

# Grouping and Counting–Part 1

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**Strand:** Number and Number Sense

**Topic:** Counting and skip counting

**Primary SOL:** 1.1 The student will  
d) count forward orally by ones, twos, fives and tens to determine the total number of objects to 110.

**Related SOL:** 1.1a, 1.1b, 1.5a

## Materials

- Clear jar
- 110 small objects for counting
- Chart paper (optional)
- Counting cups (optional)
- 110 Chart (large classroom display; laminate for reuse or project the attached 110 chart)
- Bags containing 37 objects for each group of two students

## Vocabulary

*count, estimate, fives, forward, group, skip count, tens, total, twos*

## Student/Teacher Actions: What should students be doing? What should teachers be doing?

1. Gather students on the floor in a circle; place a clear jar containing up to 110 objects in the middle of the circle. Ask students to predict how many objects are in the jar. Record their predictions on the chart paper or on the board.
2. After all students have had a chance to make a prediction, ask, “*How can we find out exactly how many objects are in the jar?*” (by counting). Dump the contents of the jar onto the floor, and have students orally count by ones as you move each object. After counting, have students compare the total amount of objects with their predictions and discuss whether the total was more or less than their prediction. Celebrate all reasonable predictions.
3. Point out how long it took to count by ones, and ask whether anyone has an idea of how you could count the objects faster. If nobody suggests skip counting, ask questions to lead students to this suggestion. Ask students, “*What does it mean to skip count?*” Discuss all ways to skip count. (Students will be familiar with counting by tens from kindergarten but may also suggest other ways.)
4. Ask students, “*Which would be the fastest method of counting: counting by twos, fives, or tens? Why?*” Inform students that they will try counting by twos, fives, and tens to see which way is the fastest.
5. Ask approximately one-third of the students to come to the middle of the circle and group the objects into groups of two. Once the objects have been grouped, begin to lead the class in counting them again by ones. Hopefully, some students will stop you and question your counting by ones, but if there are no objections, prompt them by

saying, *“Am I counting correctly?” “Why can’t I count these groups by ones?”* (Because there are two objects in each group. Start counting by twos. As you count, have a student mark or indicate the numbers used to count by twos on a large classroom 110 chart, so they are highlighted. When finished ask: *“When we counted by twos, did we end up with the same number of objects as when we counted by ones?”* (Be sure students understand that while you made groups, you did not add any more objects or take any away.) *“When I counted by twos, how many objects did I put in a group?” “How many groups did we have?”* Use a pointer on the 110 chart and review the count-by-two sequence by having the students count with the teacher. Ask students to describe any patterns they see.

6. Repeat step 5, using another one-third of the students to group the objects into groups of five. Ask the class, *“How should we count this time? Why?”* When students have justified their answers, lead them in counting the groups by fives. Again, have a student mark or indicate the numbers on the large classroom 110 chart as you count. Use a pointer and have the students count with the teacher. When finished, ask, *“When we counted by fives, did we end up with the same number as when we counted by ones or when we counted by twos?”* (Be sure students understand that while you changed the groups, you did not add any more objects or take any away.) *“When I counted by fives, how many objects did I put in a group?” “How many groups did we have?”* Use a pointer on the 110 chart and review the count-by-five sequence by having the students count with the teacher. Ask students to describe any patterns they see.
7. Once again, repeat step 5, using the last one-third of the class to form groups of ten. Have a student mark or indicate the numbers used to count by tens on the large classroom 110 chart. Use a pointer and have the students count with the teacher. When students have explained why they will be counting by tens, lead them in counting by tens and questioning about the total as well as the groups of ten. Use a pointer on the 110 chart and review the count-by-ten sequence and have students describe patterns.
8. Pair students. Give each pair a bag of 37 objects and ask them to group and count them by twos. As students are counting by twos, observe to see how students deal with the leftover object. After all pairs have finished, have students share the total number of counters. Ask: *“Were you able to put all of your counters into groups of two?” “When you counted your groups by two, what did you do when you came to the leftover counter?” “When we count the leftover counter, do we say the next count-by-two number? Why or why not?”* Use the large 110 chart to mark the numbers you would say as you were counting by twos (2, 4, 6, 8, ... 36) and use a different color to mark the next number (37) to represent the leftover object. Next, have students put their objects back in one big pile and ask, *“If we count these objects by fives, how many will there be? Why do you think that?”* Then have the partners group and count by fives. Again, watch to see how students deal with the leftovers. Ask the same kind of follow-up questions and mark the count-by-five numbers (and the leftovers) on the 110 chart. Finally, repeat the process with grouping and counting by tens.
9. Engage in a class discussion about what they did and what they discovered. Ask: *“Which way of skip counting was the fastest? Why?” “When we grouped and counted, did it*

*change the total number of objects? Why or why not?” “What should we do when we have leftovers that don’t make another group?”*

### Assessment

- **Questions**

- Why is it helpful to use skip counting when counting large numbers of objects? Can you give an example of when skip counting may help you?
- Which is faster, counting by ones, twos, fives, or tens? Why?
- Explain how to count a collection of objects by twos (or fives or tens).
- Each time Jenny clapped once, she said a count-by-two number. She stopped after she said 24. Did Jenny clap 24 times? Why or why not?

