

Activity C.1: Skip Counting

Special Note: This lesson uses Zillio. The following lesson uses only the foam cards in a whole class activity.

Learning Objectives:

- 1) Understand the meaning of skip counting.
- 2) Practice skip counting.

Examples of Skills Accomplished:

- 1) 3, 6, 9, 12 and so on
- 2) 7, 14, 21, 28, and so on

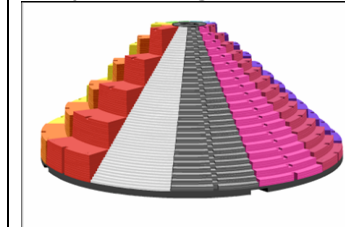
Setup:

- 1) The staircases may be Setup in any order. Alternate the staircases in use with those that are not in use to provide enough elbowroom for students. Do not use 2x if you want to minimize tokens).
- 2) You will need one foam card for each staircase in use.

Maximum Number of Players for Small Group Activities: 6

Players Positions: Seated or standing

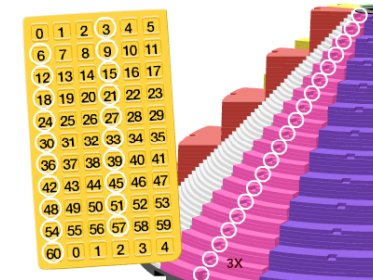
Grey foam logs: In



Activities:

- 1) Assign a staircase and a foam card to each student.
- 2) Explain the meaning and purpose of skip counting. Skip counting is increasing by the same number (other than one). Zillio is designed for skip counting. On the 2x staircase, you can count by 2's: 2, 4, 6, 8 etc. On the 3x staircase you can count by 3's: 3, 6, 9, 12, etc.
- 3) Explain that you will give instructions to remove every "n" th token and place it on the next step. Explain that n will be different for every student because each student will be working on a different staircase.
- 4) As a group, begin to place the appropriate tokens on the 3x staircase. After you have selected enough tokens for the students to understand the process, ask them to work on their own staircases.
- 5) Help them get started as necessary.

Hint:



A quick way to make sure students have selected the correct token is to look at the pattern of removed tokens on the foam cards. Each multiple produces a different pattern (see below).

- 6) Check the tokens to make show they are correct (see sidebar).
- 7) Point to a step and ask students to give you a number sentence for the token that belongs there (for example, a number sentence for the 2nd step on the 7x staircase is: $7 + 7 = 14$). If needed, help them put a finger on each step as the recite the addends.
- 8) For advanced students, select random steps rather than steps in sequence.
- 9) If desired, leave all tokens in place to minimize setup time for the next group.
- 10) When all groups have finished play, return the tokens to the foam cards.

7	0	1	2	3	4	5
14	6		8	9	10	11
21	12	13		15	16	17
28	18	19	20		22	23
35	24	25	26	27		29
42	30	31	32	33	34	
49	36	37	38	39	40	41
56		43	44	45	46	47
	48		50	51	52	53
	54	55		57	58	59
	60	0	1	2	3	4

Observe and Assess:

- 1) Whether students have already memorized the skip counting sequence; are they looking for a specific number or are they counting on to determine what the next number in the series is?
- 2) Does the student use pattern recognition skills to help them pick the next number in the sequence? For example, all multiples of six are found in a straight line down the left hand six of the foam card. Pattern recognition is an important mathematical skill and a perfectly acceptable methodology at this stage.

Special Note: Do not discourage learners from counting on their fingers or on the foam card if that helps them organize their thinking. It gives you valuable information on their stage of skill development . With more time on Zillio, they will begin to memorize the numbers in sequence and stop counting on when they are ready.

Group Discussion & Review of Findings:

- 1) Ask every student to hold up his/her foam card and to describe the pattern made by the missing tokens (vertical, diagonal to the left, down one over three, and so on).

Transition to Paper:

- 1) Ask them to record the correct sequence of numbers on a blank 2D worksheet if students' writing skills are sufficient for the space. If necessary, cut the worksheet in half and enlarge it.

