

Course: MATH 1533 Section 2

Group Name: Grade 3 with 1 & 2

Group Members: Kendall Lent

Lesson Title: Skip Counting with Pete the Cat

Citation of Lesson Resources:

Litwin, E., & Dean, J. (2013). *Pete the cat and his four groovy buttons*. Scholastic.

Nadia. (2021, August 30). *Skip counting lacing plates activity*. 123 Homeschool 4 Me. Retrieved February 24, 2022, from https://www.123homeschool4me.com/skip-counting-lacing-plates_54/

Grade Level: 3rd Grade with modifications for 1st and 2nd Grade

Objective: The student will be able to perform multiplication mentally by skip counting by 4s with little to no error.

2nd Grade Modification: The student will be able to use manipulatives to demonstrate multiplication by skip counting by 4s with little to no error.

1st Grade Modification: The student will be able to demonstrate addition by using cat manipulatives to skip count by 5s with little to no error.

Prerequisite Knowledge/Skills:

Grade 3 (2) (D) – The student is expected to compare and order whole numbers up to 100,000 and represent comparisons using the symbols $>$, $<$ or $=$.

Grade 2 (4) (A) – The student is expected to recall basic facts to add and subtract within 20 with automaticity.

Grade 1 (3) (A) The student is expected to use concrete and pictorial models to determine the sum of a multiple of 10 and a one-digit number in problems up to 99.

TEKS:

Grade 3 (4) (E) - The student is expected to represent multiplication facts by using a variety of approaches such as repeated addition, equal-sized groups, arrays, area models, equal jumps on a number line, and skip counting.

Grade 2 (6) (A) - The student is expected to model, create, and describe contextual multiplication situations in which equivalent sets of concrete objects are joined.

Grade 1 (5) (B) - The student is expected to skip count by twos, fives, and tens to determine the total number of objects up to 120 in a set.

Key Vocabulary Terms:

Skip-Counting: A method of counting forward by numbers other than one.

Grouping: Dividing things into equal groups or sets.

Product: The result of two numbers being multiplied together.

Sum: The result of two numbers being added together.

Time Frame: Three 30-minute lessons: Day 1: Engage and Explore; Day 2: Explain; and Day 3: Elaborate and Evaluation.

Engage Phase –

Materials Needed: “Pete the Cat and His Four Groovy Buttons” book, white board, expo marker.

1. Read the book “Pete the Cat and His Four Groovy Buttons” by Eric Litwin aloud to the class. Make it clear that the students should be sitting with voices off and eyes on you unless instructed to do otherwise. Ask the class what they think will happen next and have them sing along with the song in the book when prompted (Ex: A student might say they think Pete will end up losing all his buttons.).
2. After finishing the book, discuss how Pete the Cat’s buttons can represent groups and can be used to make larger numbers.
3. Review multiplication (or addition if modified for 1st grade) and the concept of skip counting by drawing examples on the board and having the class help solve them (Ex: You may write 7×5 or 6×4 on the board, and the class would have to help skip count by fives or fours to find the solution. If modified for 1st grade, you may write that you have 4 cats with 4 buttons each and ask how many buttons he/she has total. The class would have to help you draw the cats and skip count the sets to solve for the total number of buttons.).

Explore Phase -

Materials Needed: Paper plates, string, sharpie marker, hole puncher, scissors, tape, base ten blocks and optionally buttons or paper buttons.

Pre-class Preparation Steps:

1. Take your paper plate and your sharpie and write all the numbers you would like your students to skip count to in a random order around the perimeter of the plate with equal spacing in between. For this activity, you will need to write the numbers 4-40, skip

counting by 4s. If modified for 1st grade, you will write the numbers 5-50, skip counting by 5s. You should have 10 numbers total.

2. Using your hole puncher, punch a hole directly next each number on your plate, on whatever side of the number that is nearest to the center of the plate. You should have 10 holes total.
3. Cut a string to the length of about 6 feet.
4. OPTIONAL: Use your scissors to poke a hole in the center of the plate as a starting point. Using your sharpie, write "Start here" next to this hole.
5. OPTIONAL: If you choose to use buttons, tie a button to the end of your string or, if using a paper button, tape a button to the end of your string.

