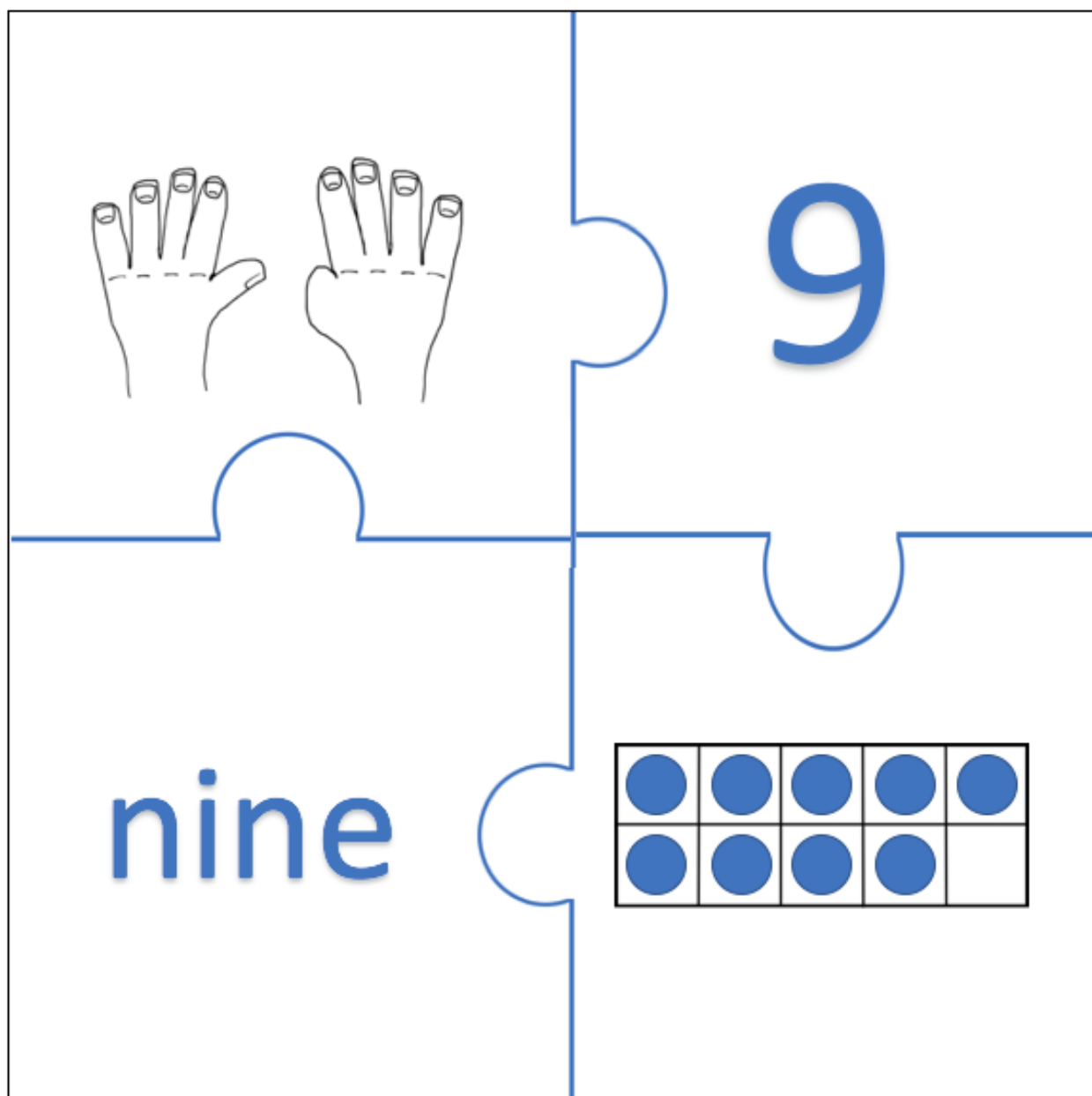




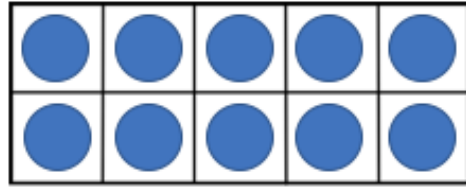


8

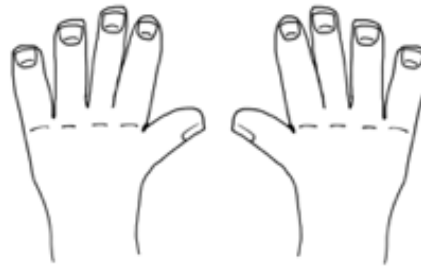
eight



ten



10





## SECRET MESSAGE

### Materials:

- 31 numbered cards

### Instructions:

1. Place cards randomly on a table with numbers facing up.
2. Arrange in reverse order from 31 down to 1.
3. Turn the cards over to reveal the secret message.

### What this is good for:

- Counting backwards from 31

C9 C10



Instructions: Photocopy double-sided onto card stock or darkly coloured paper.

1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20
21	22	23	24	25
26	27	28	29	30
31				

Instructions: Photocopy double-sided onto card stock or darkly coloured paper.

m	__	3	1	!
k	__	f	r	o
t	__	b	a	c
__	c	o	u	n
n	__	n	o	w
o	u	__	c	a
				y



# M @

## DROP AND CREATE

### Materials:

- Game board
- Counter
- Base 10 blocks

### Instructions:

1. Drop your counter on the number grid. If necessary, move it so it covers one number.
2. Use the base 10 blocks to create this number.

### What this is good for:

- Naming and interpreting numerals to 31

C9

1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20
21	22	23	24	25
26	27	28	29	30
31				



## HUNDREDS CHART PUZZLE

### Materials:

- Hundreds chart cut into 10 to 12 randomly-shaped pieces

### Instructions:

1. Put the pieces back together to recreate the hundreds chart

### What this is good for:

- Knowing the numbers up to one hundred

C11

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100



M @ 🏠

OH NO 99!

**Materials:**

- Pack of cards

**Instructions:**

- See enclosed rules. Original game courtesy of Marilyn Burns.

**What this is good for:**

- Counting up to 100

C12

**Materials Needed**

A deck of playing cards with the jokers removed.

**Card Values and Operations**

Aces:	Add 1
Jacks:	Subtract 10
Queens:	Wild cards that can represent any other card in the deck
Kings:	Add zero
All others (2 to 10):	Add their face value

**Directions for Playing the Game**

1. One player shuffles the cards and deals four cards to each player. The undealt cards remain in a stack, face down.
2. Players take turns playing one card at a time, adding or subtracting the value of their card to or from their jointly accumulating score.
3. Each time a player plays a card, she or he must replace it with the top card from the face-down deck.
4. Play continues until one player forces another to go over the score of 99.





## UP AND DOWN TO 120

### Materials:

- Two dice
- Game cards

### Instructions:

1. Throw 2 dice and add these to determine the start number.
2. Players take turns to turn over one card and follow the instructions. E.g. if the start number is 4 and Player A turns over 'Add three 10s', then that player would count three tens from 4 to get to 34. If Player B then turns over 'Add two 5s', they would count two 5s on from 34 to get to 44.
3. The player who takes the score to 120 or more wins.

What this is good for:

- Skip counting by 2s, 5s, and 10s from any number

C13

Add three 2s	Add three 2s	Add three 2s
Add five 2s	Add five 2s	Add five 2s
Add three 5s	Add three 5s	Add three 5s
Add four 5s	Add four 5s	Add four 5s
Add three 10s	Add three 10s	Add three 10s
Add two 10s	Add two 10s	Add two 10s
Subtract 2	Subtract 2	Subtract 2
Subtract three 2s	Subtract three 2s	Subtract three 2s
Subtract 5	Subtract two 5s	Subtract three 5s
Subtract 5	Subtract two 10s	Add 0



## COUNTING ON YOU

### Materials:

- Game cards

### Instructions:

1. Separate cards into two piles, one with numbers and the other with instructions. Make sure cards are face down.
2. Turn over a number card and an instruction card.
3. Follow the instructions to count on from the given number.
4. Repeat!

### What this is good for:

- Counting up to 200

C14

96	103
142	113
159	187
129	178

Count up the next 3 numbers	Count up the next 4 numbers
Count up the next 5 numbers	Count up the next 6 numbers
Count up the next 7 numbers	Count up the next 8 numbers
Count up the next 9 numbers	Count up the next 10 numbers



## SPIN-A-RAMA

### Materials:

- Spinner
- Game board
- Counters

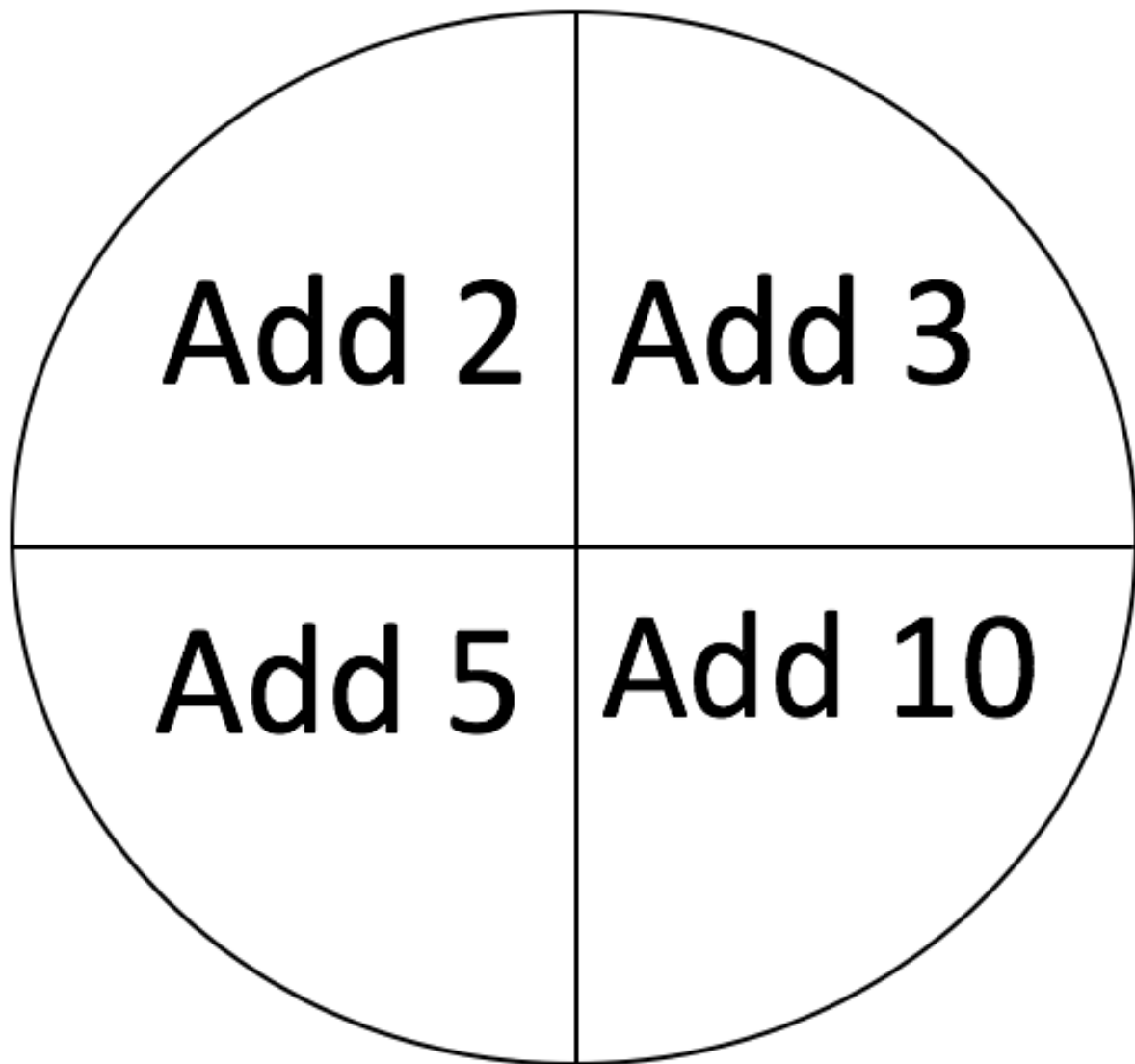
### Instructions:

1. Player A starts with their counter on 95.
2. Spin the spinner and move according to the instructions.
3. Count aloud as you move.
4. Player B takes a turn.
5. First player to 200 wins.

### What this is good for:

- Counting up to 200

C14



				95	96	97	98	99	100
101	102	103	104	105	106	107	108	109	110
111	112	113	114	115	116	117	118	119	120
121	122	123	124	125	126	127	128	129	130
131	132	133	134	135	136	137	138	139	140
141	142	143	144	145	146	147	148	149	150
151	152	153	154	155	156	157	158	159	160
161	162	163	164	165	166	167	168	169	170
171	172	173	174	175	176	177	178	179	180
181	182	183	184	185	186	187	188	189	190
191	192	193	194	195	196	197	198	199	200





## NUMBER SEARCH: THOUSANDS

### Materials:

- Number search card.

### Instructions:

1. Find a set of three numbers in a row (horizontal, vertical, diagonal) that count by ones.
2. Find all six sets
3. Create your own puzzle using the blank grid and share this with someone

### What this is good for:

- Counting forwards and backwards by ones from any number.

C15

## Number Search

Find six sets of three-in-a row (horizontal, vertical, diagonal) that count by ones.

3000	3001	4001	4000	3999
2099	1098	1100	3099	1160
2098	1099	1998	3098	1159
1098	2000	1999	1998	1158
2998	2999	3000	1159	1001
1198	1199	1200	1100	1000

# Number Search

Create your own number search with six sets of three-in-a row ( horizontal, vertical, diagonal) that count by ones.




## NUMBER SEARCH: COUNTING BY TENS

### Materials:

- Number search card.

### Instructions:

1. Find a set of three numbers in a row (horizontal, vertical, diagonal) that count by tens.
2. Find all six sets
3. Create your own puzzle using the blank grid and share this with someone

### What this is good for:

- Counting forwards and backwards by tens from any number.

C16

## Number Search

Find six sets of three-in-a row (horizontal, vertical, diagonal) that count by tens.

