

NUMBER CONCEPTS AND OPERATIONS
GRADE 1
MANITOBA EDITION

hands-on
mathematics

Senior Author

Jennifer Lawson

Senior Consultants

Meagan Mutchmor

Dianne Soltess

Authors

Joni Bowman

Cathy Haggart

Betty Johns

Kara Kolson



PORTAGE & MAIN PRESS

Winnipeg • Manitoba • Canada

5 Skip Counting

Background Information for Teachers

In this lesson, students count orally to 20 by 2s, and to 100 by 5s and 10s. Activities focus first on skip counting by 2s; then, the same strategies are modified for use with skip counting by 5s, and 10s.

Note: Begin by ensuring mastery of skip counting by 2s to 10, then progress to 20. Do the same when skip counting by 5s and 10s to 100.

Materials

- *Two Ways to Count to Ten*, a book by Ruby Dee
- chart paper
- wide masking tape
- markers
- interlocking cubes
- counters
- containers for holding counters (one for each group of two or three students)
- pieces of string (necklace length; one for each student)
- hundred charts (included. Make a copy for each student.) (3.5.1)
- coloured beads, straw sections, or pasta (To colour pasta, place in Ziploc bag together with one part food colouring and four parts rubbing alcohol. Shake pasta and dye until all pasta is coloured, then pour out onto absorbent paper and allow to dry.)

Safety Note: Be sure to do this in a well-ventilated area and not in the school. Students must be told that this pasta is not safe to eat.

Activity

Have students count forward, in unison, to 10. Then, have them count backward, in unison, from 10 to 1.

Next, show them the book *Two Ways to Count to Ten*, and read the title aloud. Ask:

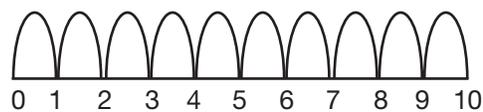
- Can anyone think of another way to count to 10?

Record the responses on chart paper. Now, read the book. Discuss the antelope's counting strategy, using questions such as:

- Which numbers did the antelope say when he counted?
- Which numbers did he leave out?
- How many numbers would you say if you counted to 10 by 1s?

Have students use their fingers to demonstrate this, counting aloud as they raise each finger. Also, have them count backward by 1s, lowering one finger with each number they say. Next, have students count forward by 2s, raising two fingers each time they say the next number in the sequence.

Next, use an *empty number line* to demonstrate the same concept. Draw a horizontal line on chart paper. Record a 0 near the far, left end of the line. Then draw a "jump" for each number from 1 to 10. Students can count the "jumps" to determine how many numbers they say when counting from 1 to 10. Record the numerals below the number line, as in the example below:

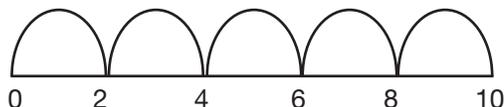


Now, ask:

- How many numbers would you say if you counted to 10 by 2s?
- How can we use an empty number line to answer this question?

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Draw another empty number line, and have students “jump” count to 10 by 2s. Practice skip counting forward from 0 to 10, using the empty number line.



Now, provide students with a variety of opportunities to practice skip counting by 2s. For example:

- Place a long strip of masking tape on the classroom floor. Draw a number line (0-20) on the tape. Have students use the number line to practice skip counting by stepping along the number line. For example: Have students start at 0 and then step on every other number, saying the numbers (“0, 2, 4, ...”).
- Have students make 10 two-storey towers with interlocking cubes. Then, have them count all the cubes by whispering the odd numbers and saying the even numbers aloud (“1, 2, 3, 4, 5, 6,” and so on).

Now, have students count the cubes again. This time, as they point to each cube, have them think “1,” say “2,” think “3,” say “4,” and so on. Repeat the activity several times.

- Have students string two colours of beads, straw sections, or coloured pasta onto string, creating *AABB* patterns (*red bead, red bead, green bead, green bead*, and so on). Have them continue the patterns to 20 beads, then use the beads to count to 20 by 2s.
- Using the hundred chart (3.5.1), have students begin at 2 and place a counter on every other number to 20. Then, have them begin at 2 and remove the counters, one at a time, and count out loud to 20 by 2s.

