

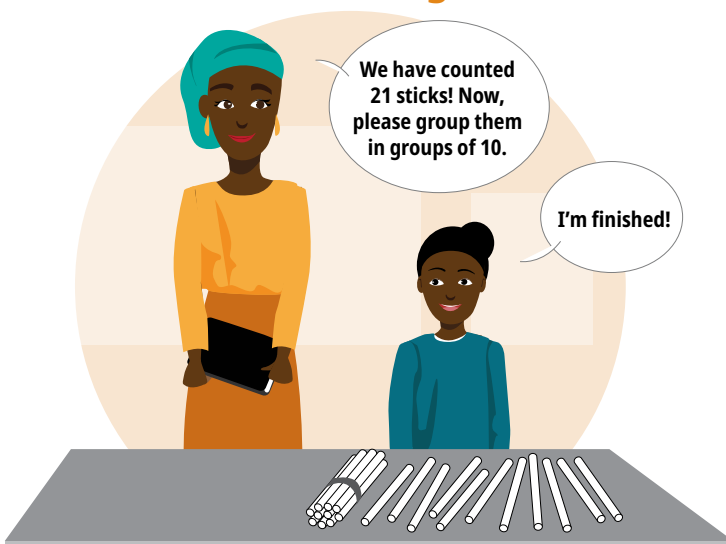
Group Ones and Tens

Objectives

This mini-module aims to help teachers:

- Show students how to identify, group, and count ones and tens.
- Identify how some place value materials are used to represent numbers.
- Practice a new teaching activity.

Illustration of Teaching



The student grouped 10 sticks and left 11 sticks ungrouped.



REFLECT:

- Why do you think the student made one group of 10 and left 11 sticks ungrouped?
- What questions would you pose to the student to encourage them to see another group of 10?
- What does this tell you about the student's knowledge of numbers?
- How can you support this student?

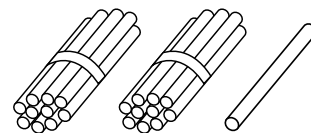
Ideas to Consider

The teacher asked the student to bundle groups of 10 sticks. The student bundled 10 sticks, but left 11 sticks unbundled. Children learn to count ones before they learn about place value. Many students will be able to count 21 sticks one by one. However, they may not understand the number system, which is based on groups of ten. Although they know the number 21, they may not understand that

Recommended Materials

Tens					Ones					
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	

21 is formed by 2 tens and 1 one:



21 is made of 2 tens and 1 one. To form 21 with sticks, the student should count two groups of ten, and they will have one single stick left over.

In this mini-module, you will learn how to support children in building a strong understanding of place value, especially the value of ones and tens.



ACTIVITY: REPRESENT A NUMBER WITH PLACE VALUE

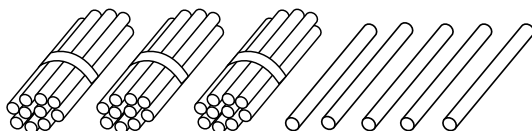
This activity can be completed alone, in pairs, or with a group of teachers. You may prepare groups of 10 sticks before the activity to save time. If you have colleagues to work with, take turns choosing numbers and representing them with place value materials. Discuss your responses to the questions.

Purpose: Practice composing and decomposing numbers up to 99 using tens and ones.

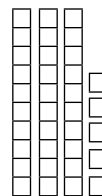
Materials needed: Place value manipulatives (e.g., sticks with rubber bands or strings to group them; base 10 blocks).

Instructions

- Choose a two-digit number. For example: 35
- Count out the number using place value materials. For example:

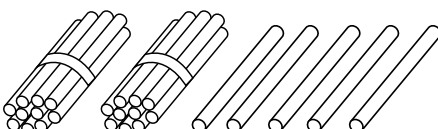


OR

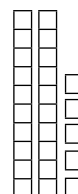
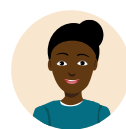


- Practice counting the tens and ones while placing the materials on a table: "10, 20, 30, 31, 32, 33, 34, 35"
- Ask: **How many tens are there? How many ones are there?**
- Repeat with another two-digit number between 10 and 99.

- Select a set of tens and ones from the place value materials. For example:



OR

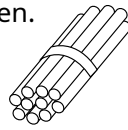
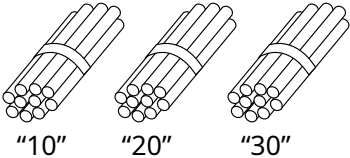
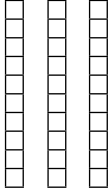
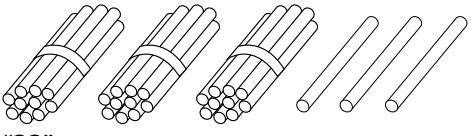
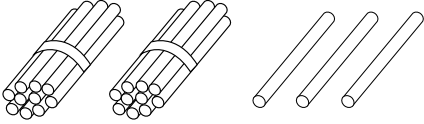
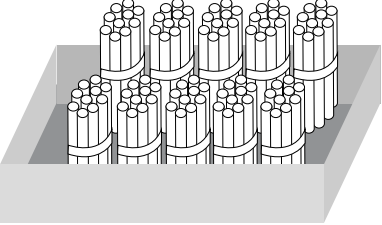


- Ask: **What number does this make?**
- Count to find out what number you have made. For example: "10, 20, 21, 22, 23, 24, 25"
- Repeat with another two-digit number between 10 and 99.

What Do Children Learn about Grouping Ones and Tens?