23	17	19	7	6
47	37	27	43	102
28	29	33	53	92
29	23	43	63	82
30	99	89	79	59
41	51	61	59	49

## Number Search

Create your own number search with six sets of three-in-a row (horizontal, vertical, diagonal) that count by tens




## SKIP COUNT TO 100

### Materials:

- Deck of cards Ace to 10 (face cards not needed)
- 100 chart
- 2 Dry Erase markers

### Instructions:

1. Players agree to skip count by 2s, 5s or 10s
2. Each Player A chooses a card and uses that number as the starting point.
3. Each Player must then skip count to 100 (or close to 100)
4. If the player says all numbers correctly and in the correct order, they get a point
5. Player B takes a turn.
6. First player to 5 points, wins.

### Challenge:

- Players choose two cards, one is the starting number and the other is the number to skip count by.

### What this good for:

- Skip counting by 2s, 5s and 10s from any number

C16

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b>	<b>19</b>	<b>20</b>
<b>21</b>	<b>22</b>	<b>23</b>	<b>24</b>	<b>25</b>	<b>26</b>	<b>27</b>	<b>28</b>	<b>29</b>	<b>30</b>
<b>31</b>	<b>32</b>	<b>33</b>	<b>34</b>	<b>35</b>	<b>36</b>	<b>37</b>	<b>38</b>	<b>39</b>	<b>40</b>
<b>41</b>	<b>42</b>	<b>43</b>	<b>44</b>	<b>45</b>	<b>46</b>	<b>47</b>	<b>48</b>	<b>49</b>	<b>50</b>
<b>51</b>	<b>52</b>	<b>53</b>	<b>54</b>	<b>55</b>	<b>56</b>	<b>57</b>	<b>58</b>	<b>59</b>	<b>60</b>
<b>61</b>	<b>62</b>	<b>63</b>	<b>64</b>	<b>65</b>	<b>66</b>	<b>67</b>	<b>68</b>	<b>69</b>	<b>70</b>
<b>71</b>	<b>72</b>	<b>73</b>	<b>74</b>	<b>75</b>	<b>76</b>	<b>77</b>	<b>78</b>	<b>79</b>	<b>80</b>
<b>81</b>	<b>82</b>	<b>83</b>	<b>84</b>	<b>85</b>	<b>86</b>	<b>87</b>	<b>88</b>	<b>89</b>	<b>90</b>
<b>91</b>	<b>92</b>	<b>93</b>	<b>94</b>	<b>95</b>	<b>96</b>	<b>97</b>	<b>98</b>	<b>99</b>	<b>100</b>





## CONCENTRATION: TEN THOUSANDS

### Materials:

- Complete set of 32 cards: 16 cards of colour A and 16 cards of colour B (print these two pages on two different coloured papers).

### Instructions:

1. Game begins with all cards lying facing up on a table.
2. Player A chooses one card. If they have 2 sequential numbers (e.g. 10 999 and 11 000), they keep the cards. If the cards are not sequential, they are returned to the table.
3. Player B takes a turn
4. Players alternate turns until all cards are gone. Player with the most cards at the end wins.

### Challenge:

- Place the cards face down on the table.

### What this is good for:

- Counting up to, over and through hundreds of thousands.

C17

Concentration - 10 000s

Colour A

10 099	40 999
10 999	49 099
18 999	49 999
19 099	20 099
19 909	20 009
19 999	20 999
9 999	29 099
40 999	29 909

Colour B

10 100	41 000
11 000	49 100
19 000	50 000
19 100	20 100
19 910	20 010
20 000	21 000
10 000	29 100
41 000	29 910



## CAN YOU COUNT ON?

### Materials:

- Game cards
- Tenths Chart for checking

### Instructions:

1. Begin with all number cards facing down.
2. On their turn, the player flips over 2 cards and must accurately count from the lower number up to the higher number, saying the numbers correctly (e.g. 4.6 is “four and six tenths”).
3. If they are successful, they get a point.
4. The first player to 10 points wins.

### What this is good for:

- Counting by tenths.

C18

## Can You Count On? Decimal cards

Cut these out.

3.4	5.6	1.3	0.7	2.2
0.6	0.9	7.6	8.6	4.7
8.5	5.5	6.9	9.1	9.9
0.1	7.3	3.8	5.8	3.5
7.9	5.9	2.0	8.6	1.9

## Can you count on? Tenths Chart

0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0
2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0
3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	4.0
4.1	4.2	4.3	4.4	4.5	4.6	4.7	4.8	4.9	5.0
5.1	5.2	5.3	5.4	5.5	5.6	5.7	5.8	5.9	6.0
6.1	6.2	6.3	6.4	6.5	6.6	6.7	6.8	6.9	7.0
7.1	7.2	7.3	7.4	7.5	7.6	7.7	7.8	7.9	8.0
8.1	8.2	8.3	8.4	8.5	8.6	8.7	8.8	8.9	9.0
9.1	9.2	9.3	9.4	9.5	9.6	9.7	9.8	9.9	10.0



## CONNECT FOUR: TENTHS

### Materials:

- Game Board
- Dry Erase Marker (2 colours)

### Instructions:

1. Player A fills in any available box on the game card with the correct number and says the number aloud (e.g., "3 and 6 tenths")
2. Player B takes a turn
3. The first player with four in a row wins!

### What this is good for:

- Counting by tenths

C18

## Connect Four - Tenths

Take turns with your partner to fill in a box on the sheet. You must say the number properly (e.g. 5.6 is “5 and 6 tenths”). The first person to get 4 correct answers in a row wins.

0.1	0.2								
				1.5					2
		2.3					2.8		
			3.4						
	4.2							4.9	
					5.6				
6.1							6.8		
	7.2								8
			8.4					8.9	
						9.7			





## NUMBER SEARCH: TENTHS

### Materials:

- Number search card.

### Instructions:

1. Find a set of three numbers in a row (horizontal, vertical, diagonal) that count by tenths.
2. Find all six sets
3. Create your own puzzle using the blank grid and share this with someone

### What this is good for:

Counting forwards and backwards by tenths from any number.

C18

## Number Search

Find six sets of three-in-a row (horizontal, vertical, diagonal) that count by tenths.

1.4	1.5	4.0	3.9	0.6
2.1	1.10	1.6	0.7	0.5
2	1.9	1.8	1.7	0.4
1.9	1.8	2.8	3.8	4
2.9	5.2	3.7	3.9	4.1
2.7	3.6	3.8	3.10	4.02

## Number Search

Create your own number search with six sets of three-in-a row (horizontal, vertical, diagonal) that count by tenths .




## RACE TO TEN

### Materials:

- 2 dice
- 2 game boards
- Dry-erase marker

### Instructions:

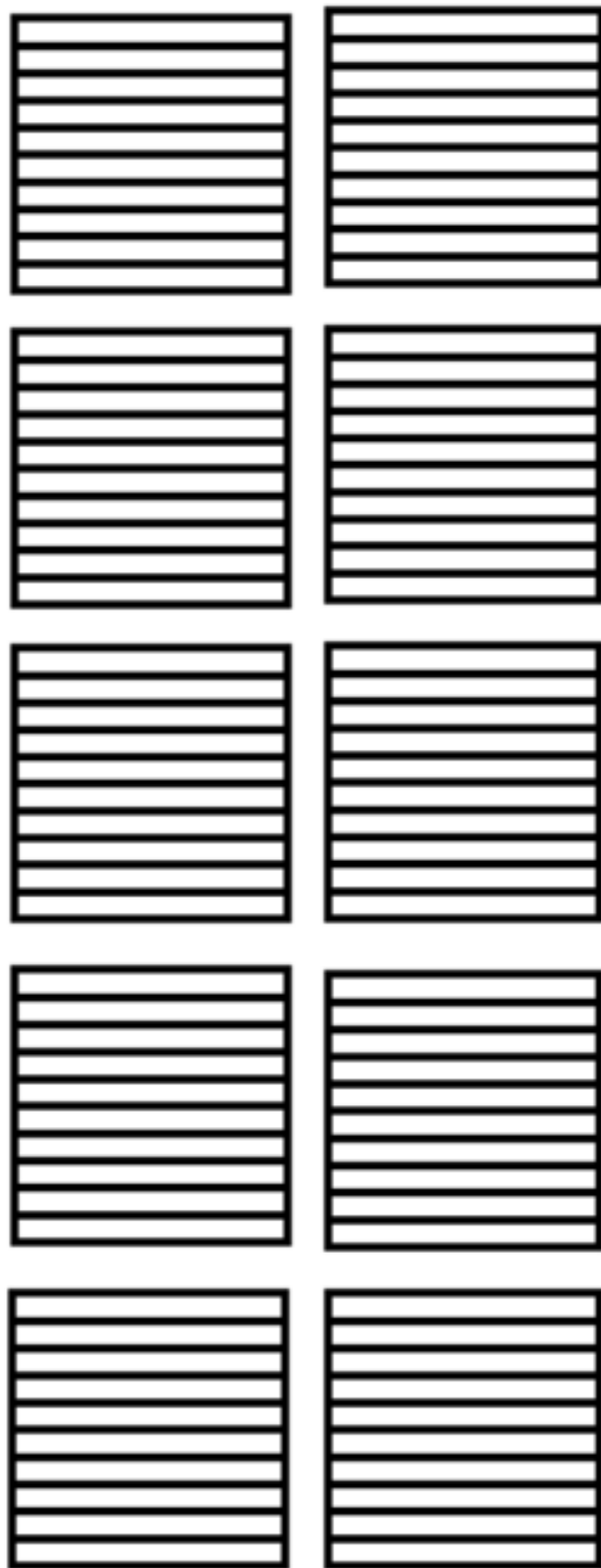
1. Player A rolls both dice and uses the number to represent tenths.  
Record the number on the score card.
2. Player A colours the tenths strip with the number of tenths rolled.
3. Player B takes a turn and records on their gameboard.

### What this is good for:

- Counting by tenths

C18

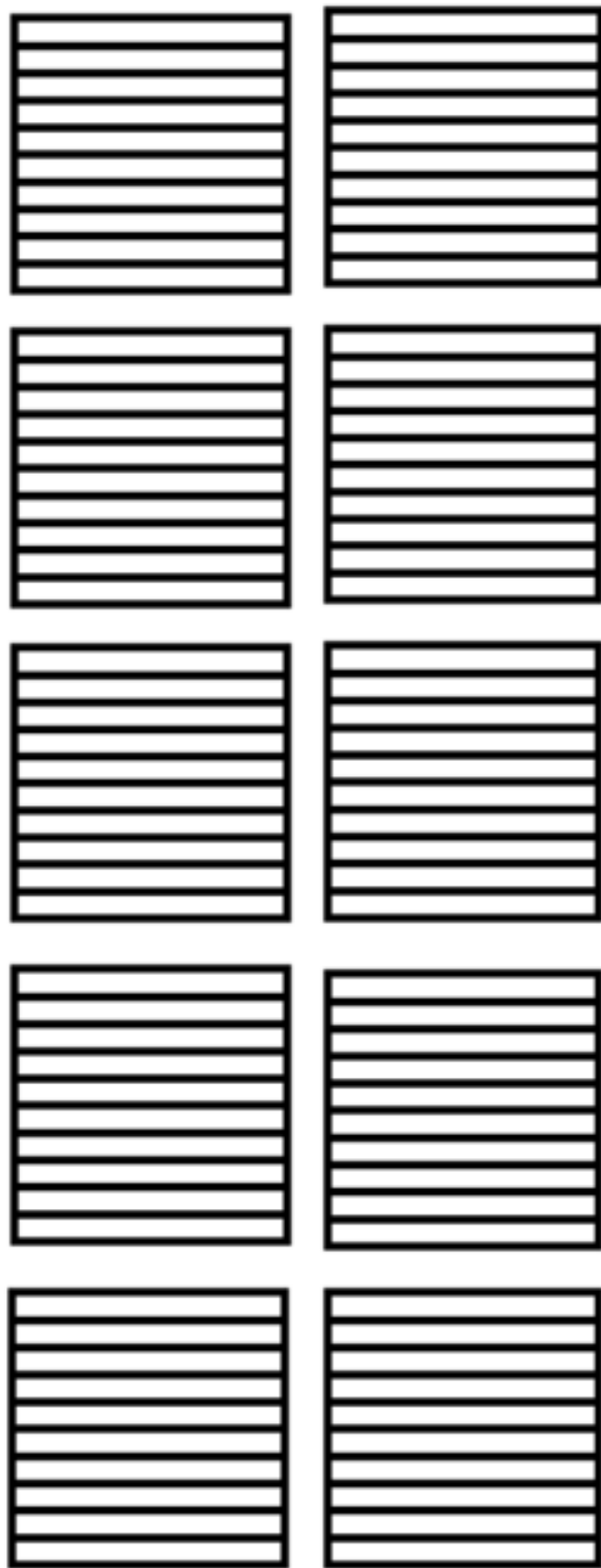
# Counting #18 – Race to Ten



## Score Card

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

# Counting #18 – Race to Ten



## Score Card

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



## CONCENTRATION: HUNDRED THOUSANDS

### Materials:

- Complete set of 32 cards: 16 cards of colour A and 16 cards of colour B (print these two pages on two different coloured papers).

### Instructions:

1. Game begins with all cards lying face up on a table.
2. Player A chooses one card. If they have 2 sequential numbers (e.g. 109 999 and 110 000), they keep the cards. If the cards are not sequential, they are returned to the table.
3. Player B takes a turn
4. Players alternate turns until all cards are gone. Player with the most cards at the end wins.

### Challenge:

- Place the cards face down on the table.

### What this is good for:

- Counting up to, over and through hundreds of thousands.

C19

Concentration - 100 000s

Colour A

100 099	490 999
109 999	499 099
190 999	499 999
199 099	200 099
199 909	209 999
199 999	290 999
99 999	299 099
409 999	299 909



Colour B (one more than each colour A card)

100 100	491 000
110 000	499 100
191 000	500 000
199 100	200 100
199 910	210 000
200 000	291 000
100 000	299 100
410 000	299 910



## CONNECT FOUR: HUNDREDTHS

### Materials:

- Game Board
- Dry Erase Marker (two colours)

### Instructions:

1. Player A fills in any available box on the game card with the correct number and says the number aloud (e.g. "2 and 68 hundredths")
2. Player B takes a turn
3. The first player with four in a row wins!