- Divide the class into groups of two or three. Give each group a container filled with counters. Have one student from each group take a handful of counters from the container and place them in the centre of the work area. Ask him/her to arrange the counters into pairs and count them by 2s. After each member of the group has had a turn, have students repeat the counting activity, this time taking two handfuls of counters from the container.

Now, distribute Activity Sheet A (3.5.2) and Activity Sheet B (3.5.3), and have students continue to practice forward skip counting by 2s.

Activity Sheet A

Directions to students:

Help the bunny hop to 20. Start by colouring the second rock. Then, count by 2s, colouring every second rock to 20 (3.5.2).

Activity Sheet B

Directions to students:

Help the frog hop forward to 20. Start by colouring lily pad number 2. Then, count by 2s, colouring every second lily pad to 20 (3.5.3).

Problem Solving

Present to students the following problems:

- Ashlee and Alex are disagreeing. Alex says, “If you start at 2 and count by 2s, you will say the number 17.” Is he right?
- How many numbers do you say when you count to 20 by 2s?

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- Do you say more numbers when you count to 20 by 1s or by 2s? How do you know?
- Which numbers are missing in this sequence?

2, 4, 6, 8, _____, 16, 18, 20

Note: A reproducible master for the previous four problems can be found on pages 128 and 129.

Next Steps

- Modify the six activities above (empty number line, floor number line, interlocking cube towers, coloured bead patterns, hundred chart, counting counters) to introduce skip counting by 5s and 10s to 100.
- Have students trace around their hands (or have an adult help with this) and cut them out. Use the paper hand cutouts for skip counting by 5s and 10s.
- Have students complete Activity Sheet C (3.5.4) and Activity Sheet D (3.5.5) to practice skip counting by 5s to 100.
- Have students complete Activity Sheet E (3.5.6) and Activity Sheet F (3.5.7) to practice skip counting by 10s to 100.

Activity Sheet C

Directions to students:

Use the cubes to help you count to 50 by 5s. Cross off each cube as you count (3.5.4).

Activity Sheet D

Directions to students:

Count the fingers to 100 by 5s (3.5.5).

Activity Sheet E

Directions to students:

Count the beads on the abacus to 100, by 10s. (3.5.6).

Activity Sheet F

Directions to students:

Use the ten frames to help you count to 100 by 10s. Cross off each frame as you count it (3.5.7).

Extensions

- Have students count by 2s, starting with an odd number.
- Write a group story patterned after the book *Two Ways to Count to Ten*. For example: “Four Ways to Count to 20.” Students can then practice counting by 1s, 2s, 5s, and 10s.

Assessment Suggestion

In an interview or conference setting, have each student count forward and backward by 2s.

Look for his/her ability to:

- count by 2s, starting with 2
- count by 2s, starting with another even number
- count by 2s, starting with an odd number
- count backward by 2s

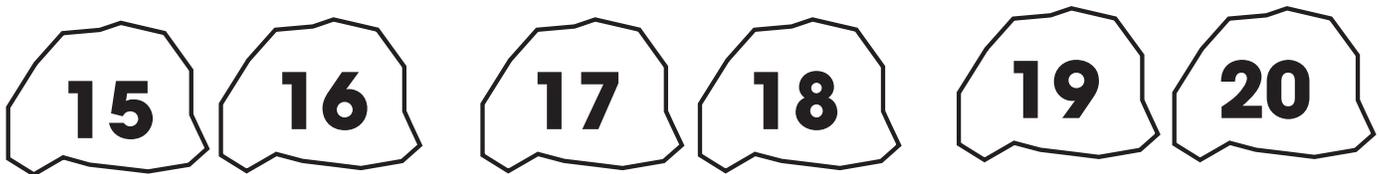
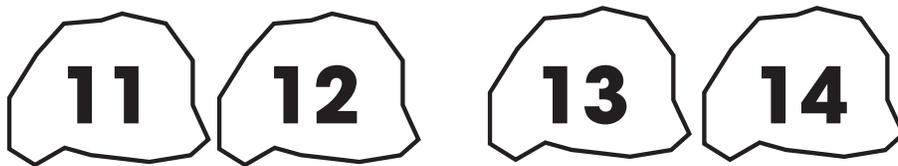
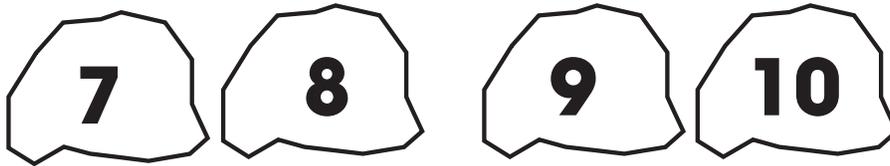
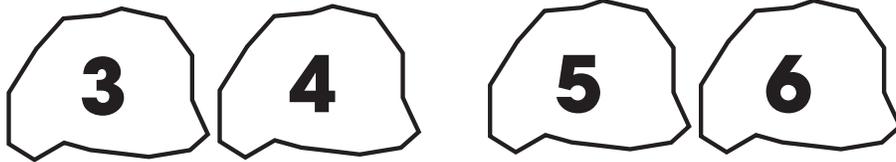
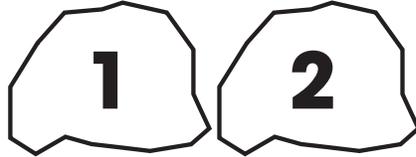
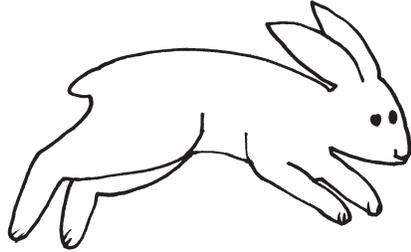
Use the Anecdotal Record sheet, found on page 14, to record results.