- **Journal/writing prompts**

- You need to count out 100 marbles and put them in a bag. In order to count them as fast as possible, would you count them by ones, twos, fives, or tens? Explain why, and draw a picture to show what the marbles would look like if you decide to put them into groups.
- Write your numbers from 10 to 100 by tens. Then, write them from 5 to 100 by fives. Finally, write them from 2 to 100 by twos. Which way took you the longest time? Explain why.

- **Other Assessments**

- Give each student 50 objects to group and count by twos and then again by tens. Ask: *“What happens to the size of the groups when you change from counting by twos to counting by tens?” “What happens to the number of groups you need to count?” “What happens to the total amount?”*
- Give each student a 110 chart. Ask the students to circle all of the numbers that we use to count by twos. Once they are done, ask the students, *“What do you notice?”* Have the students repeat for fives and tens.

### Extensions and Connections (for all students)

- Use a hundred chart to help students practice skip counting. Have students color in a hundred chart as you count together so they can see the patterns that form. This can be modeled using a large hundred chart, and charts may be displayed in the classroom as a reference for students.
- Provide different manipulatives in a math center for students to use when practicing counting by ones, twos, fives, and tens.
- Read stories or nursery rhymes that focus on skip counting or counting backward. After reading and discussing the stories, place them in your math center for students to enjoy.
- Have students use a manipulative (e.g., plastic bears) to make six groups of five. Ask how many bears there are all together. Have students practice counting by fives to determine the total, using the manipulatives.

## *Mathematics Instructional Plan – Grade 1*

- Practice counting by twos, fives, or tens using a circle-counting routine. Students sit in a circle and each student says a number in turn. Students can predict which student will say 110. When you get to 110, start back at zero with the next student.
- Circle Counting Game – Have students stand in a circle and designate one student as the starter, who will begin counting to a designated number. The next student will say the next number in the sequence and continuing around the circle until the designated number is reached. The student who says the last number of the sequence sits down, and the sequence begins again skipping over those who are sitting down until only one student is left standing. This can be played in any length sequence and with any number of students. Skip counting may be used as well.

### **Strategies for Differentiation**

- Limit or increase the number of objects to be counted.
- Have students use counting cups to help them keep track of the groups of objects they are counting.
- Provide students with a number path or 110 chart and a bingo marker to keep track while skip counting.
- Focus on one skip-counting pattern at a time (for example, counting only by fives or tens during a lesson).

**Note: The following pages are intended for classroom use for students as a visual aid to learning.**

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110 Chart

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b>	<b>19</b>	<b>20</b>
<b>21</b>	<b>22</b>	<b>23</b>	<b>24</b>	<b>25</b>	<b>26</b>	<b>27</b>	<b>28</b>	<b>29</b>	<b>30</b>
<b>31</b>	<b>32</b>	<b>33</b>	<b>34</b>	<b>35</b>	<b>36</b>	<b>37</b>	<b>38</b>	<b>39</b>	<b>40</b>
<b>41</b>	<b>42</b>	<b>43</b>	<b>44</b>	<b>45</b>	<b>46</b>	<b>47</b>	<b>48</b>	<b>49</b>	<b>50</b>
<b>51</b>	<b>52</b>	<b>53</b>	<b>54</b>	<b>55</b>	<b>56</b>	<b>57</b>	<b>58</b>	<b>59</b>	<b>60</b>
<b>61</b>	<b>62</b>	<b>63</b>	<b>64</b>	<b>65</b>	<b>66</b>	<b>67</b>	<b>68</b>	<b>69</b>	<b>70</b>
<b>71</b>	<b>72</b>	<b>73</b>	<b>74</b>	<b>75</b>	<b>76</b>	<b>77</b>	<b>78</b>	<b>79</b>	<b>80</b>
<b>81</b>	<b>82</b>	<b>83</b>	<b>84</b>	<b>85</b>	<b>86</b>	<b>87</b>	<b>88</b>	<b>89</b>	<b>90</b>
<b>91</b>	<b>92</b>	<b>93</b>	<b>94</b>	<b>95</b>	<b>96</b>	<b>97</b>	<b>98</b>	<b>99</b>	<b>100</b>
<b>101</b>	<b>102</b>	<b>103</b>	<b>104</b>	<b>105</b>	<b>106</b>	<b>107</b>	<b>108</b>	<b>109</b>	<b>110</b>