Sticks, pencils, or other long objects can be used to introduce place value. Children can count single sticks ("1, 2, 3, ...") until they reach 10, and then group them together. They can also count groups of sticks by 10 ("10, 20, 30, ..."). Then, they can count tens and ones together to make a number. For example, 23 is made with 2 groups of 10 and 3 single sticks, and can be counted "10, 20, 21, 22, 23." 10 groups of sticks can also be put together to form 100, which shows that 100 is made of 10 tens.

Practicing with materials such as sticks helps children understand the quantity behind the digits, as well as the number system, which is based on 10. After they understand the concepts well, they are ready to work with other materials such as the 100 chart.

Children should be able to . . .	What does this mean?	Example																																																																																																				
Identify 10 as a group of ten ones	The quantity 10 is formed by a group of 10 ones.	Count 10 sticks ("1, 2, 3, 4, 5, 6, 7, 8, 9, 10") and tie them together to make a bundle of ten. 																																																																																																				
Count tens	The numbers 10, 20, ..., 90 are "tens." The first digit (the tens place) tells us how many groups of ten there are in the quantity.	Count bundles of 10 sticks:  "10" "20" "30" Count strips of ten:  "10, 20, 30"																																																																																																				
Compose a number using place value	Compose a number using groups of ten and ones.	Which number is composed of 3 groups of ten and 3 ones?  "33"																																																																																																				
Decompose a number using place value	Decompose a number based on the place value of its digits.	Show me 23.  "10" "20" "21, 22, 23"																																																																																																				
Identify 100 as a group of 10 tens	The number 100 is formed by making a group of 10 tens.	Count 10 bundles of sticks into a group of 100: "10, 20, 30, 40, 50, 60, 70, 80, 90, 100"  Count the tens (rows) in a 100 chart. <table border="1" data-bbox="933 1836 1316 2105"> <tbody> <tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td></tr> <tr><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td><td>18</td><td>19</td><td>20</td></tr> <tr><td>21</td><td>22</td><td>23</td><td>24</td><td>25</td><td>26</td><td>27</td><td>28</td><td>29</td><td>30</td></tr> <tr><td>31</td><td>32</td><td>33</td><td>34</td><td>35</td><td>36</td><td>37</td><td>38</td><td>39</td><td>40</td></tr> <tr><td>41</td><td>42</td><td>43</td><td>44</td><td>45</td><td>46</td><td>47</td><td>48</td><td>49</td><td>50</td></tr> <tr><td>51</td><td>52</td><td>53</td><td>54</td><td>55</td><td>56</td><td>57</td><td>58</td><td>59</td><td>60</td></tr> <tr><td>61</td><td>62</td><td>63</td><td>64</td><td>65</td><td>66</td><td>67</td><td>68</td><td>69</td><td>70</td></tr> <tr><td>71</td><td>72</td><td>73</td><td>74</td><td>75</td><td>76</td><td>77</td><td>78</td><td>79</td><td>80</td></tr> <tr><td>81</td><td>82</td><td>83</td><td>84</td><td>85</td><td>86</td><td>87</td><td>88</td><td>89</td><td>90</td></tr> <tr><td>91</td><td>92</td><td>93</td><td>94</td><td>95</td><td>96</td><td>97</td><td>98</td><td>99</td><td>100</td></tr> </tbody> </table>	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
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Reflection

Write your responses down or discuss your ideas with your colleagues:

- Think of your own students. Which skills from the above table do you think they would find challenging? Why? How can you support them?
- What mistakes do you think a student might make when grouping 23 sticks? How would you support them?

Teaching Practice

This practice activity may be completed by teachers with their own class or with a smaller group of students.



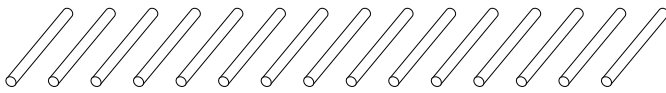
ACTIVITY: MAKE NUMBERS WITH STICKS

Purpose: Count a quantity by making groups of tens, counting groups of tens and ones, and make connections with written numbers.

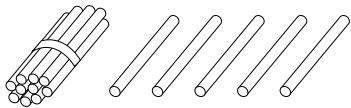
Materials needed: Place value manipulatives (e.g., sticks with rubber bands or strings to group them) for all students.

Instructions


- Give a set of sticks to all students.
- Say: ***I am going to give you a number. Please count that number of sticks from your set.***
- Write the number on the board and say the number: 15
- Students should count out 15 individual sticks.



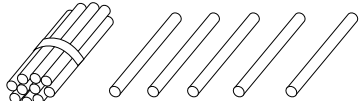
- Say: ***Let's group some of our sticks together in a group of ten.***
- Guide students to count out 10 sticks from their group of 15 and bundle them together using a rubber band or string.
- Students should now have 1 group of ten and 5 ones.




- Ask: ***How many groups of ten are there? How many ones?***
- Say: ***We first counted 15 sticks. Then, we made one group of ten. We had 5 single sticks left over. Those single sticks are ones. 1 ten and 5 ones makes 15. Making groups of ten helps us see the number clearly.***
- Together with students, count the sticks using tens and ones: 10, 11, 12, 13, 14, 15

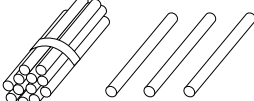


The student groups 10 sticks correctly to make 15:





The student counts 15 individual sticks, but groups sticks incorrectly:



(Tip: Guide the student to count 10 sticks into a bundle, then count the bundles and ones.)

- Repeat with different numbers.



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AUTHORS: Brittany Meredith, Annie Savard, Wendi Ralaingita, Yasmin Sitabkhan, and Mercy Kazima