Note: Conduct similar assessments for skip counting by 5s and 10s.

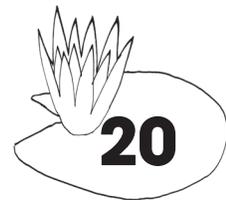
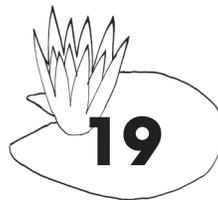
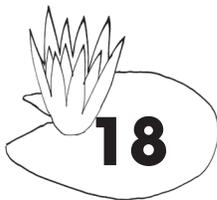
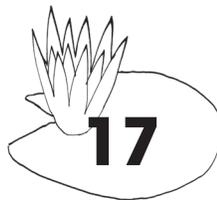
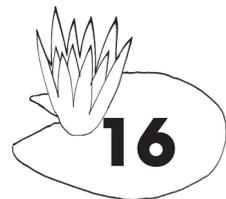
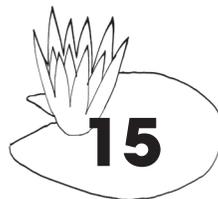
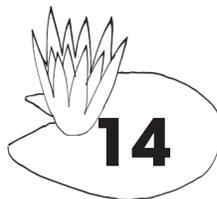
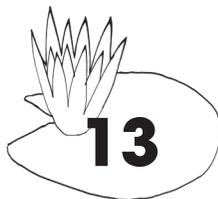
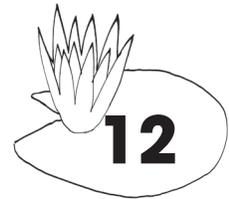
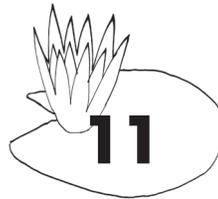
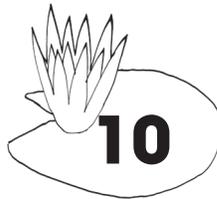
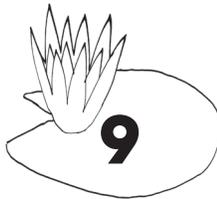
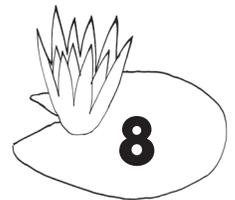
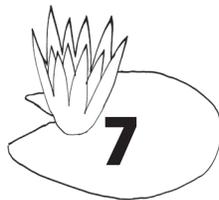
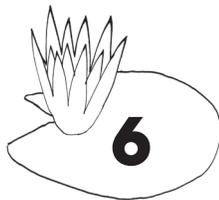
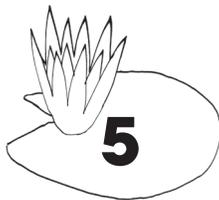
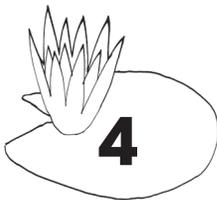
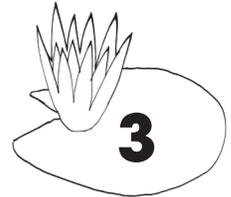
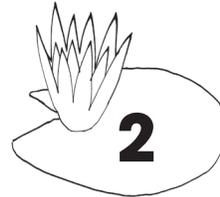
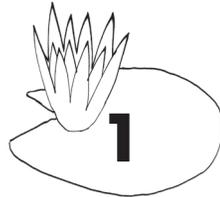
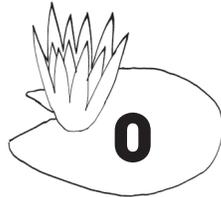
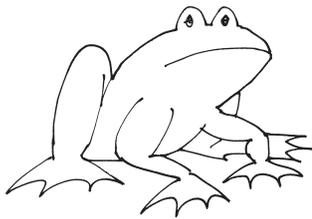
Hundred Chart