### What this is good for:

- Counting by hundredths

C20

## Connect Four – Hundredths

Take turns with your partner to fill in a box on the sheet. You must say the number properly (e.g. 2.68 is “2 and 68 hundredths”). The first person to get 4 correct answers in a row wins.

2.41									
	2.52	2.53							
							2.68		
									2.8
	2.82			2.85					
					2.96				
								3.09	
		3.13							
							3.28		
			3.34						



## NUMBER SEARCH: HUNDREDTHS

### Materials:

- Number search card.

### Instructions:

1. Find a set of three numbers in a row (horizontal, vertical, diagonal) that count by hundredths.
2. Find all six sets
3. Create your own puzzle using the blank grid and share this with someone

### What this is good for:

Counting forwards and backwards by hundredths from any number.

C20

## Number Search

Find six sets of three-in-a row (horizontal, vertical, diagonal) that count by hundredths.

1.12	1.11	1.09	1.71	1.70
1.8	1.10	2.31	2.3	1.69
1.11	1.9	1.89	1.88	1.68
3.01	3.02	2	2.1	2.2
3	2.03	2.02	2.01	3.5
2.99	5.7	0.98	0.99	1

## Number Search

Create your own number search with six sets of three-in-a row (horizontal, vertical, diagonal) that count by hundredths.




## CONCENTRATION: MILLIONS

### Materials:

- Complete set of 32 cards: 16 cards of colour A and 16 cards of colour B (print these two pages on two different coloured papers).

### Instructions:

1. Game begins with all cards lying face up on a table.
2. Player A chooses one card. If they have 2 sequential numbers (e.g. 1 000 999 and 1 001 000), they keep the cards. If the cards are not sequential, they are returned to the table.
3. Player B takes a turn
4. Players alternate turns until all cards are gone. Player with the most cards at the end wins.

### Challenge:

- Place the cards face down on the table.

### What this is good for:

- Counting in the millions

C21

C21 Concentration – 1 000 000s

Colour A

999 999	1 199 999
1 000 099	1 119 999
1 000 999	1 111 999
1 009 999	4 099 999
1 090 999	4 009 999
1 900 999	4 000 999
1 909 999	4 000 099
1 999 999	4 000 009



Colour B

1 000 000	1 200 000
1 000 100	1 120 000
1 001 000	1 112 000
1 010 000	4 100 000
1 091 000	4 010 000
1 901 000	4 001 000
1 910 000	4 000 100
2 000 000	4 000 010



## NUMBER SEARCH: THOUSANDTHS

### Materials:

- Number search card.

### Instructions:

1. Find a set of three numbers in a row (horizontal, vertical, diagonal) that count by thousandths.
2. Find all six sets
3. Create your own puzzle using the blank grid and share this with someone

### What this is good for:

Counting forwards and backwards by thousandths from any number.

C22

## Number Search

Find six sets of three-in-a row (horizontal, vertical, diagonal) that count by thousandths.

5.04	1.118	1.119	1.12	2.999
5.051	5.05	5.049	1.121	3
1.009	3.998	5.051	1.222	3.1
2.021	1.1	3.999	4.01	4.1
2.02	1.2	1.001	4	4.099
2.019	1.3	3.999	3.9	4.098

## Number Search

Create your own number search with six sets of three-in-a row (horizontal, vertical, diagonal) that count by thousandths.




## COUNTING PURSUITS

### Materials:

- Game cards
- Die
- Paper and pencil to keep score and jot thinking.

### Instructions:

1. Player A rolls the die. Roll again if a 6 is shown. Otherwise, an opponent asks a question according to the number shown:
  - 1) Large Numbers
  - 2) Integers
  - 3) Fractions
  - 4) Decimals
  - 5) Choose your own category

Answers are given on the reverse of the question card. If correct, Player A gets one point.

2. Player B takes a turn.
3. First player to five points wins.

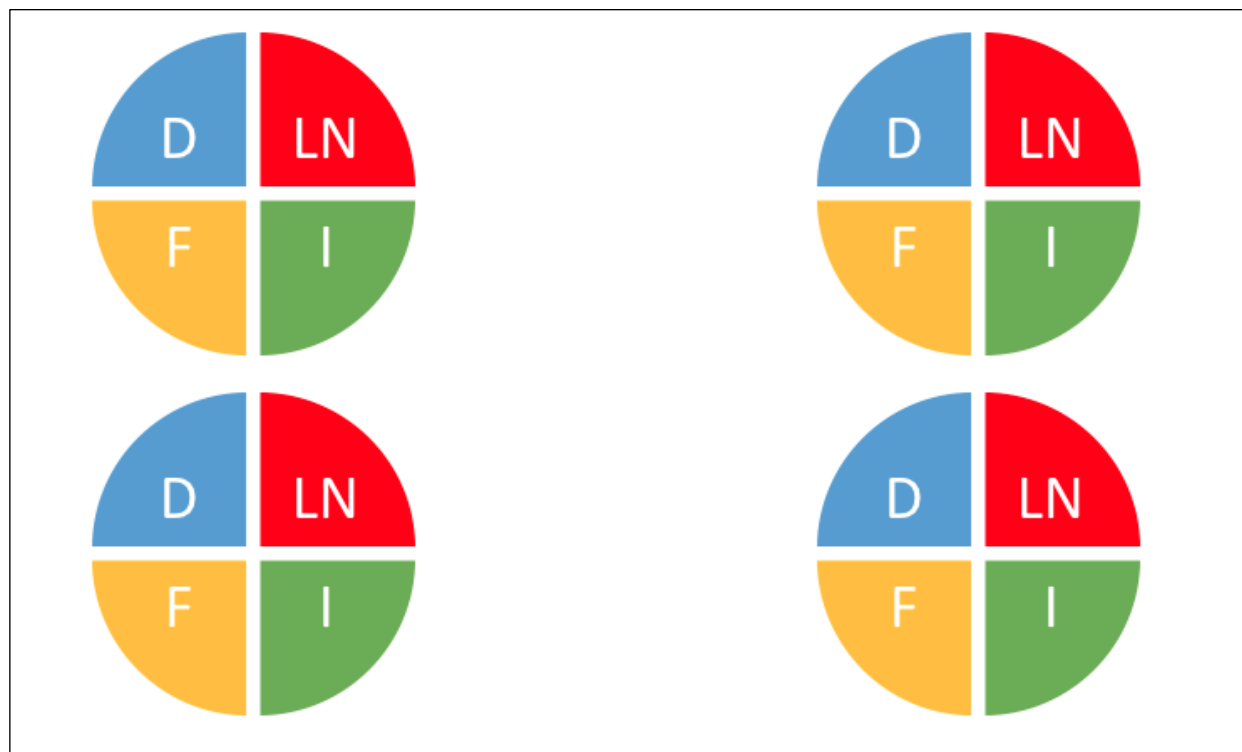
### Variation:

To win, you must answer one question correctly from each of the four categories. The circles can be used for up to four players to keep track of what categories they have successfully answered (by covering a category with a counter when necessary.)

### What this is good for:

- Skip counting by various amounts.

C23, C24, C25, C26



COUNTING PURSUITS Questions  <b>Large Numbers:</b> Start at 999 000, go up by thousands <b>Integers:</b> Start at -1, go up by threes <b>Fractions:</b> Start at 1, go up by two-thirds <b>Decimals:</b> Start at 1 go up by six-tenths	COUNTING PURSUITS Questions  <b>Large Numbers:</b> Start at 12 700, go up by two hundreds <b>Integers:</b> Start at -8, go up by threes <b>Fractions:</b> Start at 3, go down by two-thirds <b>Decimals:</b> Start at 9.3, go up by four-tenths
COUNTING PURSUITS Questions  <b>Large Numbers:</b> Start at one million, go down by ten thousands <b>Integers:</b> Start at 8, go down by tens <b>Fractions:</b> Start at 5, go up by three-quarters <b>Decimals:</b> Start at 2.25, go up by three-tenths	COUNTING PURSUITS Questions  <b>Large Numbers:</b> Start at 30 000, go down by two hundreds <b>Integers:</b> Start at 15, go down by tens <b>Fractions:</b> Start at 5, go down by three-quarters <b>Decimals:</b> Start at 2.25, go down by three-tenths
COUNTING PURSUITS Questions  <b>Large Numbers:</b> Start at 95 000, go up by three thousands <b>Integers:</b> Start at -14, go up by eights <b>Fractions:</b> Start at 6, go up by three-fifths <b>Decimals:</b> Start at 9.2, go up by five-tenths	COUNTING PURSUITS Questions  <b>Large Numbers:</b> Start at 80 000, go down by two hundreds <b>Integers:</b> Start at 19, go down by tens <b>Fractions:</b> Start at 6, go down by three-fifths <b>Decimals:</b> Start at 9.7, go down by four-tenths
COUNTING PURSUITS Questions  <b>Large Numbers:</b> Start at 940 000, go up by twenty thousands <b>Integers:</b> Start at -18, go up by nines <b>Fractions:</b> Start at 7, go up by five-sevenths <b>Decimals:</b> Start at 5.75. go up by two-tenths	COUNTING PURSUITS Questions  <b>Large Numbers:</b> Start at one million, go down by fifty thousands <b>Integers:</b> Start at 18, go down by twelves <b>Fractions:</b> Start at 7, go down by five-sevenths <b>Decimals:</b> Start at 5.75, go down by three-tenths

COUNTING PURSUITS Answers  <b>Large Numbers:</b> 12 900, 13 100, 13 300 <b>Integers:</b> -5, -2, 1  <b>Fractions:</b> $2\frac{1}{3}$ , $1\frac{2}{3}$ , 1 <b>Decimals:</b> 9.7, 10.1, 10.5		COUNTING PURSUITS Answers  <b>Large Numbers:</b> 1000 000, 1 001 000, 1 002 000 <b>Integers:</b> 2, 5, 8  <b>Fractions:</b> $1\frac{2}{3}$ , $2\frac{1}{3}$ , 3 <b>Decimals:</b> 1.6, 2.2, 2.8
COUNTING PURSUITS Answers  <b>Large Numbers:</b> 29 800, 29 600, 29 400 <b>Integers:</b> 5, -5, -15  <b>Fractions:</b> $4\frac{1}{4}$ , $3\frac{1}{2}$ , $2\frac{3}{4}$ <b>Decimals:</b> 1.95, 1.65, 1.35		COUNTING PURSUITS Answers  <b>Large Numbers:</b> 990 000, 980 000, 970 000 <b>Integers:</b> -2, -12, -22  <b>Fractions:</b> $5\frac{3}{4}$ , $6\frac{1}{2}$ , $7\frac{1}{4}$ <b>Decimals:</b> 2.55, 2.85, 3.15
COUNTING PURSUITS Answers  <b>Large Numbers:</b> 79 800, 79 600, 79 400 <b>Integers:</b> 9, -1, -11  <b>Fractions:</b> $5\frac{2}{5}$ , $4\frac{4}{5}$ , $4\frac{1}{5}$ <b>Decimals:</b> 9.3, 8.9, 8.5		COUNTING PURSUITS Answers  <b>Large Numbers:</b> 98 000, 101 000, 104 000 <b>Integers:</b> -6, 2, 10  <b>Fractions:</b> $6\frac{3}{5}$ , $7\frac{1}{5}$ , $7\frac{4}{5}$ <b>Decimals:</b> 9.7, 10.2, 10.7
COUNTING PURSUITS Answers  <b>Large Numbers:</b> 950 000, 900 000, 850 000 <b>Integers:</b> 6, -6, -18  <b>Fractions:</b> $6\frac{2}{7}$ , $5\frac{4}{7}$ , $4\frac{6}{7}$ <b>Decimals:</b> 5.45, 5.15, 4.85		COUNTING PURSUITS Answers  <b>Large Numbers:</b> 960 000, 980 000, 1 000 000 <b>Integers:</b> -9, 0, 9  <b>Fractions:</b> $7\frac{5}{7}$ , $8\frac{3}{7}$ , $9\frac{1}{7}$ <b>Decimals:</b> 5.95, 6.15, 6.35



<p>COUNTING PURSUITS Questions</p> <p><b>Large Numbers:</b> Start at 750 000. Go up by fifty thousands.</p> <p><b>Integers:</b> Start at -12. Go up by sevens.</p> <p><b>Fractions:</b> Start at <math>2\frac{2}{3}</math>. Go up by two-thirds.</p> <p><b>Decimals:</b> Start at 3.7. Go up by fifteen-hundredths.</p>	<p>COUNTING PURSUITS Questions</p> <p><b>Large Numbers:</b> Start at 750 000. Go down by fifty thousands.</p> <p><b>Integers:</b> Start at 12. Go down by sevens.</p> <p><b>Fractions:</b> Start at <math>2\frac{2}{3}</math>. Go down by two-thirds.</p> <p><b>Decimals:</b> Start at 7.3. Go down by fifteen-hundredths.</p>
<p>COUNTING PURSUITS Questions</p> <p><b>Large Numbers:</b> Start at 950 000. Go up by twenty-five thousands.</p> <p><b>Integers:</b> Start at -20. Go up by nines.</p> <p><b>Fractions:</b> Start at <math>5\frac{3}{4}</math>. Go up by three-quarters.</p> <p><b>Decimals:</b> Start at 8.5. Go up by twenty-five hundredths.</p>	<p>COUNTING PURSUITS Questions</p> <p><b>Large Numbers:</b> Start at 950 000. Go down by twenty-five thousands.</p> <p><b>Integers:</b> Start at 20. Go down by nines.</p> <p><b>Fractions:</b> Start at <math>5\frac{3}{4}</math>. Go down by three-quarters.</p> <p><b>Decimals:</b> Start at 8.5. Go down by twenty-five hundredths.</p>
<p>COUNTING PURSUITS Questions</p> <p><b>Large Numbers:</b> Start at 95 000. Go up by three thousands.</p> <p><b>Integers:</b> Start at 23. Go down by tens.</p> <p><b>Fractions:</b> Start at 9. Go up by three-fifths.</p> <p><b>Decimals:</b> Start at 0.96. Go up by two-tenths.</p>	<p>COUNTING PURSUITS Questions</p> <p><b>Large Numbers:</b> Start at 105 000. Go down by three thousands.</p> <p><b>Integers:</b> Start at -23. Go up by tens.</p> <p><b>Fractions:</b> Start at 9. Go down by three-fifths.</p> <p><b>Decimals:</b> Start at 1.06. Go down by two-tenths.</p>
<p>COUNTING PURSUITS Questions</p> <p><b>Large Numbers:</b> Start at 10 million. Go down by five-hundred thousand.</p> <p><b>Integers:</b> Start at 47. Go down by twenties.</p> <p><b>Fractions:</b> Start at 11. Go up by one-and-a-half.</p> <p><b>Decimals:</b> Start at 0.97. Go up by two-hundredths.</p>	<p>COUNTING PURSUITS Questions</p> <p><b>Large Numbers:</b> Start at nine million. Go up by five-hundred thousand.</p> <p><b>Integers:</b> Start at -47. Go up by twenties.</p> <p><b>Fractions:</b> Start at 11. Go down by one-and-a-half.</p> <p><b>Decimals:</b> Start at 1.03. Go down by two-hundredths.</p>