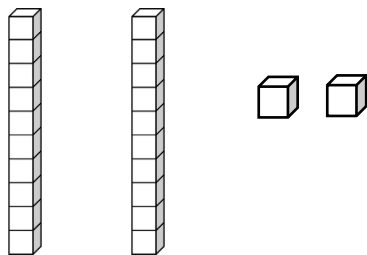
In-class Activity Steps:

1. If you chose to put a starting point in the center, the student will insert the string into the starting point (if the string has a button, make sure to have the students insert the end opposite the button) and pull the string through until about an inch remains. If there is not a specified starting point, the student will insert the string into the hole next to the smallest number and perform the same action. The student will model the number they start with using base ten blocks. For example, if they start with 4, they will count out 4 units as is shown below.

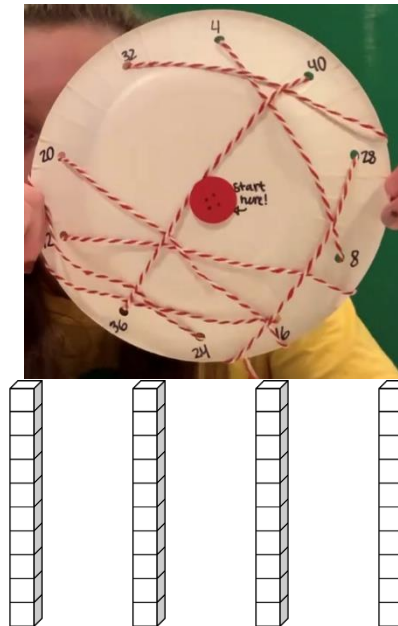


2. If the string has a button, the student will pull until the button stops the string from pulling any longer. If you didn't use a button, the student will tape the last inch of the string to the plate, so it doesn't pull loose.

- The student will push the loose end of the string through the next lowest (or the lowest) multiple of 4 (or 5 if 1st grade) and pull until the remaining string is through and the string is tight on the plate. The student will model the addition by adding more counters to equal the next number they are skip-counting to. When the student gets to a high enough number to be able to use rods, they will replace units with rods to build the number. For example, for the number 12, the student will end up having 12 units, and will replace 10 of the units with one rod, leaving them with one rod and 2 units, which is equal to 12, as is shown below.



- The student will repeat step 3 for all remaining multiples of 4 (or 5), skip counting by 4's (or 5's) from 4 all the way up to 40 (or 5-50), making sure to always cross the string over on the front of the plate. The student will model each number using their base ten blocks by adding the correct amount of units and rods for each number.
- Once the student has inserted the string into the last hole on the plate, he/she will pull the string tight, and tape the remaining few inches of string down to the back of the plate. A finished plate that is skip-counted to 40 with the correct base ten blocks is shown below.



Rubric:

100% - The students put the string in every number on the plate in the correct order, starting with the smallest increasing by even increments until they end on the largest number.

90% - The student gets 9 numbers in the correct order, regardless of which numbers.

80% - The student gets 8 numbers in the correct order, regardless of which numbers.

70% - The student gets 7 numbers in the correct order, regardless of which numbers.

60% - The student gets 6 numbers in the correct order, regardless of which numbers.

50% - The student gets 5 numbers in the correct order, regardless of which numbers.

40% - The student gets 4 numbers in the correct order, regardless of which numbers.

30% - The student gets 3 numbers in the correct order, regardless of which numbers.

20% - The student gets 2 numbers in the correct order, regardless of which numbers.

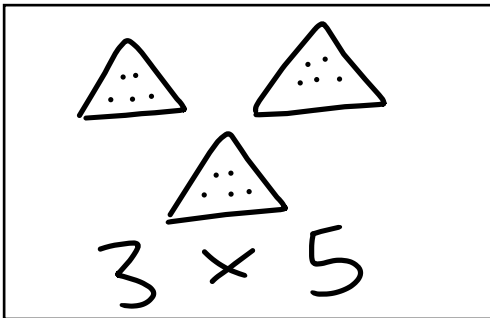
10% - The student starts with the smallest number on the plate.