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

Counting by 2s



Counting by 2s



Counting by 5s

●	●	●	●	●
●	●	●	●	●
●	●	●	●	●
●	●	●	●	●
●	●	●	●	●
●	●	●	●	●
●	●	●	●	●
●	●	●	●	●
●	●	●	●	●
●	●	●	●	●

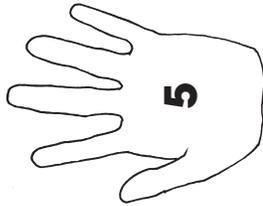
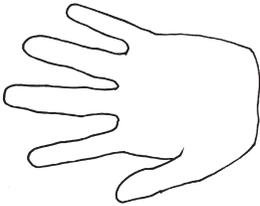
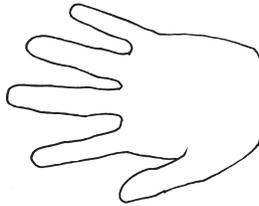
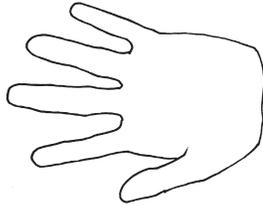
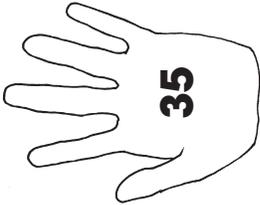
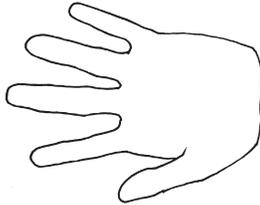
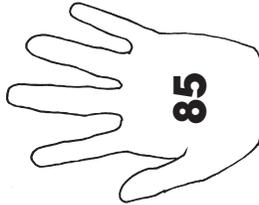
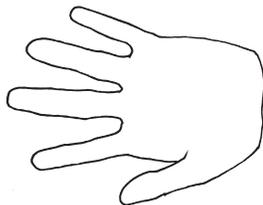
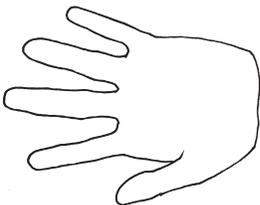