COUNTING PURSUITS Answers  <b>Large Numbers:</b> 700 000, 650 000, 600 000 <b>Integers:</b> 5, -2, -9  <b>Fractions:</b> $2, 1\frac{1}{3}, \frac{2}{3}$  <b>Decimals:</b> 7.15, 7, 6.85	COUNTING PURSUITS Answers  <b>Large Numbers:</b> 800 000, 850 000, 900 000 <b>Integers:</b> -5, 2, 9  <b>Fractions:</b> $3\frac{1}{3}, 4, 4\frac{2}{3}$  <b>Decimals:</b> 3.85, 4, 4.15
COUNTING PURSUITS Answers  <b>Large Numbers:</b> 925 000, 900 000, 875 000 <b>Integers:</b> 11, 2, -7  <b>Fractions:</b> $5, 4\frac{1}{4}, 3\frac{1}{2}$  <b>Decimals:</b> 8.25, 8, 7.75	COUNTING PURSUITS Answers  <b>Large Numbers:</b> 975 000, 1 000 000, 1 025 000 <b>Integers:</b> -11, -2, 7  <b>Fractions:</b> $6\frac{1}{2}, 7\frac{1}{4}, 8$  <b>Decimals:</b> 8.75, 9, 9.25
COUNTING PURSUITS Answers  <b>Large Numbers:</b> 102 000, 99 000, 96 000 <b>Integers:</b> -13, -3, 7.  <b>Fractions:</b> $8\frac{2}{5}, 7\frac{4}{5}, 7\frac{1}{5}$  <b>Decimals:</b> 0.86, 0.66, 0.46	COUNTING PURSUITS Answers  <b>Large Numbers:</b> 98 000, 101 000, 104 000 <b>Integers:</b> 13, 3, -7  <b>Fractions:</b> $9\frac{3}{5}, 10\frac{1}{5}, 10\frac{4}{5}$  <b>Decimals:</b> 1.16, 1.36, 1.56
COUNTING PURSUITS Answers  <b>Large Numbers:</b> 9 500 000, 10 000 000, 10 500 000 <b>Integers:</b> -27, -7, 13  <b>Fractions:</b> $9\frac{1}{2}, 8, 6\frac{1}{2}$  <b>Decimals:</b> 1.01, 0.99, 0.97	COUNTING PURSUITS Answers  <b>Large Numbers:</b> 9 500 000, 9 000 000, 8 500 000 <b>Integers:</b> 27, 7, -13  <b>Fractions:</b> $12\frac{1}{2}, 14, 15\frac{1}{2}$  <b>Decimals:</b> 0.99, 1.01, 1.03



## CUP AND CHIPS

### Materials:

- Plastic cup
- Five chips

### Instructions:

1. Player A: Put 1, 2, 3, 4, or 5 chips into the cup. Shake the cup and turn it upside down on a table. Say: "Get ready to say how many there are!"
2. Player A removes the cup to reveal the chips and then replace it after a couple of seconds.
3. Player B gives an answer, removes the cup and checks by counting. If Player B doesn't give an answer straight away, remove the cup for another two seconds before replacing it again. Keep doing this until an answer is given.

### What this is good for:

- Subitising (seeing how many objects there are without actually counting)

Q1, Q2



## FINGER MATCH

### Materials:

- None

### Instructions:

1. Both players make a fist. Player A says “Match-my-fingers” and reveals any number of fingers from 1 to 5.
2. Player B has to match the fingers that Player A shows and then say the number. Players then switch roles and repeat.

### Challenge:

- Vary the ways you show a certain number. For example, the number two can be shown by a thumb and forefinger, a ring and little finger, a thumb and little finger etc.

### What this is good for:

- Subitising (seeing how many objects there are without actually counting)

Q1, Q2



## NUMBER MATCH 1 to 5

### Materials:

- Game cards



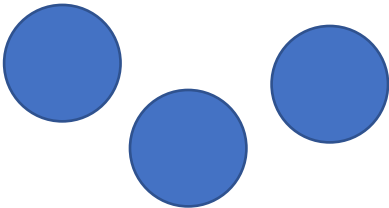
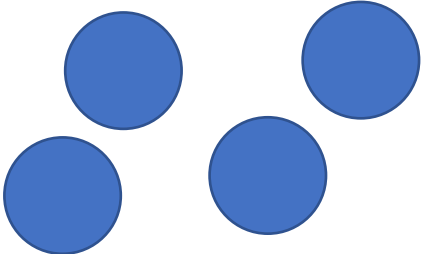
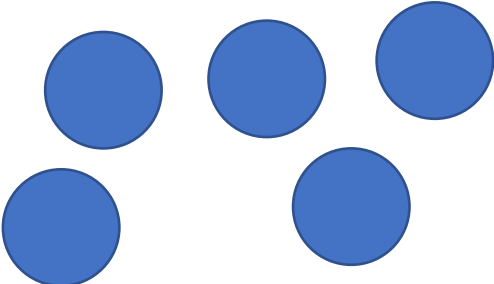
### Instructions:

1. Deal the cards face down in two rows of 5.
2. Player A turns two cards over. If the numeral matches the number of dots, the player keeps both cards.
3. Player B takes a turn
4. The player with the most pairs, wins.

### What this is good for:

- Matching a number symbol to an actual quantity.

Q2

	1
	2
	3
	4
	5



## NUMBER MATCH 1 to 10

### Materials:

- Game cards



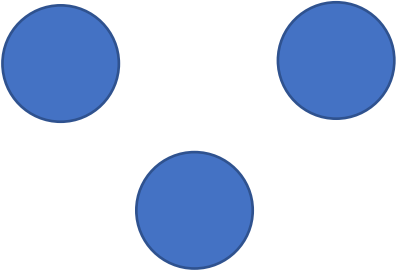
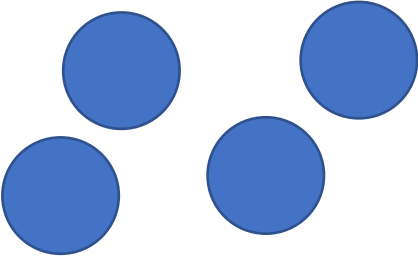
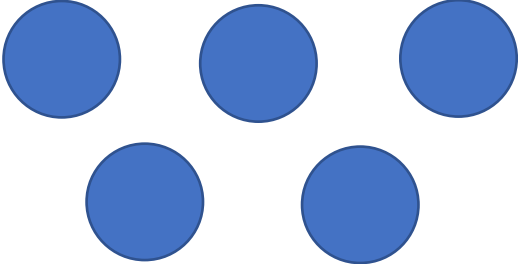
### Instructions:

- Deal the cards face down in four rows of 5.
- Player A turns two cards over. If the numeral matches the number of dots, the player keeps both cards.
- Player B takes a turn
- The player with the most pairs, wins.

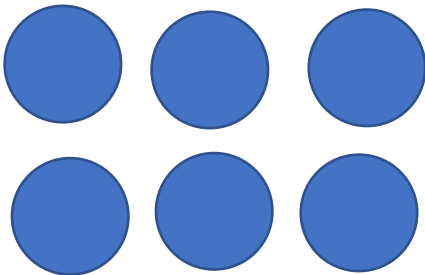
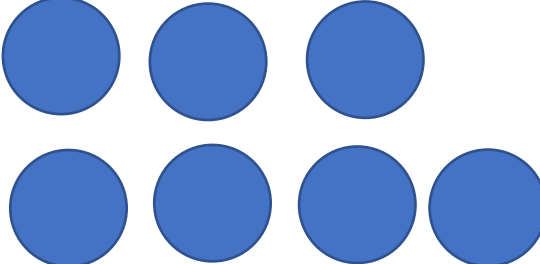
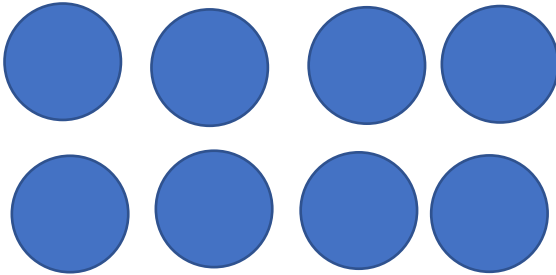
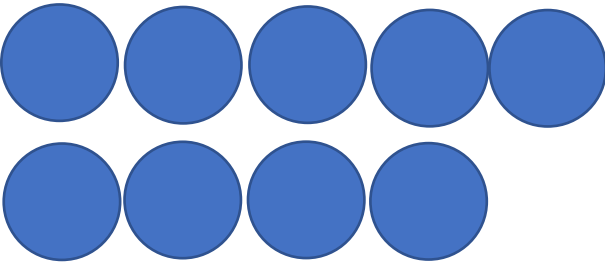
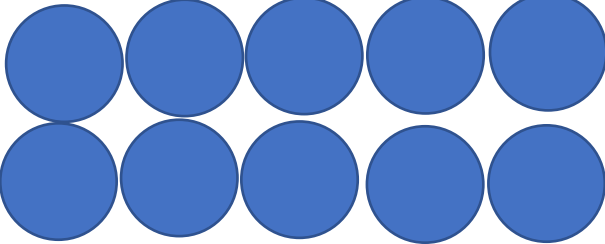
### What this is good for:

- Matching a number symbol (numeral) to an actual quantity.

Q2

	1
	2
	3
	4
	5



	<p>6</p>
	<p>7</p>
	<p>8</p>
	<p>9</p>
	<p>10</p>



## BIGGER/SMALLER/SAME

### Materials:

- Game cards

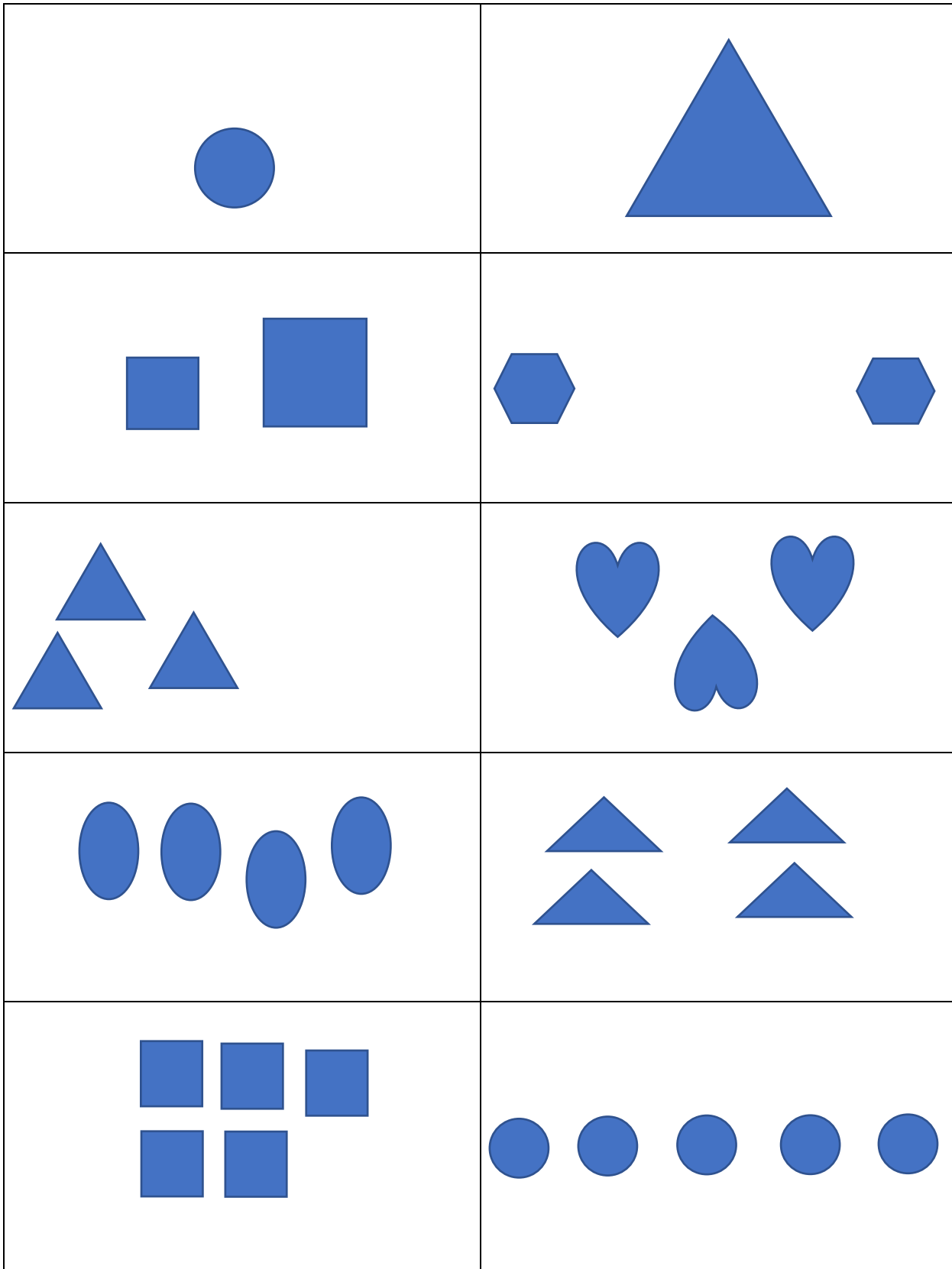
### Instructions:

