To the Family

The homework pages of this book will help your child practise the math concepts and skills that have been explored in the classroom. As you assist your child to complete each page, you have an opportunity to talk about the math and to become involved in your child's learning.

The left page of a two-page spread always contains a summary of the main concepts and terminology of the lesson that you and your child can use to review the work done in class. The right page contains practice closely linked to the content of the left page.

Here are some ways you can help:

- With your child, read over the Quick Review. Encourage your child to talk about the content and explain it to you in his or her own words.
- Read the instructions with (or for) your child to ensure your child understands what to do.
- Encourage your child to explain his or her thinking as each page is completed.
- Some of the pages require specific materials. You may wish to gather items such as a centimetre ruler, index cards, number cubes, paper clips, toothpicks, crayons/markers, counters or beads, paper bags, calculators, modelling clay, boxes or containers, and tape.

These homework pages are intended to be enjoyable—many of the Practice sections contain games that will also improve your child's math skills. You may have other ideas for activities your child can share with the rest of the class.

This math workbook will be sent home frequently throughout the year. Please help your child complete the assigned work. Make sure the book is returned promptly.

UNIT 1

STUDENT BOOK 1 LESSON

Exploring Increasing Patterns

Quick Review

At Home / At School

Here are 2 **increasing patterns**.

➤ This pattern grows by the same number of blocks each time.

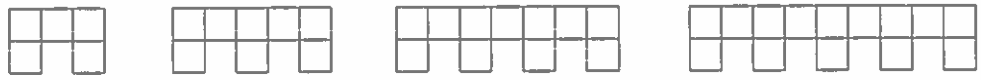
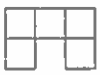


Figure 1 Figure 2 Figure 3 Figure 4

The **pattern rule** is:

- Start with  . Add  each time.

➤ This pattern grows by a different number of blocks each time.

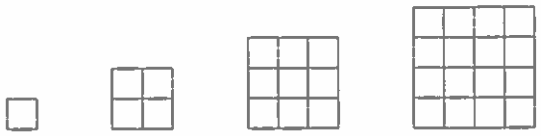


Figure 1 Figure 2 Figure 3 Figure 4

The pattern rule is:

- Start with 1 □.
- Add 3 □ to make a larger square.
- Then, add 2 more □s than the time before.

Try These

1. a) Use Pattern Blocks. Make the next 3 figures in this increasing pattern.

Figure 1 Figure 2 Figure 3

b) Draw the pattern on the dot paper.

c) Write the pattern rule.

_____

Practice

1. a) Use toothpicks. Copy the pattern.
Make the next 3 figures.
Draw the pattern on grid paper.

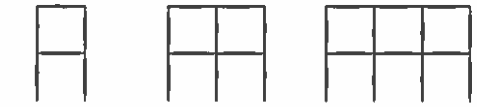


Figure 1 Figure 2 Figure 3

b) Write the pattern rule. _____

2. a) Draw the next 3 figures in this increasing pattern.

Figure 1 Figure 2 Figure 3

b) Write the pattern rule. _____

_____

Stretch Your Thinking

Figure 3 and Figure 5 are missing. Draw what they should be.

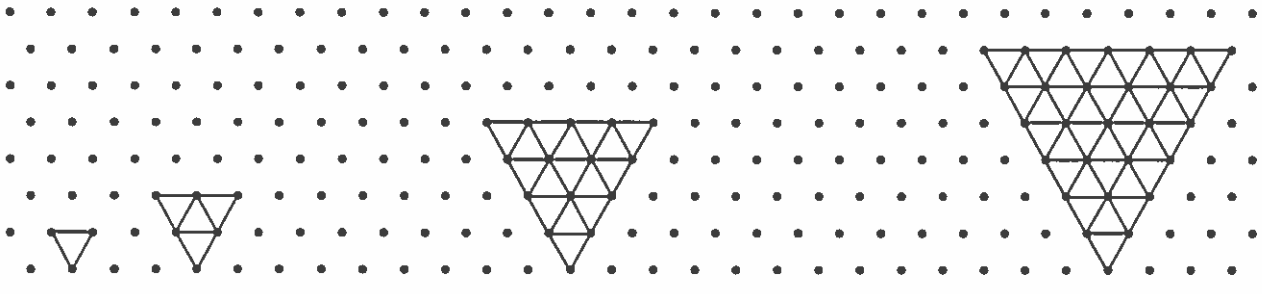


Figure 1 Figure 2 Figure 3 Figure 4 Figure 5 Figure 6

UNIT 1

STUDENT BOOK 2 LESSON

Creating Increasing Patterns

Quick Review

At Home At School

To make an increasing pattern you:

- create a starting point
- decide what to change each time

➤ Here is Fumiko's pattern rule:

- Start with  . Add 1 □ each time.

