

DESCRIBE PATTERNS WITH NUMBERS AND IDENTIFY MISSING ELEMENTS.

INVESTIGATIONS OVERVIEW PAGE

THIS PAGE IS A SUMMARY OF THE INVESTIGATIONS THAT STUDENTS MAY ENGAGE IN TO DEEPEN THEIR RELATIONAL UNDERSTANDING. INVESTIGATIONS WITH INSTRUCTIONS TO STUDENTS FOLLOW ON SUBSEQUENT PAGES.

- In pairs, children select cards to make 2 numbers to find the difference. They find the difference in 3 ways – by adding onto the lower number, by subtracting from the higher number, by subtracting the lower number from the higher number. **Reflection:** How can we find the difference between numbers?
- In pairs, children select cards to make 2 numbers to find the difference. They find the difference in 3 ways. They identify which way was most efficient with numbers that are close together (adding onto lower number to make higher number / subtracting from higher number to make lower number) and numbers that are far apart (subtracting the lower number from the higher number). **Reflection:** How can we find the difference between numbers?
- In pairs, children select cards to make 2 numbers to find the difference. They find the difference in 3 ways. They identify which way was most and least efficient with numbers that are close together (adding onto lower number to make higher number / subtracting from higher number to make lower number) and numbers that are far apart (subtracting the lower number from the higher number). **Reflection:** How can we find the difference between numbers?
- In pairs children each make a number with cards. They record 2 missing number sentences to find the difference between the numbers using this guide:
Higher number - ____ = Lower number, Lower number + ____ = Higher number
Reflection: How can we find missing numbers in number sentences by finding the difference between the numbers?
- In pairs children each make a number with cards. They record 2 missing number sentences to find the difference between the numbers without a guide:
Higher number - ____ = Lower number, Lower number + ____ = Higher number
Reflection: How can we find missing numbers in number sentences by finding the difference between the numbers?
- In pairs, children have a hundred chart.
They each place a transparent counter on a number, for example,
They work out the difference between the 2 numbers by adding onto the lower number to make the higher number, and by subtracting from the higher number to make the lower number.
They record 2 missing number sentences to record the difference.
Reflection: How can we find missing numbers in number sentences by finding the difference between the numbers?
- In pairs, children each make a tower of blocks. They work out the difference between their numbers by adding onto the smaller tower, subtracting from the larger

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

tower, and subtracting the smaller tower from the larger tower. [Reflection: How can we find the difference between numbers?](#)

- In pairs, children each flip 2 cards to create 2 single digit numbers, 3 cards to create a two-digit number and a single-digit number, or 4 cards to create 2 two-digit numbers.. Children work out the difference between their two numbers. The child with the greater / lesser difference wins all the cards. [Reflection: How can we find the difference between numbers?](#)

Seeing Difference In Three Ways, Solving Missing Number Sentences.

Select cards to make 2 numbers to find the difference.

Find the difference in 3 ways

- by adding onto the lower number,
- by subtracting from the higher number,
- by subtracting the lower number from the higher number.

Reflection: How can we find the difference between numbers?

Seeing Difference In Three Ways, Solving Missing Number Sentences.

Select cards to make 2 numbers to find the difference.

Find the difference in 3 ways.

Identify which way to find the difference was most efficient with

- numbers that are close together
- numbers that are far apart

Reflection: How can we find the difference between numbers?

Seeing Difference In Three Ways, Solving Missing Number Sentences.

Select cards to make 2 numbers to find the difference.

Find the difference in 3 ways.

Identify which way to find the difference was most efficient, and which way to find difference was least efficient with

- numbers that are close together
- numbers that are far apart

Reflection: How can we find the difference between numbers?

Seeing Difference In Three Ways, Solving Missing Number Sentences.

Sit with a friend.

Each of you make a number with cards.

Record 2 missing number sentences to find the difference between the numbers using this guide:

Higher number - ____ = Lower number

Lower number + ____ = Higher number

Reflection: How can we find missing numbers in number sentences by finding the difference between the numbers?

Seeing Difference In Three Ways, Solving Missing Number Sentences.

Sit with a friend.

Each of you make a number with cards.

Record 2 missing number sentences to find the difference between the numbers.

Reflection: How can we find missing numbers in number sentences by finding the difference between the numbers?

Seeing Difference In Three Ways, Solving Missing Number Sentences.

Sit with a friend.

Each of you make a number with cards.

Record 3 missing number sentences to find the difference between the numbers.

Higher number - ____ = Lower number

Lower number + ____ = Higher number

Higher number - Lower number = ____

Reflection: How can we find missing numbers in number sentences by finding the difference between the numbers?

Seeing Difference In Three Ways, Solving Missing Number Sentences.

Sit with a friend.

Have a hundred chart.

Each of you place a transparent counter on a number, for example,

Work out the difference between the 2 numbers by

- adding onto the lower number to make the higher number, and by
- subtracting from the higher number to make the lower number.

Record 2 missing number sentences to record the difference.

Reflection: How can we find missing numbers in number sentences by finding the difference between the numbers?

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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

Seeing Difference In Three Ways, Solving Missing Number Sentences.

Sit with a friend.

Each of you make a tower of blocks.

Work out the difference between the number of blocks in each tower by

- adding onto the smaller tower,
- subtracting from the larger tower, and
- subtracting the smaller tower from the larger tower.

Reflection: How can we find the difference between numbers?

Seeing Difference In Three Ways, Solving Missing Number Sentences.

Sit with a friend.

Each of you flip

- 2 cards to create 2 single digit numbers,
- 3 cards to create a two-digit number and a single-digit number, or
- 4 cards to create 2 two-digit numbers.

Work out the difference between your two numbers.

The child with the greater / lesser difference wins all the cards.

Reflection: How can we find the difference between numbers?