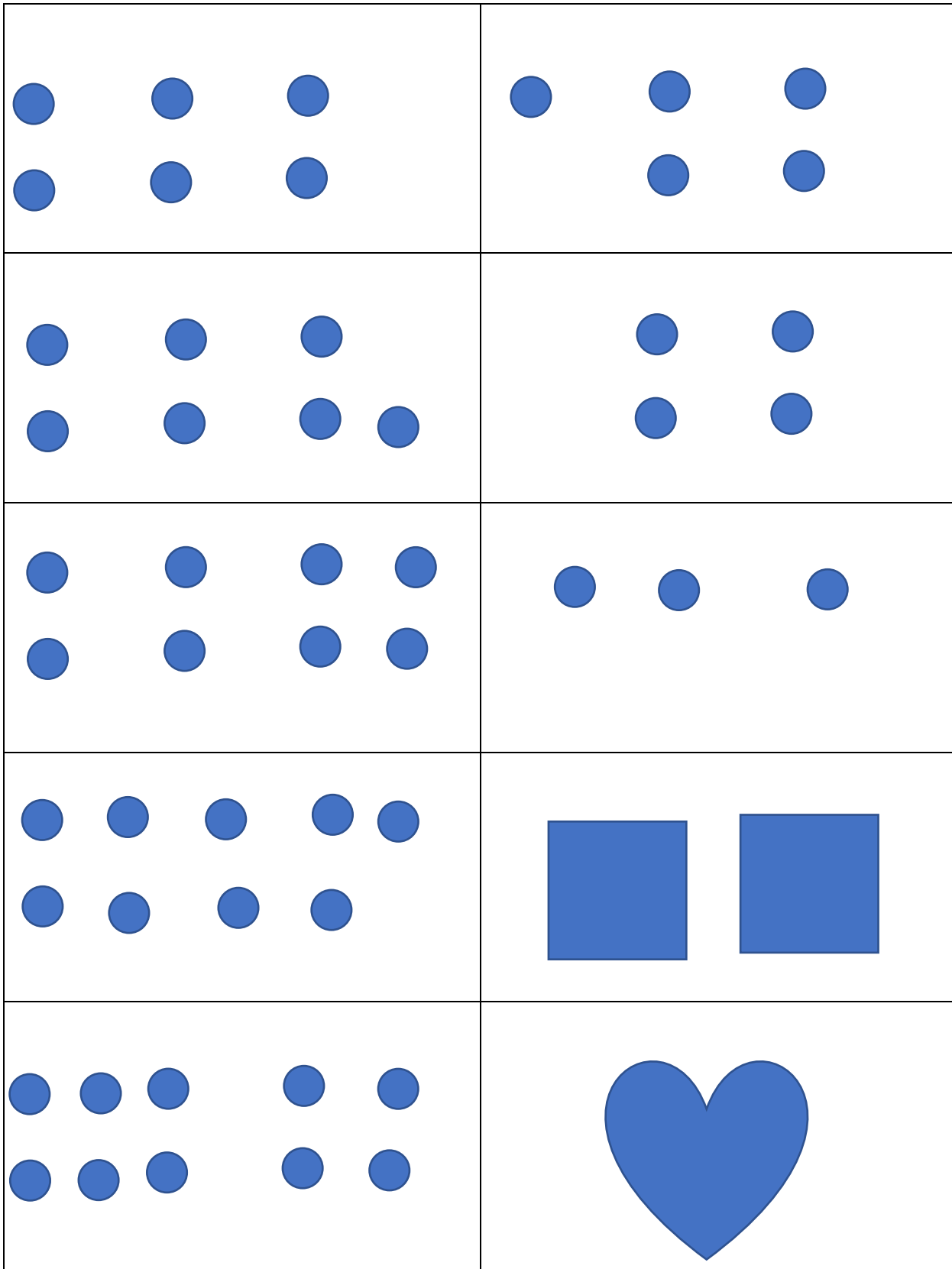
1. Divide the cards into two piles, one for Player A and the other for Player B.
2. Player A and Player B each turn over a card.
3. If Player A's card is bigger than Player B's, Player A keeps both cards.
4. If Player A's card is less than Player's, Player B keeps both cards.
5. If the cards are equal, both players turn over another card each and compare these as above.
6. When all cards from the original piles have been used, the game stops.
7. The player with the most cards, wins

### What this is good for:

- Comparing two collections of objects

Q3, Q4







## COUNTING ON (1)

### Materials:

- Plastic cup
- Counters

### Instructions:

1. Put between 4 and 7 counters on a table next to a cup.
2. Player A puts each counter into the cup, counting as they do so. When all the counters are in the cup, turn it over so that the upturned cup covers all the counters.
3. Ask Player A, "How many counters are under the cup?" (He/she should be able to answer without needing to recount the counters).
4. Take two more counters, put them next to the cup, so that Player A can see them and then carefully slide them under the cup to join the hidden counters. Now ask, "How many counters are under the cup now?"

### What this is good for:

- Helps with counting on as opposed to counting the *whole* group.

Q 5



## COUNTING ON (2)

### Materials:

- Counters
- Plastic cup
- Game cards

### Instructions:

1. Place the cards in a pile, face down.
2. Player A turns over one card and counts aloud that number of counters into the cup (e.g. "1, 2, 3.").
3. Player B turns over the next card and counts aloud that number of counters into the cup but continuing on from the previous count (e.g. "..., 4, 5.").
4. Continue like this until all cards have been used.

### What this is good for:

- Helps with counting on (e.g. by saying "7, 8.") as opposed to counting the *whole* group.

Q 5

1

2

3

4

1

2

3

4

1

2

3

4



## TWO BY TWO

### Materials:

- Game cards

### Instructions:

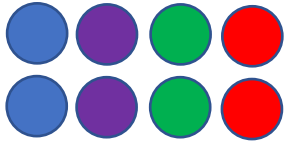
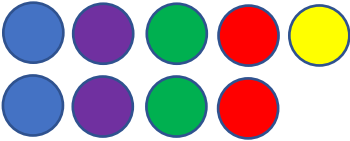
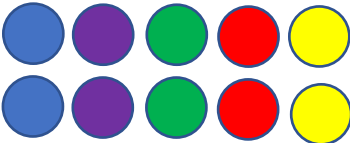
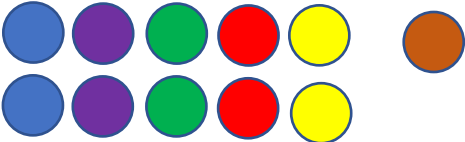
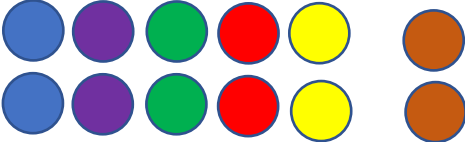
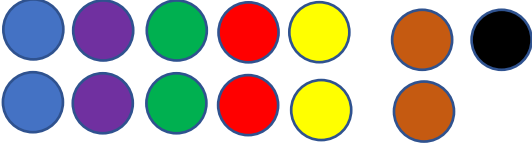
1. Place cards face down in a three-by-four arrangement.
2. Player A turns over 2 cards. If the cards match, the player keeps them. Players are encouraged to count by twos to confirm the total, or, in the case of an odd number, count by twos and add one at the end (e.g. "2, 4, 6, 8, 9".)
3. Player B takes a turn.
4. The player with the most cards, wins.

### What this is good for:

- Knowing that counting by twos gives the same answer as counting by ones.

Q6



	8
	9
	10
	11
	12
	13



## NUMBER BONDS

### Materials:

- Game cards

### Instructions:

1. Place cards face up in four rows of five.
2. Player A chooses two cards. If the number of dots on *both* cards adds to the number on the cards, then that player says the fact aloud and keeps both cards. Note: this means that both cards must have the same numeral. If not, turn them face down again.
3. Player B takes a turn.
4. Repeat until all cards are taken.

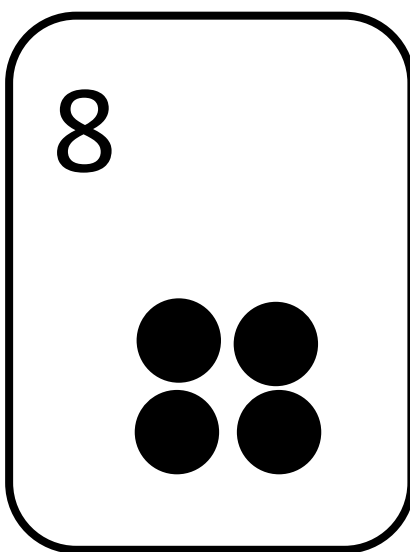
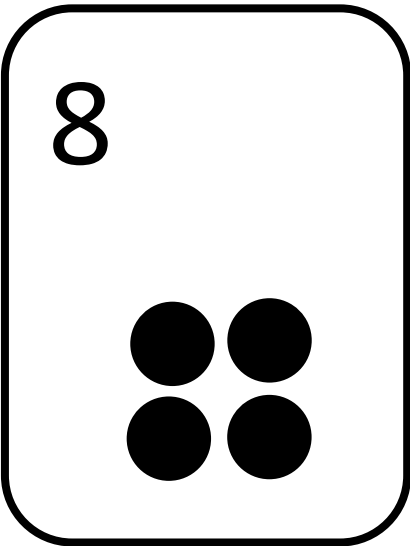
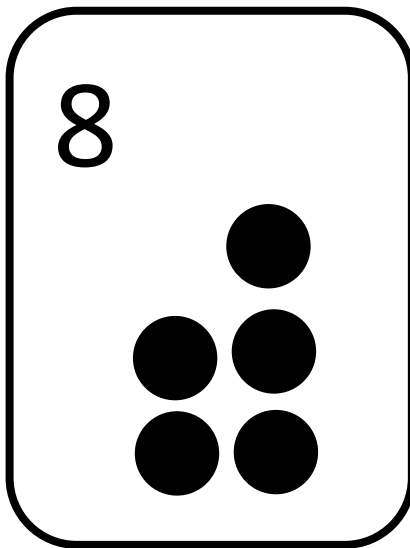
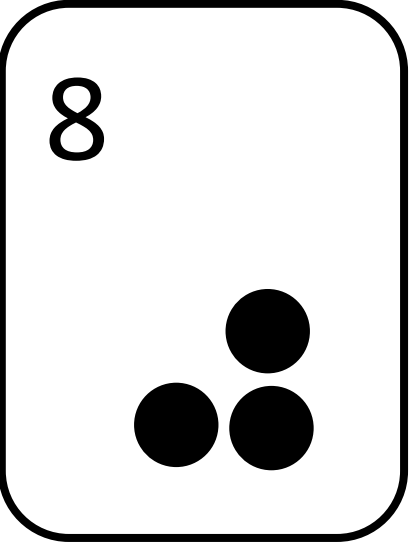
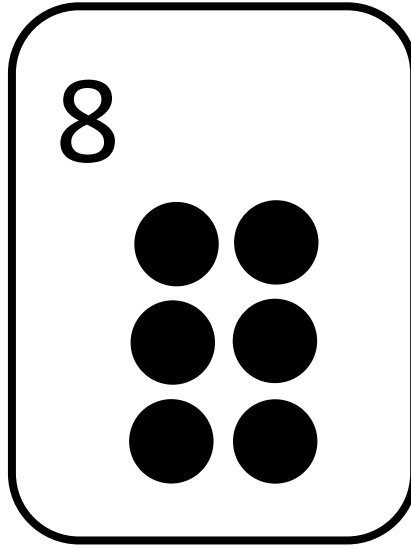
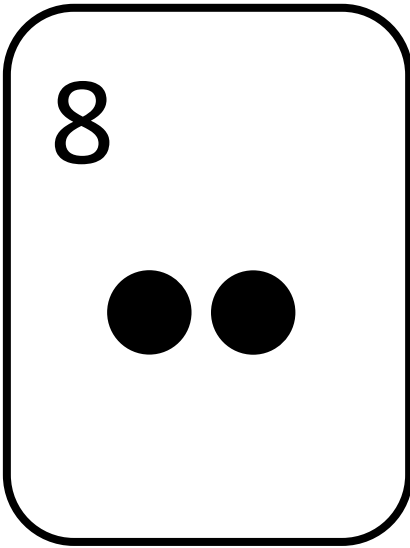
### Variation:

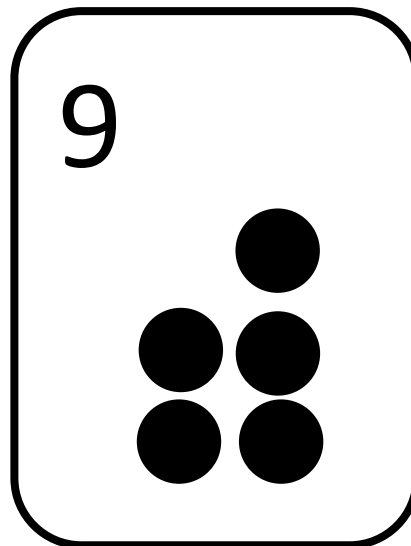
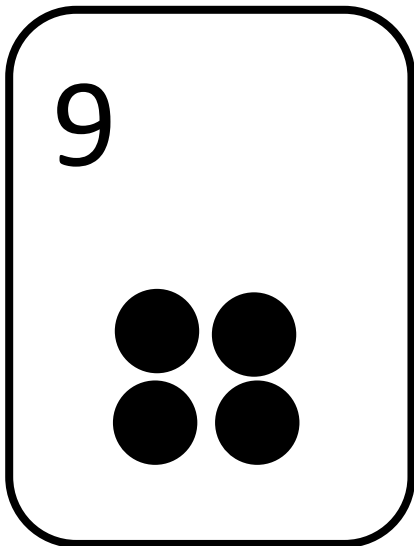
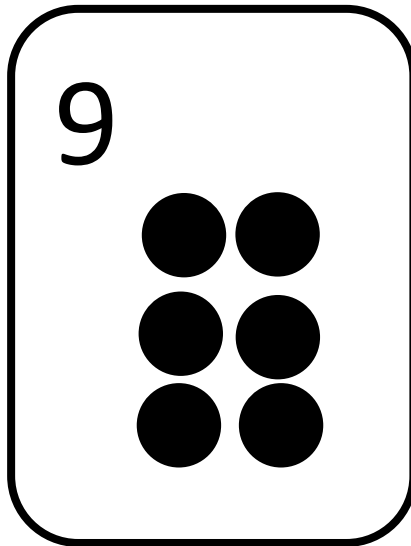
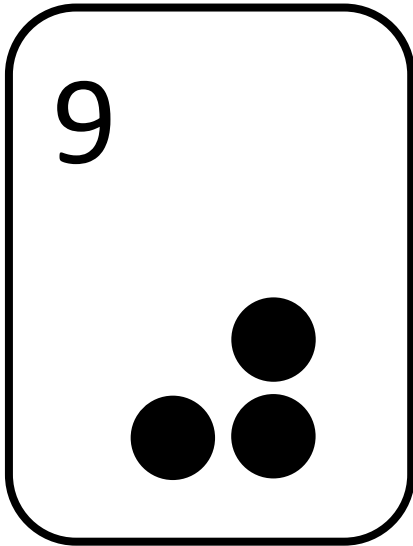
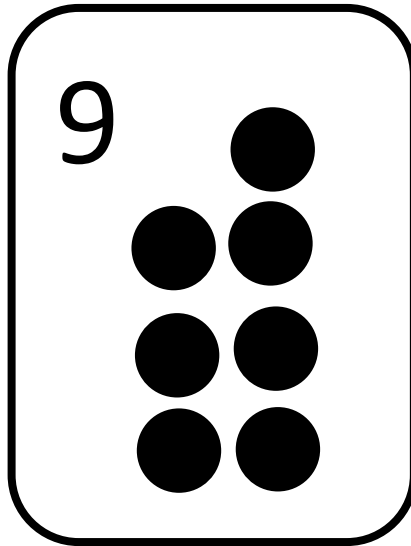
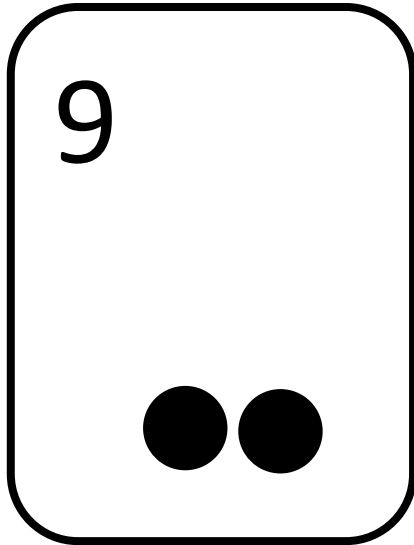
- Have cards face down.