His pattern grows in 1 direction.

Figure 1 Figure 2 Figure 3 Figure 4 Figure 5

➤ Here is Serena's pattern rule:

- Start with  . Add 2 □s each time.

Her pattern grows in more than 1 direction.

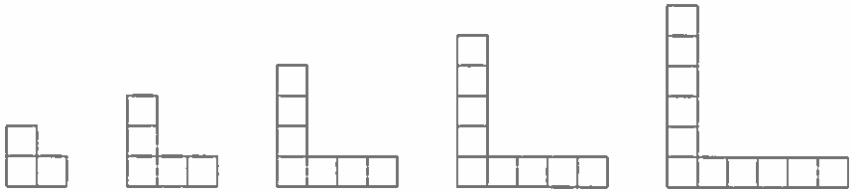


Figure 1 Figure 2 Figure 3 Figure 4 Figure 5

Try These

1. Draw a pattern that uses this rule:
   Start with 2 squares. Add 2 squares each time.

Practice

1. a) Draw the first 4 figures of an increasing pattern.

b) Describe your pattern using numbers and words.

_____

_____

2. a) Write an increasing pattern rule.

_____

b) Draw the first 4 figures of your pattern.

3. Draw a pattern that uses the rule:
Start with 1 triangle. Add 1 triangle each time.

Stretch Your Thinking

Use toothpicks to make an increasing pattern.
Draw the first 4 figures of your pattern. Write the pattern rule.

UNIT 1

STUDENT BOOK 3 LESSON

Comparing Increasing Patterns

Quick Review

At Home / At School

➤ These patterns use the same starting point but they increase in different ways.

Figure 1 Figure 2 Figure 3 Figure 4

Figure 1 Figure 2 Figure 3 Figure 4

➤ These patterns use different starting points but they increase the same way.

Figure 1 Figure 2 Figure 3 Figure 4

Figure 1 Figure 2 Figure 3 Figure 4

Try These

1. Write the pattern rule for each increasing pattern.

a)

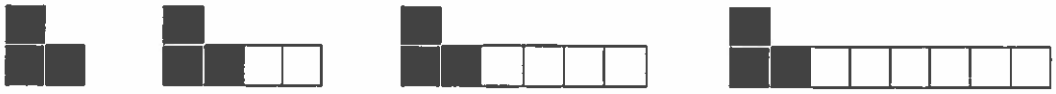


Figure 1 Figure 2 Figure 3 Figure 4

b)

Figure 1 Figure 2 Figure 3 Figure 4

Practice

1. a) Write the pattern rule.

Figure 1 **Figure 2** **Figure 3** **Figure 4**

b) Draw a pattern that has the same starting point but increases a different way. Write the pattern rule.

c) Draw a pattern that has a different starting point but increases the same way. Write the pattern rule.

Stretch Your Thinking

Start with 2 squares. Draw the first 4 figures of an increasing pattern.

Compare your pattern with that of a classmate.

UNIT 1

STUDENT BOOK 4 LESSON

Increasing Number Patterns

Quick Review

At Home / At School

Look at the increasing patterns in the hundred chart.

➤ The pattern rule for the shaded squares is:
- Start at 4. Add 10 each time.

The tens digit increases by 1.
The ones digit is always 4.

➤ The pattern rule for the circled numbers is:
- Start at 3. Add 3 each time.

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

Try These

1. Describe this pattern using numbers and words.

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

_____

2. Fill in the missing numbers. Write the pattern rule.

a) 40, 45, 50, _____, _____, _____ _____

b) 26, 28, 30, _____, _____, _____ _____

c) 20, 30, 40, _____, _____, _____ _____

d) 18, 21, 24, _____, _____, _____ _____

Practice

1. Use a different colour for each pattern.

a) Start at 47. Add 10 each time.

b) Start at 84. Add 4 each time.

c) Start at 35. Add 5 each time.

d) Start at 33. Add 3 each time.