0% - The student does not put their string into any hole on the plate, or the student does not get any sequence of numbers correct.

Explain Phase –

Materials Needed: Skip-counting plates from Explore phase, white boards, expo markers.

1. You will roam around the classroom nearing the closing of the explore phase and help any students who seem to be struggling.
2. You will have the students put away their plates, turn their voices off, and have their eyes on you.
3. You will pass out white boards and expo markers.
4. You will give the students amounts of cats and have them draw the cats with their buttons using triangles to represent the cats and circles to represent the buttons. You will then have the students write the multiplication problem that the picture represents. For example, you may prompt your students to draw 3 cats with 5 buttons each. The students will draw 3 triangles with 5 circles in each triangle, and then they will write 3×5 (as shown below). You will give them around 2 minutes for each problem.



5. At the end of the two minutes, you will have the students flip their boards in your direction and you will check who was correct. You will call on one student per problem to explain how they got their answer.

Elaborate Phase –

Materials Needed: Pencils, skip-counting worksheets.

If modified for 1st grade: Pencils, skip-counting worksheets, cat manipulatives.





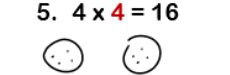
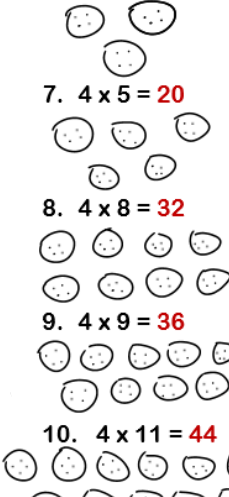
- You will pass out a skip-counting worksheet to each student and have them work independently and silently to solve for the multiples of 4 (or sums of 5 if modified for first grade) on the sheet (a full sized worksheet and answer key can be found on pages 12 and 13).

<p>Name: _____</p> <h3>Skip-Counting by 4's</h3> <p>For each problem below, fill in the blank and show your work in the extra space below.</p> <p>1. $4 \times _ = 24$ 6. $4 \times 3 = _$</p> <p>2. $4 \times _ = 48$ 7. $4 \times 5 = _$</p> <p>3. $4 \times _ = 40$ 8. $4 \times 8 = _$</p> <p>4. $4 \times _ = 28$ 9. $4 \times 9 = _$</p> <p>5. $4 \times _ = 16$ 10. $4 \times 11 = _$</p>	<p>Name: _____</p> <h3>Skip-Counting by 4's</h3> <p>For each problem below, fill in the blank and show your work in the extra space below.</p> <p>1. $4 \times 6 = 24$ 6. $4 \times 3 = 12$</p> <p>4, 8, 12, 16, 20, 24 1 2 3 4 5 6</p> <p>2. $4 \times 12 = 48$ 7. $4 \times 5 = 20$</p> <p>4, 8, 12, 16, 20, 24, 28, 32, 36, 40, 44, 48 1 2 3 4 5 6 7 8 9 10 11 12</p> <p>4, 8, 12, 16, 20, 24, 28, 32, 36, 40, 44, 48 1 2 3 4 5 6 7 8 9 10 11 12</p> <p>3. $4 \times 10 = 40$ 8. $4 \times 8 = 32$</p> <p>4, 8, 12, 16, 20, 24, 28, 32, 36, 40 1 2 3 4 5 6 7 8 9 10</p> <p>4, 8, 12, 16, 20, 24, 28, 32, 36, 40, 44, 48 1 2 3 4 5 6 7 8 9 10 11 12</p> <p>4. $4 \times 7 = 28$ 9. $4 \times 9 = 36$</p> <p>4, 8, 12, 16, 20, 24, 28 1 2 3 4 5 6 7</p> <p>4, 8, 12, 16, 20, 24, 28, 32, 36, 40, 44, 48 1 2 3 4 5 6 7 8 9 10 11 12</p> <p>5. $4 \times 4 = 16$ 10. $4 \times 11 = 44$</p> <p>4, 8, 12, 16 1 2 3 4</p> <p>4, 8, 12, 16, 20, 24, 28, 32, 36, 40, 44 1 2 3 4 5 6 7 8 9 10 11</p>
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- Once they are done, you will have the students raise their hand and you will collect the worksheet.