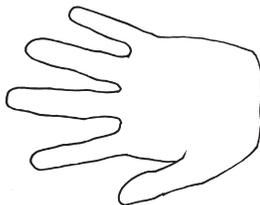
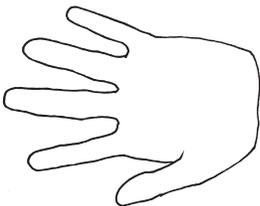
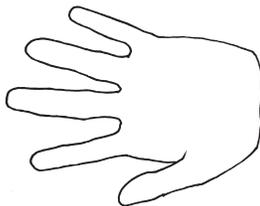
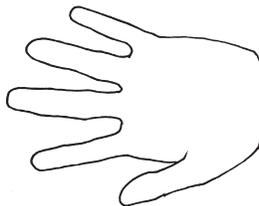
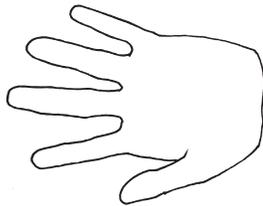
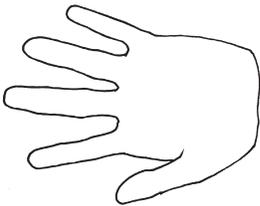
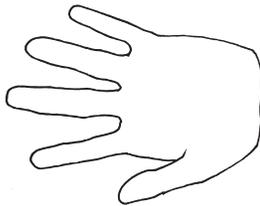
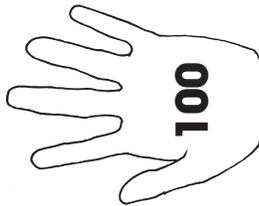
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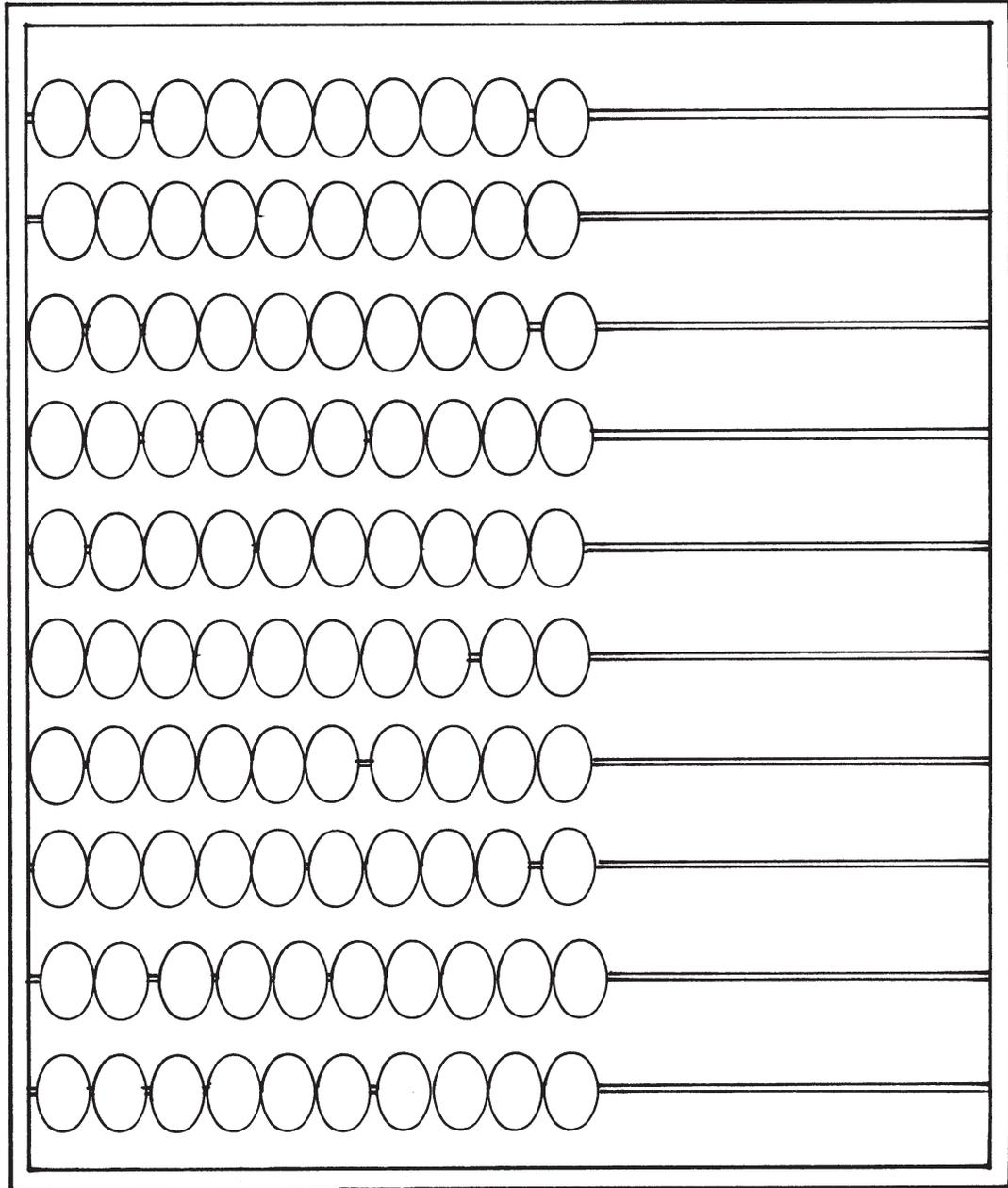
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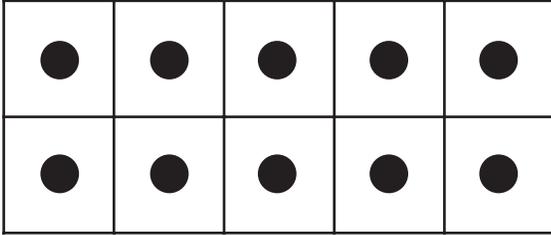
Count the Fingers by 5s