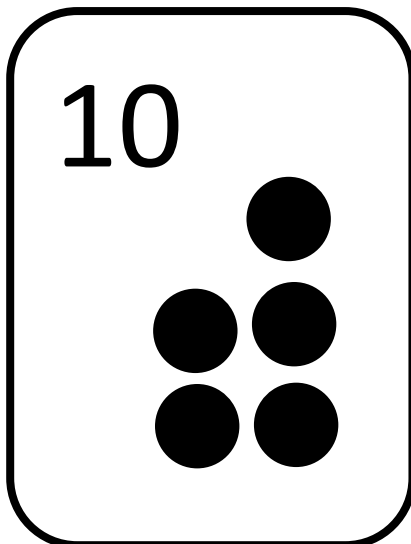
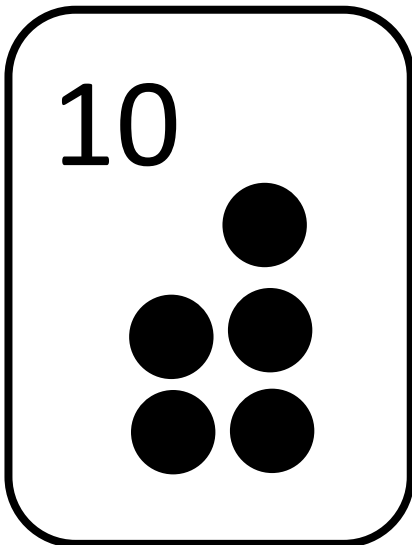
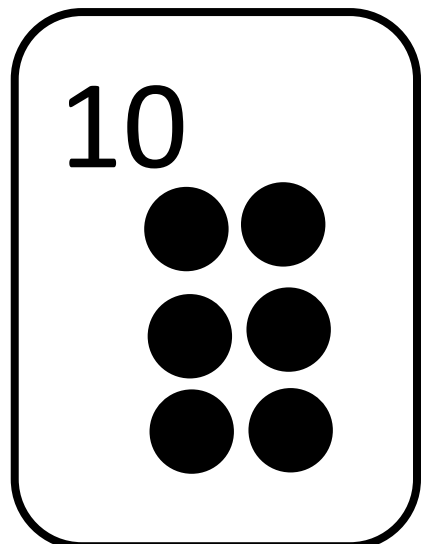
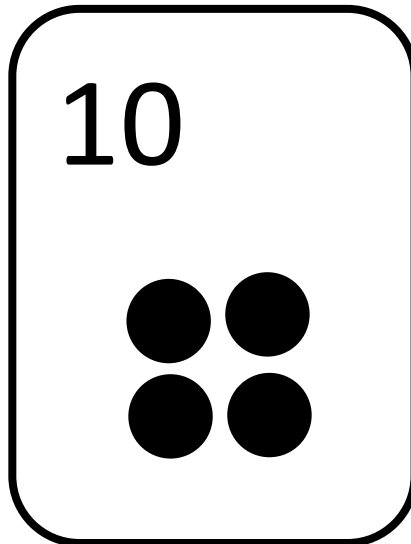
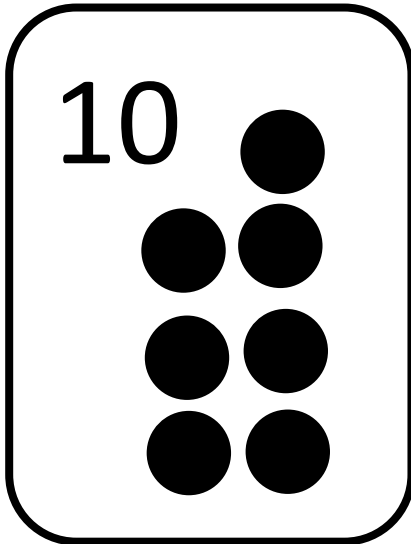
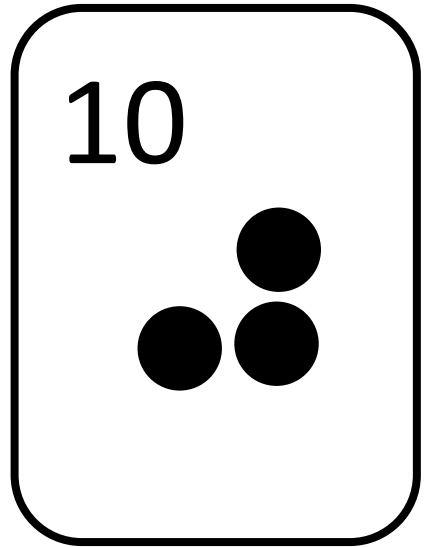
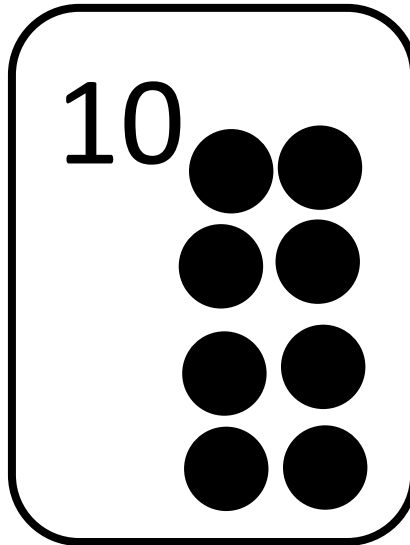
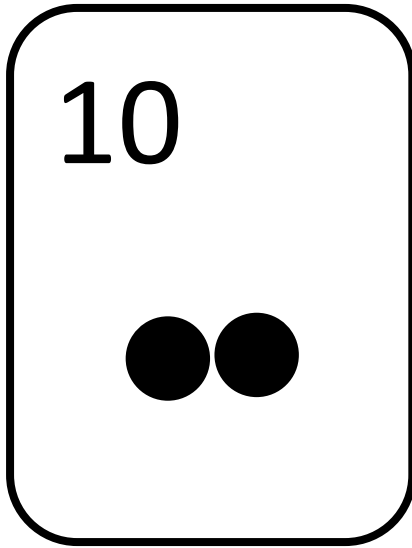
### What this is good for:

- Knowing that numbers can be decomposed in different ways (e.g. 10 can be 5+5, 4+6, 3+7 etc.

Q7









## REACH 100

**Materials:** One die, score cards

**Instructions:**

1. Player A rolls the die
2. Player A then writes the number from the dice in the tens or ones. column. A zero must be placed into the other column for that round.
3. Player B then does the same.
4. Player A plays their second turn and writes their running total in the column provided.
5. Player B then does the same.
6. Repeat until all five turns have been taken by both players.
7. The player with the total as closest to 100, wins.

**What this is good for:**

- Learning about place-value in two-digit numbers.

Q8

## Player A

Round	Tens	Ones	Running Total
1			
2			
3			
4			
5			

## Player B

Round	Tens	Ones	Running Total
1			
2			
3			
4			
5			



## REACH 200

**Materials:** Two dice, score cards

**Instructions:** The object of this game is to create five numbers with a total as close to 200 as possible. For each of the five rounds, players take turns to roll the two dice and decide which column (tens or ones) to put the two numbers into. Repeat for the remaining four rounds to create five numbers. Add these numbers. The person with the total closest to 200 wins.

**What this is good for:** Learning about place-value in three-digit numbers.

Q9



## Player A

Round	Tens	Ones	Running Total
1			
2			
3			
4			
5			

## Player B

Round	Tens	Ones	Running Total
1			
2			
3			
4			
5			



## REACH 1000

**Materials:** Two dice, score cards

**Instructions:** The object of this game is to create five numbers with a total as close to 1000 as possible. For each of the five rounds, players take turns to roll the two dice and decide which two columns (hundreds, tens or ones) to put the two numbers into. A zero must be placed into the other column for that round. Repeat for the remaining four rounds to create five numbers. Add these numbers. The person with the total closest to 1000 wins.

**What this is good for:** Learning about place-value in three-digit numbers.

Q9

## Player A

Round	Hundreds	Tens	Ones	Running Total
1				
2				
3				
4				
5				

## Player B

Round	Hundreds	Tens	Ones	Running Total
1				
2				
3				
4				
5				



## MAKE SIX NUMBERS: HUNDREDS

### Materials:

- A pack of cards with just all the aces to 9s.
- 2 Game Boards for each player.
- Reference sheet.
- Pencil and paper to write down numbers in order.

### Instructions:

1. Shuffle the 36 cards and deal to both players. Both players must keep their cards face down in a stack.
2. Each player turns over the top card in their stack and decides where to place it on their game card. Once the card has been placed, it cannot be moved.
3. Play continues until both players have placed each of their 18 cards.
4. Points are scored for each number that satisfies the required rule.
5. Players then read each of their five numbers. One extra point is awarded for each number that is said correctly.
6. Players then write their six numbers in order from the smallest to the largest. An extra two points is given if they do this correctly.
7. The person with the largest total score wins.

**What this is good for:** Learning about place-value to the hundreds and to compare and order numbers.

Q9, 10

## Reference Sheet


A number between 100 and 300

**2 points**

A number between 500 and 700

**2 points**

A number between 700 and 900

**2 points**

A number with the same digit in the hundreds and the tens place

**3 points**

A number with the same digit in the hundreds, tens and the ones place

**5 points**

Chance (any number)

**1 point**

Say each number correctly: **1 point each.**

Write all 5 numbers in order correctly from least to greatest: **2 points**

## Player A Game Card 1

<p>A number between 100 and 300 <b>2 points</b></p>		
<p>A number between 500 and 700 <b>2 points</b></p>		
<p>A number between 700 and 900 <b>2 points</b></p>		

Player A Game Card 2

<div>A number with the same digit in the hundreds and the tens place <b>3 points</b></div>		
<div>A number with the same digit in the hundreds, tens and the ones place <b>5 points</b></div>		
<div>Chance (any number) <b>1 point</b></div>		

## Player B Game Card 1

<div>A number between 100 and 300 2 points</div>		
<div>A number between 500 and 700 2 points</div>		
<div>A number between 700 and 900 2 points</div>		



Player B Game Card 2

<div>A number with the same digit in the hundreds and the tens place <b>3 points</b></div>		
<div>A number with the same digit in the hundreds, tens and the ones place <b>5 points</b></div>		
<div>Chance (any number) <b>1 point</b></div>		



## REACH 10 000

**Materials:** Two dice, score cards

**Instructions:** The object of this game is to create five numbers with a total as close to 10 000 as possible. For each of the five rounds, players take turns to roll the two dice and decide which two columns (thousands, hundreds, or tens) to put the two numbers into. A zero must be placed into the other column for that round. Repeat for the remaining four rounds to create five numbers. Add these numbers. The person with the total closest to 10 000 wins.

**What this is good for:** Learning about place-value in the thousands.

Q11

## Player A

Round	Thousands	Hundreds	Tens	Ones	Running Total
1				0	
2				0	
3				0	
4				0	
5				0	

## Player B

Round	Thousands	Hundreds	Tens	Ones	Running Total
1				0	
2				0	
3				0	
4				0	
5				0	



## REACH 50 000

**Materials:** Two dice, score cards

**Instructions:** The object of this game is to create five numbers with a total as close to 50 000 as possible. For each of the five rounds, players take turns to roll the two dice and decide which two columns (thousands, hundreds, or tens) to put the two numbers into. A zero must be placed into the other column for that round. Repeat for the remaining four rounds to create five numbers. Add these numbers. The person with the total closest to 50 000 wins.

**What this is good for:** Learning about place-value in five-digit numbers.

Q11

## Player A

Round	Thousands	Hundreds	Tens	Ones	Running Total
1				0	
2				0	
3				0	
4				0	
5				0	

## Player B

Round	Thousands	Hundreds	Tens	Ones	Running Total
1				0	
2				0	
3				0	
4				0	
5				0	



## REACH 10

**Materials:** One die, score cards

**Instructions:** The object of this game is to create five numbers with a total as close to 10 as possible. For each of the five rounds, players take turns to roll the die and decide which column (ones or tenths) to put the number into. A zero must be placed into the other column for that round. Repeat for the remaining four rounds to create five numbers. Add these numbers. The person with the total closest to 10 wins.