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

2. Suppose you have 7 dimes. Show how much money you have.

_____

3. Matsumo earns $5 a day babysitting. How much money will he have after 8 days? Show how you know.

_____

4. Fill in the missing numbers.

a) 52, 54, 56, _____, _____, _____, _____, _____, _____, _____

b) 15, 25, 35, _____, _____, _____, _____, _____, _____, _____

c) 3, 13, 23, _____, _____, _____, _____, _____, _____, _____

Stretch Your Thinking

Suppose you start at 43 and count by 10s to 93.
Would you say 63? 85? Why or why not?

_____

_____

Suppose you start at 24 and count by 2s to 48.
Would you say 40? 47? Why or why not?

_____

_____

UNIT 1

STUDENT BOOK 6 LESSON

Exploring Decreasing Patterns

Quick Review

At Home / At School

Shrinking patterns are **decreasing patterns**.

➤ This pattern decreases by the same number of squares each time.

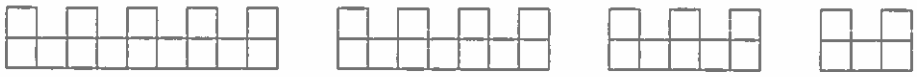


Figure 1 Figure 2 Figure 3 Figure 4

The pattern rule is:

- Start with 14 ☐s. Remove 3 ☐s each time.

➤ This pattern decreases by a different number of squares each time.

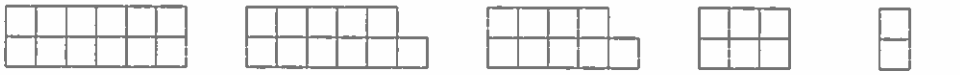


Figure 1 Figure 2 Figure 3 Figure 4 Figure 5

The pattern rule is:

- Start with 12 ☐s. Remove 1 ☐.
- Then, remove 1 more ☐ than the time before.

Try These

1. Draw the next 2 figures in each decreasing pattern.

a)

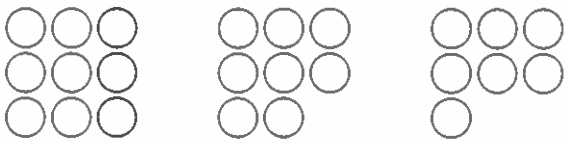


Figure 1 Figure 2 Figure 3

b)

Figure 1 Figure 2 Figure 3

2. Look at the patterns in question 1. Write the pattern rule for each.

a) _____

b) _____

Practice

1. **a)** Draw the next 2 figures in this decreasing pattern.

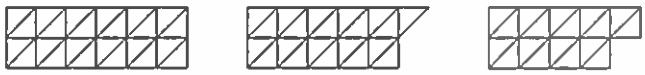


Figure 1 Figure 2 Figure 3

b) Write the pattern rule.

_____

2. **a)** Use toothpicks. Make the next 2 figures in the decreasing pattern. Draw the figures.

Figure 1 Figure 2 Figure 3

b) Write the pattern rule. _____

_____

3. Crystal made a decreasing pattern out of squares.

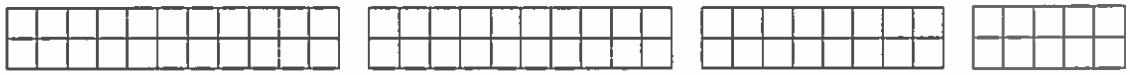


Figure 1 Figure 2 Figure 3 Figure 4

How many more figures can she make? _____ How do you know?

_____

_____

_____

Stretch Your Thinking

Use square tiles to make a decreasing pattern.
Draw the first 4 figures of your pattern.

Write the pattern rule. _____

UNIT 1

STUDENT BOOK 7 LESSON

Creating and Comparing Decreasing Patterns

Quick Review

At Home At School

➤ Cassie chose this pattern rule:

- Start with 10 ○s in a line. Remove 3 ○s each time.

Figure 1 Figure 2 Figure 3 Figure 4

➤ Helio chose this pattern rule:

- Start with 10 ○s in a line. Remove 1 ○.
- Then, remove 1 more ○ than the time before.

Figure 1 Figure 2

Figure 3 Figure 4

Their patterns have the same starting point but they decrease in different ways.

