



**Avon Community School Corporation**  
**Grade 2 Mathematics Unit 4 Report**  
**2016-2017**

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**Student Name:** \_\_\_\_\_

In this unit, students learned how to:

- Estimate, measure, and compare the lengths of objects in inches, feet, and yards
- Select and use the appropriate tool for measuring the length of an object
- Measure the length of an object twice, using two different units—such as inches the first time, then feet

Unit 4 Preassessment Score: \_\_\_\_ /18

|                     |                |       |            |
|---------------------|----------------|-------|------------|
| Well Below<br>Basic | Below<br>Basic | Basic | Proficient |
|---------------------|----------------|-------|------------|

Unit 4 Postassessment Score: \_\_\_\_ /24





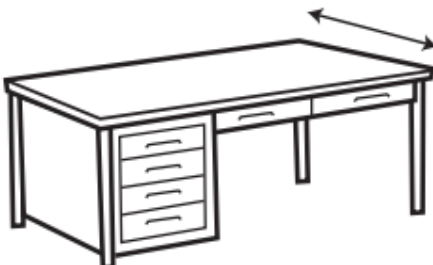
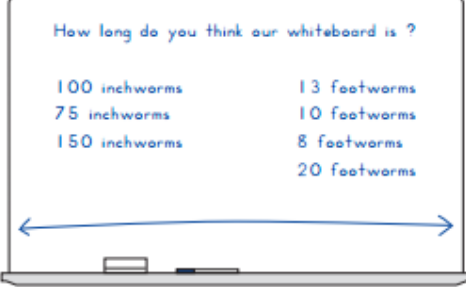
|                     |                |       |            |
|---------------------|----------------|-------|------------|
| Well Below<br>Basic | Below<br>Basic | Basic | Proficient |
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SAMPLE

On the back are some examples of strategies and models used to develop these skills and concepts in this unit.



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| PROBLEM  | COMMENTS   |                   |                    |                   |                    |               |             |   |              |          |  |   |   |
|--|--|-------------------|--------------------|-------------------|--------------------|---------------|-------------|---|--------------|----------|--|---|---|
| <p>Measure the yellow paper strip with tiles and then with your inchworm ruler.</p>  <p><i>"It was 4 both times. Four tiles, and then 4 of those worms on the ruler.<br/>The ruler is kind of like having tiles stuck together."</i></p> <p>Choose a card. Measure your object. Compare the length of your object to your partner's object.</p>  <p><i>"The book is 12 inches and the board is 48 inches. The board is 36 inches longer than the book."</i></p>  | <p>In this unit students return to the land of beanstalks and giants and explore measurement in a giant's world. The story <i>Jim and the Beanstalk</i> by Raymond Briggs (a spinoff off of the traditional Jack &amp; the Beanstalk tale) is the inspiration for many measuring activities.</p> <p>Second graders build upon their early experiences to measure with standard units, like the inches shown on the inchworm ruler. The example shows students how the ruler can be used in place of lining up individual tiles to measure length.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Object</th> <th>Estimate</th> <th>Length (in tiles)</th> <th>Length (in inches)</th> </tr> </thead> <tbody> <tr> <td>a Pencil</td> <td></td> <td style="text-align: center;">6</td> <td style="text-align: center;">7</td> </tr> <tr> <td>b Crayon</td> <td></td> <td style="text-align: center;">3</td> <td style="text-align: center;">3</td> </tr> </tbody> </table> <p>As the unit progresses, students use inches, feet, and yards to measure objects found in the classroom. They compare the difference in length between the two objects by using the same tool and unit to measure both objects.</p> | Object            | Estimate           | Length (in tiles) | Length (in inches) | a Pencil      |             | 6 | 7            | b Crayon |  | 3 | 3 |
| Object   | Estimate   | Length (in tiles) | Length (in inches) |                   |                    |               |             |   |              |          |  |   |   |
| a Pencil   |  | 6                 | 7                  |                   |                    |               |             |   |              |          |  |   |   |
| b Crayon   |  | 3                 | 3                  |                   |                    |               |             |   |              |          |  |   |   |
| <p>In the Giant Kingdom, the bigger worms give piggyback rides to the smaller worms. Use your inchworm ruler and your paper footworm and yardworm strips to help solve the problems below.</p>  <ol style="list-style-type: none"> <li>1 How many inchworms can ride piggyback on a footworm at one time? _____</li> <li>2 How many footworms can ride piggyback on a yardworm at one time? _____</li> <li>3 One day, 27 inchworms were waiting for a ride at the pickup spot. Along came 2 footworms.             <ol style="list-style-type: none"> <li>a Can all 27 inchworms ride piggyback at the same time on 2 footworms?</li> </ol> </li> </ol> <p><i>"There are 12 inches in 1 foot, and 3 feet in 1 yard.<br/>Twenty-seven inchworms can't ride piggyback on 2 footworms because each footworm is only 12 inches: 12 + 12 = 24.<br/>Three inchworms won't get a ride because 27 is 3 more than 24."</i></p> | <p>In the giant's garden there are earthworms of various lengths: inchworms, footworms, and yardworms. Students discover that 12 inchworms can take a ride on the back of 1 footworm. Likewise, 3 footworms can ride on the back of a yardworm. These fantasy characters provide a fun context for measuring while helping students remember there are 12 inches in 1 foot and 3 feet in 1 yard.</p>   |                   |                    |                   |                    |               |             |   |              |          |  |   |   |
| <p>How wide is the desk? Use your inchworm ruler to find out. Then use your footworm ruler.</p> <p><i>"The desk measurement in inches is 24 inches wide, but when you measure it in feet, it's only 2 feet wide."</i></p>  <p>Are the measurements the same? Why or why not?</p> <p><i>"They end up meaning the same distance, but the inches number isn't the same as the feet number because inches are a lot smaller than feet."</i></p>   | <p>Students measure an object using two units of different lengths such as inches, then feet.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px auto; width: 80%;"> <p style="text-align: center;">How long do you think our whiteboard is ?</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">100 inchworms</td> <td style="width: 50%;">13 footworms</td> </tr> <tr> <td>75 inchworms</td> <td>10 footworms</td> </tr> <tr> <td>150 inchworms</td> <td>8 footworms</td> </tr> <tr> <td></td> <td>20 footworms</td> </tr> </table>  </div> <p>Students compare standard units of measurement and explore how the size of the unit impacts the number of units necessary to measure the object. In this example, the students' estimates show an understanding that inches are much smaller than feet.</p>   | 100 inchworms     | 13 footworms       | 75 inchworms      | 10 footworms       | 150 inchworms | 8 footworms |   | 20 footworms |          |  |   |   |
| 100 inchworms  | 13 footworms   |                   |                    |                   |                    |               |             |   |              |          |  |   |   |
| 75 inchworms   | 10 footworms   |                   |                    |                   |                    |               |             |   |              |          |  |   |   |
| 150 inchworms  | 8 footworms  |                   |                    |                   |                    |               |             |   |              |          |  |   |   |
|  | 20 footworms   |                   |                    |                   |                    |               |             |   |              |          |  |   |   |