**What this is good for:** Learning about place-value to the tenths.

Q12

Player A

Round	Ones	Tenths	Running Total
1		•	
2		•	
3		•	
4		•	
5		•	

Player B

Round	Ones	Tenths	Running Total
1		•	
2		•	
3		•	
4		•	
5		•	



## NICE OR NAUGHTY MILLIONS

**Materials:** One die, score cards. If possible, use a 0 to 9 die.

**Instructions:** The object of this game is to create a 7-digit number according to the criteria for each game.

### **Nice Version.**

Take turns to throw the die and decide which of your five cells to fill. Do this five times until all your cells are full. A point is given in each of the four games according to the following rules:

Game 1: Largest number gets 1 point.

Game 2: Smallest number gets 1 point.

Game 3: Number closest to 35 200 000 gets 1 point.

Game 4: Number closest to forty million gets 1 point.

The player with the most points after four games wins.

### **Naughty Version.**

As above, but this time you can choose to either keep your number or put it into one of your opponent's cells of your choice. Players keep taking their turn to roll the die until all their cells are filled.

**What this is good for:** Learning about place-value to the millions.

Based on the nrich game 'Nice or Nasty'.

Q13



Game 1: Largest number gets 1 point.

Player 1: 

					0	0	0
--	--	--	--	--	---	---	---

Player 2: 

					0	0	0
--	--	--	--	--	---	---	---

Game 2: Smallest number gets 1 point.

Player 1: 

					0	0	0
--	--	--	--	--	---	---	---

Player 2: 

					0	0	0
--	--	--	--	--	---	---	---

Game 3: Number closest to 35 200 000 gets 1 point.

Player 1: 

					0	0	0
--	--	--	--	--	---	---	---

Player 2: 

					0	0	0
--	--	--	--	--	---	---	---

Game 4: Number closest to 40 000 000 gets 1 point.

Player 1: 

					0	0	0
--	--	--	--	--	---	---	---

Player 2: 

					0	0	0
--	--	--	--	--	---	---	---



## REACH TEN MILLION

**Materials:** Three dice, score cards

**Instructions:** The object of this game is to create five numbers with a total as close to ten million as possible. For each of the five rounds, players take turns to roll the three dice and decide which three columns (millions, hundred thousands, ten thousands, or thousands) to put the three numbers into. A zero must be placed into the other columns for that round. Repeat for the remaining four rounds to create five numbers. Add these numbers. The person with the total closest to 10 000 000 wins.

**What this is good for:** Learning about place-value up to the millions.

Q13

## Player A

Round	Millions	Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones	Running Total
1					0	0	0	
2					0	0	0	
3					0	0	0	
4					0	0	0	
5					0	0	0	

## Player B

Round	Millions	Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones	Running Total
1					0	0	0	
2					0	0	0	
3					0	0	0	
4					0	0	0	
5					0	0	0	



## MAKE SIX NUMBERS: HUNDREDTHS

### Materials:

- A pack of cards with just all the aces to 9s.
- 2 Game Boards for each player.
- Reference sheet.
- Pencil and paper to write down numbers in order.

### Instructions:

8. Shuffle the 36 cards and deal to both players. Both players must keep their cards face down in a stack.
9. Each player turns over the top card in their stack and decides where to place it on their game card. Once the card has been placed, it cannot be moved.
10. Play continues until both players have placed each of their 18 cards.
11. Points are scored for each number that satisfies the required rule.
12. Players then read each of their five numbers. One extra point is awarded for each number that is said correctly.
13. Players then write their six numbers in order from the smallest to the largest. An extra two points is given if they do this correctly.
14. The person with the largest total score wins.

**What this is good for:** Learning about place-value to the hundredths and to compare and order numbers.

Q14

## Reference Sheet

	●	
	●	
	●	
	●	
	●	
	●	

A number between 1 and 3

**2 points**

A number between 5 and 7

**2 points**

A number between 8 and 10

**2 points**

A number with the same digit in the ones and the tenths place

**3 points**

A number with the same digit in the ones, tenths and the hundredths place

**5 points**

Chance (any number)

**1 point**

Say each number correctly: **1 point each.**

Write all 5 numbers in order correctly from least to greatest: **2 points**

Player A Game Card 1

<div>A number between 1 and 3 <b>2 points</b></div>		
<div>A number between 5 and 7 <b>2 points</b></div>		
<div>A number between 8 and 10 <b>2 points</b></div>		

Player A Game Card 2

<div>A number with the same digit in the ones and the tenths place <b>3 points</b></div>		
<div>A number with the same digit in the ones, tenths and the hundredths place <b>5 points</b></div>		
<div>Chance (any number) <b>1 point</b></div>		

### Player B Game Card 1

<div>A number between 1 and 3 2 points</div>		
<div>A number between 5 and 7 2 points</div>		
<div>A number between 8 and 10 2 points</div>		



Player B Game Card 2

<div>A number with the same digit in the ones and the tenths place <b>3 points</b></div>		
<div>A number with the same digit in the ones, tenths and the hundredths place <b>5 points</b></div>		
<div>Chance (any number) <b>1 point</b></div>		



## NICE OR NAUGHTY HUNDREDTHS

**Materials:** One die, score cards. If possible, use a 0 to 9 die.

**Instructions:** The object of this game is to create a 3-digit number according to the criteria for each game.

### **Nice Version.**

Take turns to throw the die and decide which of your three cells to fill. Do this three times until all your cells are full. A point is given in each of the five games according to the following rules:

Game 1: Largest number gets 1 point.

Game 2: Smallest number gets 1 point.

Game 3: Number closest to 4 gets 1 point.

Game 4: Number closest to 3.5 gets 1 point.

Game 5: Number closest to 2.45 gets 1 point

The player with the most points after five games wins.

### **Naughty Version.**

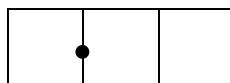
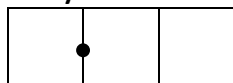
As above, but this time you can choose to either keep your number or put it into one of your opponent's cells of your choice. Players keep taking their turn to roll the die until all their cells are filled.

**What this is good for:** Learning about place-value to the hundredths.  
Based on the nrinch game 'Nice or Nasty'.

Q14

Game 1: Largest number gets 1 point.

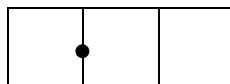
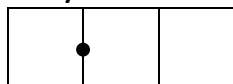
Player 1:



Player 2:

Game 2: Smallest number gets 1 point.

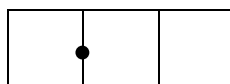
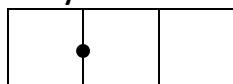
Player 1:



Player 2:

Game 3: Number closest to 4 gets 1 point.

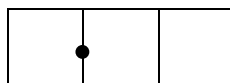
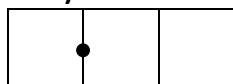
Player 1:



Player 2:

Game 4: Number closest to 3.5 gets 1 point.

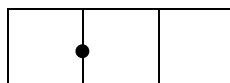
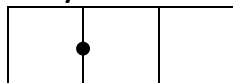
Player 1:



Player 2:

Game 5: Number closest to 2.45 gets 1 point.

Player 1:



Player 2:



## REACH 5

**Materials:** Two dice, score cards

**Instructions:** The object of this game is to create five numbers with a total as close to 5 as possible. For each of the five rounds, players take turns to roll the die and decide which two columns (ones, tenths or hundredths) to put the number into. A zero must be placed into the other column for that round. Repeat for the remaining four rounds to create five numbers. Add these numbers. The person with the total closest to 5 wins.

**What this is good for:** Learning about place-value to the hundredths.

Q14

## Player A

Round	Ones	Tenths	Hundredths	Running Total
1		•		
2		•		
3		•		
4		•		
5		•		

## Player B

Round	Ones	Tenths	Hundredths	Running Total
1		•		
2		•		
3		•		
4		•		
5		•		



## NICE OR NAUGHTY THOUSANDTHS

**Materials:** One die, score cards. If possible, use a 0 to 9 die.

**Instructions:** The object of this game is to create a 4-digit number according to the criteria for each game.

### Nice Version.

Take turns to throw the die and decide which of your four cells to fill. Do this four times until all your cells are full. A point is given in each of the five games according to the following rules:

Game 1: Largest number gets 1 point.

Game 2: Smallest number gets 1 point.

Game 3: Number closest to 4 gets 1 point.

Game 4: Number closest to 3.55 gets 1 point.

Game 5: Number closest to 2.222 gets 1 point

The player with the most points after five games wins.

### Naughty Version.

As above, but this time you can choose to either keep your number or put it into one of your opponent's cells of your choice. Players keep taking their turn to roll the die until all their cells are filled.

**What this is good for:** Learning about place-value to the thousandths.  
Based on the nrich game 'Nice or Nasty'.

Q15

Game 1: Largest number gets 1 point.

Player 1:

--	--	--	--

Player 2:

--	--	--	--

Game 2: Smallest number gets 1 point.

Player 1:

--	--	--	--

Player 2:

--	--	--	--

Game 3: Number closest to 4 gets 1 point.

Player 1:

--	--	--	--

Player 2:

--	--	--	--

Game 4: Number closest to 3.55 gets 1 point.

Player 1:

--	--	--	--

Player 2:

--	--	--	--

Game 5: Number closest to 2.222 gets 1 point.

Player 1:

--	--	--	--

Player 2:

--	--	--	--



## THE REGROUPING GAME

**Materials:** Three dice, score card.

**Instructions:** The object of this game is to regroup numbers to recreate a three- or four-digit score.

Player 1 rolls the three dice and adds them. They then decide which column (hundreds, tens or ones) to put this number into. They repeat this two more times so that all three columns are filled. Player 1 then regroups their numbers to write either a 3- or 4-digit score. For example, if they rolled 12, then 14, then 9, they might write these numbers in the columns like this:

H	T	O
12	9	14

This regroups to give a score of  $1200 + 90 + 14 = 1304$ .

Player 2 does the same. This is repeated for two more rounds so that both players have three 3- or 4-digit scores.

Points are then awarded as follows:

Person with highest score: **1 point**

Person with lowest score: **1 point**

Any score that is an even number: **1 point for each score**

Any score that has a 7 in it: **1 point for each 7**

Any score that is more than 1500: **1 point**

Any score that is less than 700: **1 point**

Any score with two digits the same: **2 points**

The person with the highest number of points wins

Variation: Use 4 or 5 dice.

**What this is good for:** Partitioning numbers in non-standard ways.

Q16



Player 1

Round 1

H	T	O

Score:

Player 2

H	T	O

Score:

Player 1

Round 2

H	T	O

Score:

Player 2

H	T	O

Score:

Player 1

Round 3

H	T	O

Score:

Player 2

H	T	O

Score:

Points are then awarded as follows:

Person with highest score: **1 point**

Person with lowest score: **1 point**

Any score that is an even number: **1 point for each score**

Any score that has a 7 in it: **1 point for each 7**

Any score that is more than 1500: **1 point**

Any score that is less than 700: **1 point**

Any score with two digits the same: **2 points**

The person with the highest number of points wins



## TRIPLE JUMP

Materials: One pack of cards, piece of paper to jot down numbers as necessary.

Instructions: Separate the pack of cards into two piles face down: a **digit** pile made up of all the cards ace to nine, and an **operations** pile made up of all the tens, jacks, queens and kings. Each card represents a different operation:

Any ten = x 10	Any jack = x 100	Any queen = x 1000	Any king = ÷ 10
-------------------	---------------------	-----------------------	--------------------

Player 1 then turns over 2 cards from the **digits pile** to form a 2-digit number in the order in which they appear. For example, if they turn over a 5 followed by a 7 then this gives them the starting number 57. Player 1 then turns over a card from the **operations pile** and carries out the corresponding operation. For example, if they turned over a jack, then they do  $57 \times 100$  to get 5700. They then turn over another operations card and perform this operation on the previous product (i.e. the 5700) They do this once more to get a final answer. All cards are then returned to their respective piles and the piles then shuffled.

Player 2 then takes their turn and this completes the first round. Three rounds are held.

Points are awarded in each round as follows:

Round 1: Highest product gets **1 point**.

Round 2: Lowest product gets **1 point**.

Round 3: The player with the product closest to 5 000 000 gets **1 point**.

What this is good for: Learning about the multiplicative nature of place value.

Q17



## DECIMAL TRIPLE JUMP

Materials: One pack of cards, piece of paper to jot down numbers as necessary.

Instructions: Separate the pack of cards into two piles face down: a **digit** pile made up of all the cards ace to nine, and an **operations** pile made up of all the tens, jacks, queens and kings. Each card represents a different operation:

Any ten  
 $= \times 10$

Any jack  
 $= \times 100$

Any queen  
 $= \div 10$

Any king  
 $= \div 100$

Player 1 then turns over 2 cards from the **digits pile** to form a 2-digit number between 1 and 10 in the order in which they appear. For example, if they turn over a 5 followed by a 7 then this gives them the starting number 5.7. Player 1 then turns over a card from the **operations pile** and carries out the corresponding operation. For example, if they turned over a jack, then they do  $5.7 \times 100$  to get 570. They then turn over another operations card and perform this operation on the previous product (i.e. the 570) They do this once more to get a final answer. All cards are then returned to their respective piles and the piles then shuffled. Player 2 then takes their turn and this completes the first round. Three rounds are held.

Points are awarded in each round as follows:

Round 1: Highest product gets **1 point**.

Round 2: Lowest product gets **1 point**.

Round 3: The player with the product closest to 5 gets **1 point**.

What this is good for: Learning about the multiplicative nature of place value.

Q18



## OH NO, A BILLION!

**Materials:** A deck of playing cards with the jokers removed. Paper and pencil to keep track of the product.

**Instructions:** The object of this game is to force your opponent to go over a billion.

**Card Values and Operations:**

Aces:	wild card that can represent any other card in the deck
2 to 9:	add their face value to the <i>leading digit</i> (see below for examples)
10:	multiply by 10
Jacks:	multiply by hundred
Queens:	divide by 10
Kings:	Multiply by 1

**Directions:**

1. Deal four cards to each player and place the remaining cards in a stack, face down.
2. Turn over the top card. If it is a 2 to a 9 place it face down: this will be your starting number. If not replace the card and turn over the next card until you get a 2 to a 9.
3. Players then take turns playing one card from their hand to affect the current product according to the operations above. For example, if the first card is a 7 and then a Jack is played, the new product is 700. If a 6 is then played, the 6 is added to the *leading digit* (i.e. the 7) to create 1300. If a 9 is then played, the 9 is added to the *leading digit* (i.e. the 1) to create 10 300.
4. After each turn, write the current product on a piece of paper below the previous product.
5. Each time a player plays a card, they must replace it with the top card from the face down deck.
6. Play continues until one player is forced to go over a billion. The other person who forced the player to go over a billion is the winner.