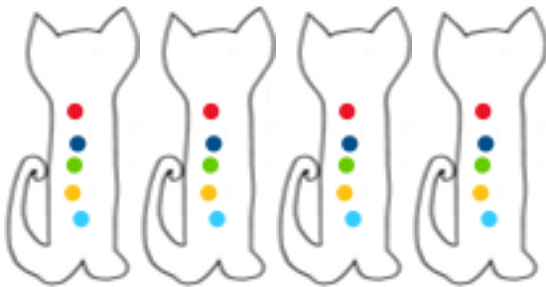
2nd Grade Modification: The students will be given a worksheet with multiples of 4 that they need to create by skip-counting by 4's. They will have to demonstrate equal sets of 4 adding up to each multiple prompted. They will draw

how many groups they skip-counted in each blank and the teacher will check it when they are finished (full size worksheet and answer key can be found on pages 14 and 15).

<p>Name: _____</p> <h3>Skip-Counting by 4's</h3> <p>For each problem below, fill in the blank and draw your equal groups of 4 in the space provided.</p> <p>1. $4 \times _ = 24$ 6. $4 \times 3 = _$</p> <p>2. $4 \times _ = 48$ 7. $4 \times 5 = _$</p> <p>3. $4 \times _ = 40$ 8. $4 \times 8 = _$</p> <p>4. $4 \times _ = 28$ 9. $4 \times 9 = _$</p> <p>5. $4 \times _ = 16$ 10. $4 \times 11 = _$</p>	<p>Name: _____</p> <h3>Skip-Counting by 4's</h3> <p>For each problem below, fill in the blank and draw your equal groups of 4 in the space provided.</p> <p>1. $4 \times 6 = 24$ 6. $4 \times 3 = 12$</p>  <p>2. $4 \times 12 = 48$ 7. $4 \times 5 = 20$</p>  <p>3. $4 \times 10 = 40$ 8. $4 \times 8 = 32$</p>  <p>4. $4 \times 7 = 28$ 9. $4 \times 9 = 36$</p>  <p>5. $4 \times 4 = 16$ 10. $4 \times 11 = 44$</p>  
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1st Grade Modification: The teacher will have the class pretend there are 5 buttons in the book. Each student will be given a bag of small cutouts of cats with 5 buttons on them. They will be given a handout with numbers of cats on each question, and they will use the buttons on the cats to help them count out the prompted groups of five. They will record the total number of buttons on each question (full size worksheet and answer key can be found on pages 16 and 17).

<p>Name: _____</p> <p> Skip-Counting with Pete! </p> <p>For each problem below, use your Pete the cat cards to figure out how many buttons you have and write your total in the blank space below.</p> <ol style="list-style-type: none"> I have 5 cats. How many buttons do I have? I have 3 cats. How many buttons do I have? I have 8 cats. How many buttons do I have? I have 11 cats. How many buttons do I have? I have 12 cats. How many buttons do I have? I have 4 cats. How many buttons do I have? I have 7 cats. How many buttons do I have? I have 9 cats. How many buttons do I have? I have 6 cats. How many buttons do I have? I have 10 cats. How many buttons do I have? 	<p>Name: _____</p> <p> Skip-Counting with Pete! </p> <p>For each problem below, use your Pete the cat cards to figure out how many buttons you have and write your total in the blank space below.</p> <ol style="list-style-type: none"> I have 5 cats. How many buttons do I have? 25 I have 3 cats. How many buttons do I have? 15 I have 8 cats. How many buttons do I have? 40 I have 11 cats. How many buttons do I have? 55 I have 12 cats. How many buttons do I have? 60 I have 4 cats. How many buttons do I have? 20 I have 7 cats. How many buttons do I have? 35 I have 9 cats. How many buttons do I have? 45 I have 6 cats. How many buttons do I have? 30 I have 10 cats. How many buttons do I have? 50
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Worksheets for 2nd-3rd grade can all be graded using the following rubric:

Rubric

100% - The student showed their work on every problem and got every answer correct.