Try These

1. How are these patterns the same? How are they different?

a)

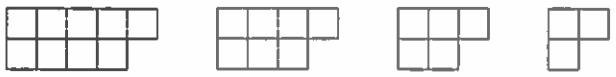


Figure 1 Figure 2 Figure 3 Figure 4

b)

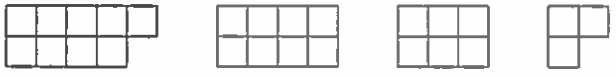


Figure 1 Figure 2 Figure 3 Figure 4

Practice

1. Use counters. Draw the first 4 figures for each pattern rule.

a) Start with 12 counters. Remove 2 counters each time.

b) Start with 15 counters. Remove 1 counter. Then, remove 1 more counter than the time before.

2. Draw the missing figure.

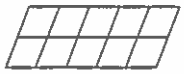


Figure 1

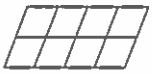


Figure 2

Figure 4

Stretch Your Thinking

Draw the first 4 figures of a decreasing pattern.
Compare your pattern with that of a classmate.

UNIT 1

STUDENT BOOK 8 LESSON

Decreasing Number Patterns

Quick Review

At Home At School

Look at the decreasing patterns in the 100-to-1 chart.

- The pattern rule for the shaded squares is:
  - Start at 100. Count back by 10s each time.
- The pattern rule for the circled numbers is:
  - Start at 42. Count back by 3s each time.

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

Try These

1. Use this hundred chart.

a) Start at 40. Count back by 5s. Shade the numbers green.

b) Start at 14. Count back by a different number. Shade the numbers yellow.

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

2. Write the first 5 numbers in each pattern.

a) Start at 50. Count back by 5s each time. _____

b) Start at 47. Count back by 10s each time. _____

c) Start at 53. Count back by 3s each time. _____

Practice

1. Fill in the missing numbers. Write the pattern rule.

a) 58, 56, 54, ____, ____, ____ _____

b) 75, 65, 55, ____, ____, ____ _____

c) 68, 65, 62, ____, ____, ____ _____

2. a) Shade a decreasing number pattern on the hundred chart. Write the pattern rule.

_____

_____

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

b) Circle a different decreasing number pattern on the hundred chart.
How are your patterns the same?
How are they different?

_____

_____

3. Kazuo had twenty-four dollars.
Each day he spent two dollars.
How much money did Kazuo have after 8 days? _____

Stretch Your Thinking

Suppose you start at 95 and count back to 35.

a) If you count back by 10s, will you say 60? How do you know?

_____

b) If you count back by 5s, will you say 50? How do you know?

_____

_____

UNIT 2

STUDENT BOOK 1 LESSON

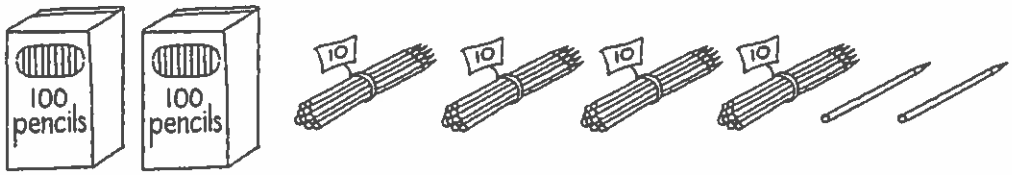
Counting Large Collections

Quick Review

At Home At School

One way to count a large collection is to make groups of tens and hundreds.

➤ Count the pencils.
There are two groups of 100, four groups of 10, and two 1s.



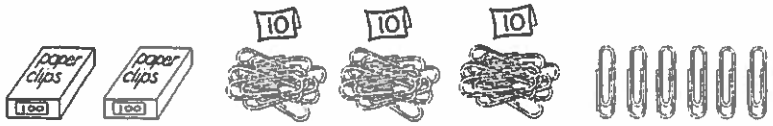
There are two hundred forty-two pencils.

➤ Draw a collection of 331 toy dinosaurs.
Think: I need to draw 3 tubs of 100 dinosaurs, 3 smaller tubs of 10 dinosaurs, and 1 single dinosaur.

Count to check: 100, 200, 300, 310, 320, 330, 331

Try These

1. How many? Record your count.



2. Fill in the missing numbers.

101	102	103			106	107			110
			114				118	119	
	122				126			129	