**What this is good for:** Reading and saying numbers to one billion, knowing the multiplicative nature of the place value system.

Q19 21

Inspired by Marilyn Burns's Oh No, 99!



## ONE PIG

**Materials:** One dice, pencil and paper.

**Instructions:** Player 1 rolls the dice. If they get a 2, 3, 4, 5, or 6, then they get this score and can choose to roll again. Each time they roll again, they keep a running total of their score. At any point, the player can stop and 'bank their points' for that go. If they get a 1 at any point, they score a zero for that round and their go is over. Player 2 then has their go. The first player to 100 points is the winner.

**What this is good for:** Composing and decomposing numbers.

Operations/Computations Phase 2



## SHUT THE BOX

**Materials:** This game can be played with an 'official' set or by laying nine cards out from 1 to 9 as shown.



**Instructions:**

- 1) Player 1 rolls two dice and adds them. They must then turn over one or more cards that add to the exact total shown on both dice.
- 2) Player 1 then continues to roll and turn over one or more cards that add to the exact total shown on both dice. If they cannot do so, their turn stops. Player 1 then finds the total of the remaining cards that are face up. This is their score for that round. If all the cards are turned over, Player has 'Shut the Box'.
- 3) Player 2 then has their turn and tries to get a remaining total that is less than Player 1's.

**What this is good for:** Composing and decomposing numbers.

Operations/Computations Phase 2



## SWISH TEN

**Materials:** A pack of cards, pencil and paper.

**Instructions:** Deal out 9 cards in a three-by-three array. The remaining cards are placed face down to form a deck.

Players take turns taking cards that using addition and/or subtraction combine to give 10.

(Ace=1, Jack=11, Queen=12, King=13). As they do so, each player must say and write the correct number sentence. For example, if a player takes a King, a four and a seven, they should say, “13 + 4 – 7 equals 10”. The player keeps the cards that they have taken and replaces the cards that have been taken with cards from the deck.

If, at any point, both players agree that there is no way of getting a total of 10, then return all nine cards to the deck, shuffle and deal out a new set of nine cards.

When no more tens can be created, each player counts their cards. The player with the most cards wins.

**What this is good for:** Related facts.

Operations/Computations Phase 2

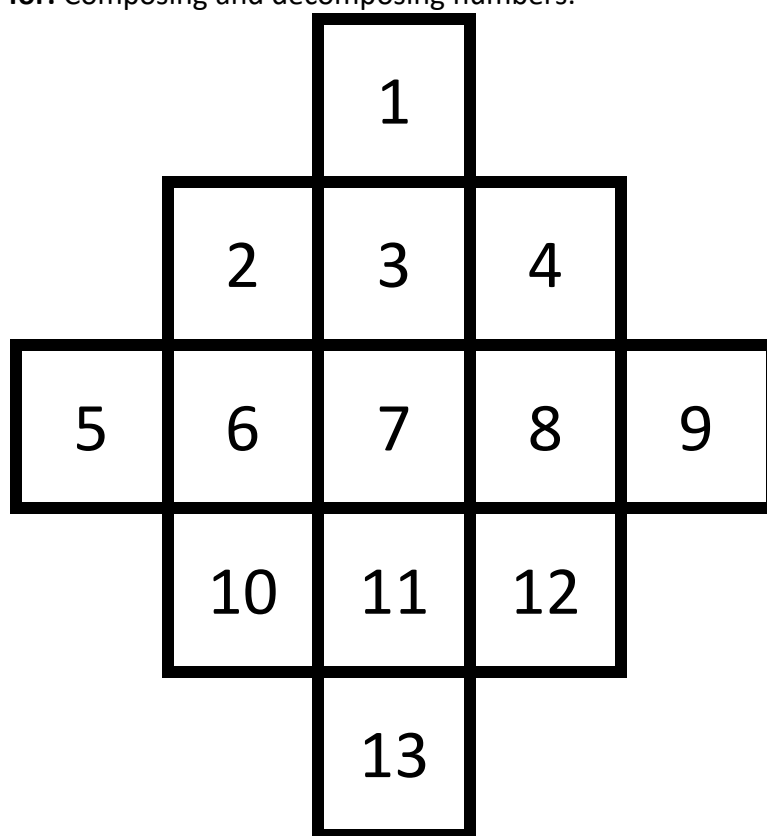


## UNLUCKY 13

**Materials:** A gameboard (shown below). This can either be laminated or quickly drawn at the start of each game.

**Instructions:** Take turns crossing off 1, 2, or 3 numbers that have a total LESS than 13. The player who is left with the last square (with 13 in it) loses.

**What this is good for:** Composing and decomposing numbers.



Operations/Computations Phase 2





## HOW CLOSE TO 100?

**Materials:** Two dice, game board.

**Instructions:**

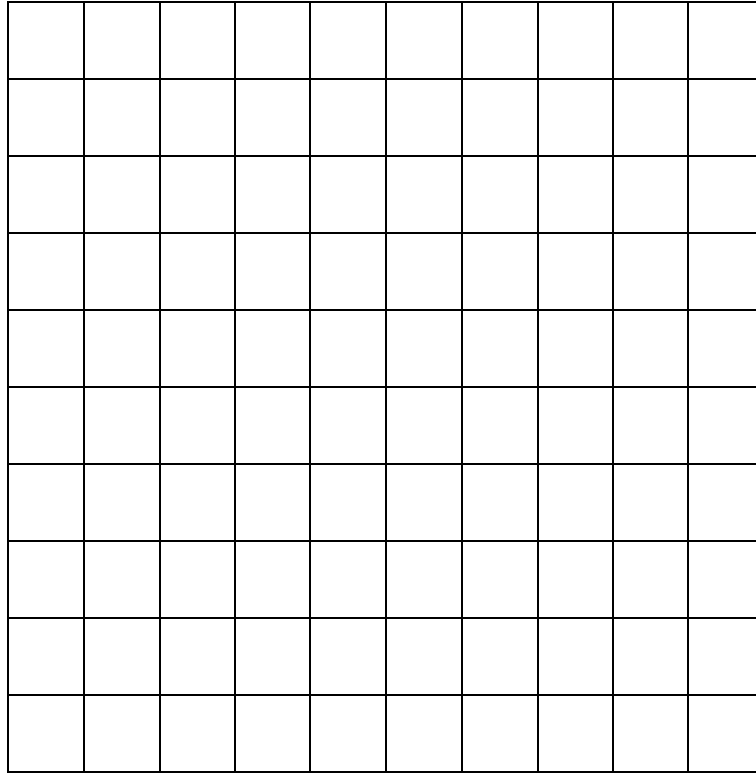
The game is played cooperatively. Two or more individuals share a blank 100 grid.

- 1) The first person rolls two dice.
- 2) The numbers that come up are the numbers the player uses to make an array on the 100 grid. They can put the array anywhere on the grid, but the goal is to fill up the grid to get it as full as possible.
- 3) After the player draws the array on the grid, they write in the number sentence that describes the grid.
- 4) The second player then rolls the dice, draws the number grid and records their number sentence.
- 5) The game ends when both players have rolled the dice and cannot put any more arrays on the grid.
- 6) How close to 100 can you get?

**What this is good for:** Composing and decomposing numbers.

Operations/Computations Phase 3

## HOW CLOSE TO 100? GAME BOARD



Number sentences:

1) .....  $\times$  ..... = .....

2) .....  $\times$  ..... = .....

3) .....  $\times$  ..... = .....

4) .....  $\times$  ..... = .....

5) .....  $\times$  ..... = .....

6) .....  $\times$  ..... = .....

7) .....  $\times$  ..... = .....

8) .....  $\times$  ..... = .....

9) .....  $\times$  ..... = .....

10) .....  $\times$  ..... = .....

11) .....  $\times$  ..... = .....

12) .....  $\times$  ..... = .....



## ODD PIG OUT

**Materials:** Two dice, pencil and paper.

**Instructions:** Player 1 rolls the dice and multiplies the numbers together. If the product on each dice is even, then they get this score and can choose to roll again. Each time they roll again, they keep a running total of their score. At any point, the player can stop and 'bank their points' for that go. If they get an odd product at any point, they score a zero for that round and their go is over. Player 2 then has their go. The first player to 200 points is the winner.

**What this is good for:** Composing and decomposing numbers.

Operations/Computations Phase 3



## TWO PIG

**Materials:** Two dice, pencil and paper.

**Instructions:** Player 1 rolls the dice. If the numbers on each dice is different, then they get this score and can choose to roll again. Each time they roll again, they keep a running total of their score. At any point, the player can stop and 'bank their points' for that go. If they get a double at any point, they score a zero for that round and their go is over. Player 2 then has their go. The first player to 100 points is the winner.

**What this is good for:** Composing and decomposing numbers.

Operations/Computations Phase 3



## PICKING PERCENTAGES

**Materials:** A pack of cards, pencil and paper.

**Instructions:** The object of this game is to score more points than your opponent. Each player starts by choosing one of the four suits as 'their' suit. Important: players cannot choose the same suit.

Start by drawing a table like this:

Number of cards in round	Player A points	Player B points
2		
2		
3		
3		
4		
4		
5		
5		
10		
10		

Player A shuffles the cards and starts turning them over, one at a time. They can choose to deal out 2, 3, 4, 5, or 10 cards and can stop at any time they want to. When they decide to stop dealing out cards, points are awarded to both players according to what percentage of the cards dealt are their suit. These percentages are written in the appropriate rows. For example, if Player A's suit is spades, and Player B's suit is hearts, and if Player A turns over 5 cards (2 spades, 2 clubs and 1 heart) then Player A writes 40 and Player B writes 20 in the first 5 row. The cards used for that round are set aside and Player B now repeats the above with the remaining cards.

Play continues like this for all ten rounds so that all ten rows have been filled in. Each player then totals their points. The player with the largest total wins.

**What this is good for:** Proportional reasoning and multiplicative thinking.

Operations/Computations Phase 4



## SWISH MULTIPLES OF TEN

**Materials:** A pack of cards, pencil and paper.

**Instructions:** Deal out 9 cards in a three-by-three array. The remaining cards are placed face down to form a deck.

Players take turns taking cards that, using addition, subtraction, multiplication and/or division, combine to give a multiple of 10. (Ace=1, Jack=11, Queen=12, King=13). As they do so, each player must say and write the correct number sentence. For example, if a player takes a Queen, a four and a seven, they should say, " $12 \times 7 - 4$  equals 80". The player keeps the cards that they have taken and replaces those cards with cards from the deck.

If, at any point, both players agree that there is no way of getting a multiple of 10, then return all nine cards to the deck, shuffle and deal out a new set of nine cards.

When no more multiples of tens can be created, each player counts their cards. The player with the most cards wins.

**What this is good for:** Related facts, multiplicative thinking.

Operations/Computations Phase 4



## INTEGER WAR 1

**Materials:** One pack of cards

**Instructions:**

Player 1 turns over three cards to fill in the slots. They evaluate the expression that is created (black cards are positive, red cards are negative).

Player 2 then does the same. Whoever has the highest total wins one point. Return cards to the deck and shuffle. Repeat. The first player to ten points wins.

**What this is good for:** Working with integers.

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Operations/Computations Phase 5



## INTEGER WAR 2

**Materials:** One pack of cards

**Instructions:**

Player 1 turns over three cards to fill in the slots. They evaluate the expression that is created (black cards are positive, red cards are negative).

Player 2 then does the same. Whoever has the highest product wins one point. Return cards to the deck and shuffle. Repeat. The first player to ten points wins.

**What this is good for:** Working with integers.

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Operations/Computations Phase 5





## SWISH TEN: INTEGERS

**Materials:** A pack of cards, pencil and paper.

**Instructions:** Deal out 9 cards in a three-by-three array. The remaining cards are placed face down to form a deck.

Players take turns taking cards that, using addition and/or subtraction, combine to give a total of 10. (Ace=1, Jack=11, Queen=12, King=13). For this game, black cards are positive and red cards are negative. As they do so, each player must say and write the correct number sentence. For example, if a player takes a red seven, a black Queen and a red five, they should say, “ $-7$  plus 12 subtract  $-5$  equals 10”. The player keeps the cards that they have taken and replaces those cards with cards from the deck.

If, at any point, both players agree that there is no way of getting a total of 10, then return all nine cards to the deck, shuffle and deal out a new set of nine cards.

When no more totals of tens can be created, each player counts their cards. The player with the most cards wins.

**What this is good for:** Related facts with integers, multiplicative thinking.

Operations/Computations Phase 5



## SWISH MULTIPLES OF TEN: INTEGERS

**Materials:** A pack of cards, pencil and paper.

**Instructions:** Deal out 9 cards in a three-by-three array. The remaining cards are placed face down to form a deck.

Players take turns taking cards that, using addition, subtraction, multiplication and/or division, combine to give a multiple of 10. (Ace=1, Jack=11, Queen=12, King=13). For this game, black cards are positive and red cards are negative. As they do so, each player must say and write the correct number sentence. For example, if a player takes a red ace, a black six and a black Queen, they should say, “-1 plus 6 multiplied by 12 equals 60”. The player keeps the cards that they have taken and replaces those cards with cards from the deck.

If, at any point, both players agree that there is no way of getting a multiple of 10, then return all nine cards to the deck, shuffle and deal out a new set of nine cards.

When no more multiples of tens can be created, each player counts their cards. The player with the most cards wins.

**What this is good for:** Related facts with integers, multiplicative thinking.

Operations/Computations Phase 5



## TARGET

**Materials:** One Calculator

**Instructions:**

Students play this game in pairs with the use of one calculator. A starting number (e.g. 37) is chosen as is a target number (e.g. 100). The first player uses the calculator to multiply (only multiplication is allowed) the start number by any number to attempt to get the target number. If he or she gets 100 exactly or '100.something' then that student wins. If not, the other student gets the calculator and tries to multiply the new number by another number to get the target number. Play continues this way until a winner is found. Target can be used with division instead of multiplication.

**What this is good for:** Estimating and getting students to see that multiplying doesn't always make a number bigger, and likewise, division doesn't always make a number smaller

Operations/Computations Phase 5