0% - The student did not show their work on any problem or get any correct answers.

-5 percentage points per problem without work shown.

-5 percentage points per incorrect answer.

The following rubric can be used for the 1st grade worksheet:

Rubric

100% - The student correctly solved and recorded every answer.

0% - The student did not get any answers correct.

-10 percentage points for each incorrect answer.

Evaluation –

The plates and the worksheets from the explore and elaborate sections will be graded for accuracy to demonstrate mastery of the concept. Each of these will be graded out of 100 percentage points based on the rubrics provided in their respective phases. The student will be expected to score at least a 70% on both the worksheet and the plate in order to pass and demonstrate mastery.

Name: _____

Skip-Counting by 4's

For each problem below, fill in the blank and show your work in the extra space below.

1. $4 \times _ = 24$

6. $4 \times 3 = _$

2. $4 \times _ = 48$

7. $4 \times 5 = _$

3. $4 \times _ = 40$

8. $4 \times 8 = _$

4. $4 \times _ = 28$

9. $4 \times 9 = _$

5. $4 \times _ = 16$

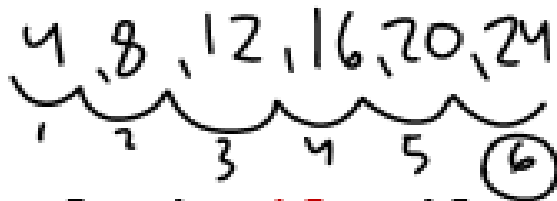
10. $4 \times 11 = _$

Name: _____

Skip-Counting by 4's

For each problem below, fill in the blank and show your work in the extra space below.

1. $4 \times 6 = 24$



6. $4 \times 3 = 12$



2. $4 \times 12 = 48$



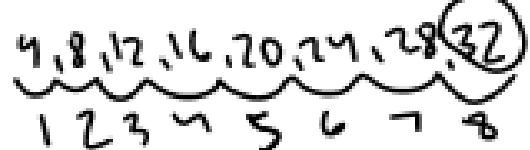
7. $4 \times 5 = 20$



3. $4 \times 10 = 40$



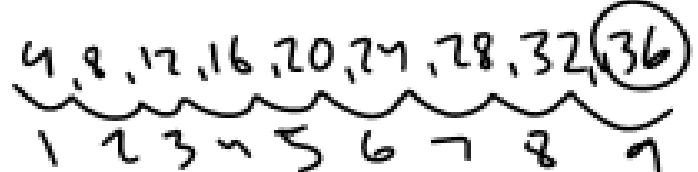
8. $4 \times 8 = 32$



4. $4 \times 7 = 28$



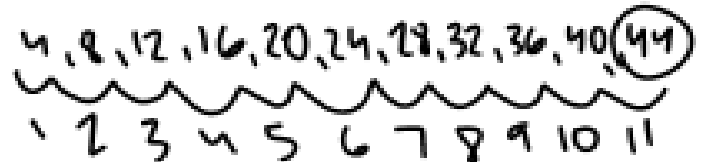
9. $4 \times 9 = 36$



5. $4 \times 4 = 16$



10. $4 \times 11 = 44$



Name: _____

Skip-Counting by 4's

For each problem below, fill in the blank and draw your equal groups of 4 in the space provided.

1. $4 \times _ = 24$

6. $4 \times 3 = _$

2. $4 \times _ = 48$

7. $4 \times 5 = _$

3. $4 \times _ = 40$

8. $4 \times 8 = _$

4. $4 \times _ = 28$

9. $4 \times 9 = _$

5. $4 \times _ = 16$

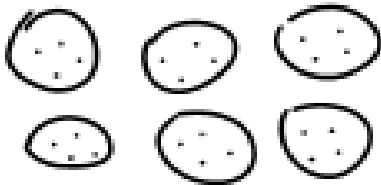
10. $4 \times 11 = _$

Name: _____

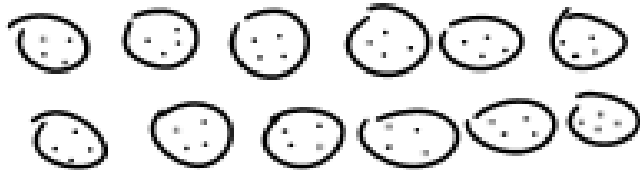
Skip-Counting by 4's

For each problem below, fill in the blank and draw your equal groups of 4 in the space provided.