 5		 55	
	 35		 85
			
 20			
			 100

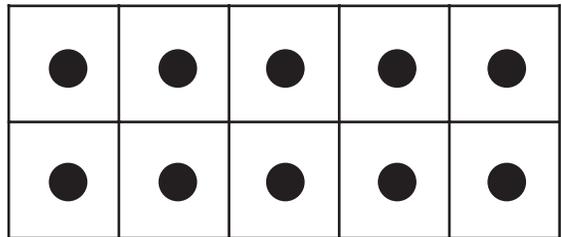
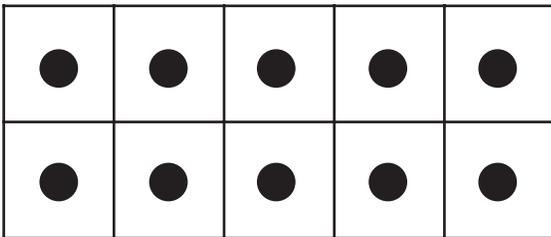
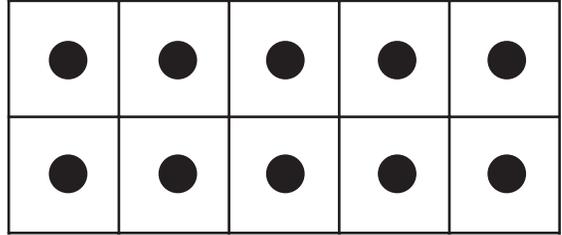
Count by 10s



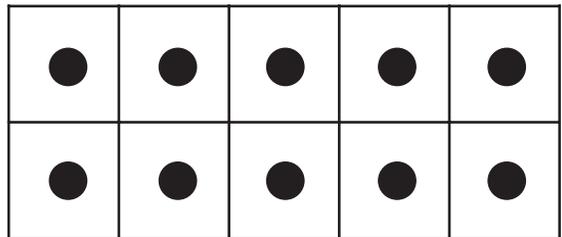
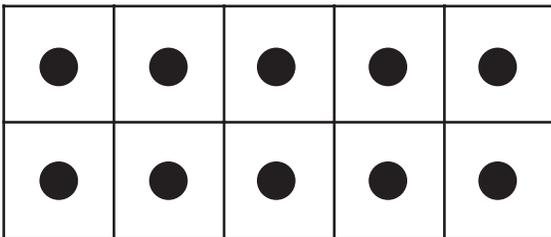
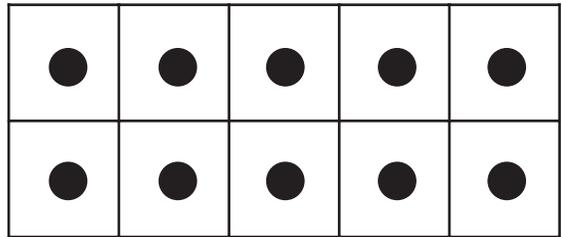
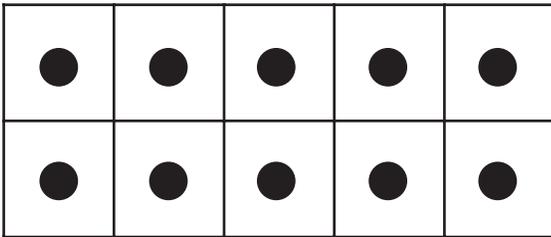
Count by 10s



10



40



70