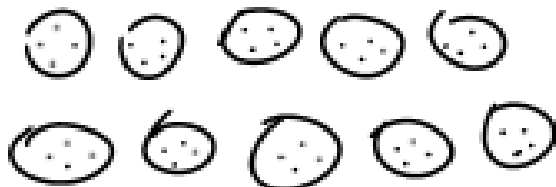
1. $4 \times 6 = 24$



2. $4 \times 12 = 48$



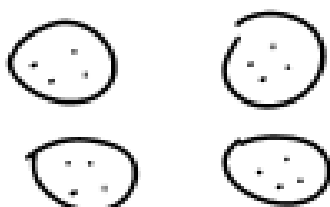
3. $4 \times 10 = 40$



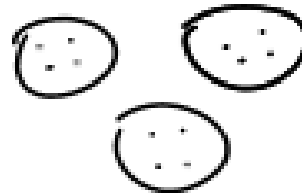
4. $4 \times 7 = 28$



5. $4 \times 4 = 16$



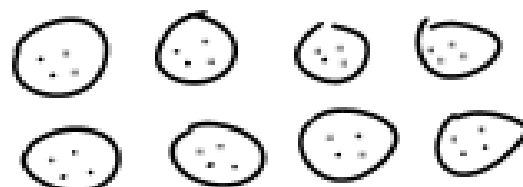
6. $4 \times 3 = 12$



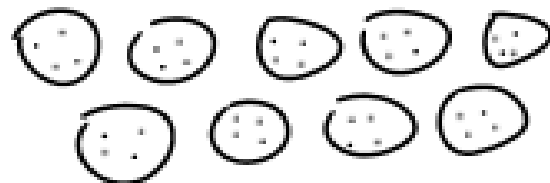
7. $4 \times 5 = 20$



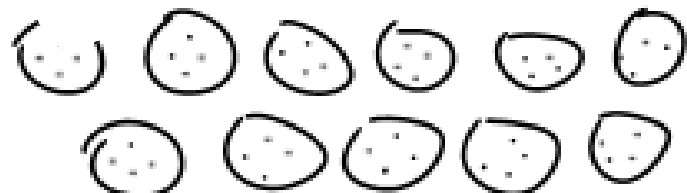
8. $4 \times 8 = 32$



9. $4 \times 9 = 36$



10. $4 \times 11 = 44$



Name: _____



Skip-Counting with Pete!



For each problem below, use your Pete the cat cards to figure out how many buttons you have and write your total in the blank space below.

1. I have 5 cats. How many buttons do I have?
2. I have 3 cats. How many buttons do I have?
3. I have 8 cats. How many buttons do I have?
4. I have 11 cats. How many buttons do I have?
5. I have 12 cats. How many buttons do I have?
6. I have 4 cats. How many buttons do I have?
7. I have 7 cats. How many buttons do I have?
8. I have 9 cats. How many buttons do I have?
9. I have 6 cats. How many buttons do I have?
10. I have 10 cats. How many buttons do I have?

Name: _____



Skip-Counting with Pete!



For each problem below, use your Pete the cat cards to figure out how many buttons you have and write your total in the blank space below.

1. I have 5 cats. How many buttons do I have?

25

2. I have 3 cats. How many buttons do I have?

15

3. I have 8 cats. How many buttons do I have?

40

4. I have 11 cats. How many buttons do I have?

55

5. I have 12 cats. How many buttons do I have?

60

6. I have 4 cats. How many buttons do I have?

20

7. I have 7 cats. How many buttons do I have?

35

8. I have 9 cats. How many buttons do I have?

45

9. I have 6 cats. How many buttons do I have?

30

10. I have 10 cats. How many buttons do I have?

50