Reason about the area of a plane figure by comparing the size of the units

Warm-up question:

Joe and Kendra are cousins who attend different schools.

Joe states, “The area of my playground is 2,500!”

Kendra replies, “No way! My playground has a larger area than your playground and the area of my playground is 1,524.”

Is there any way that both Joe’s and Kendra’s statements could be correct?
How do units impact area?

1 square inch 1 square foot

1 square meter 1 square centimeter

Portion Sizes

Grain = 1 slice of bread

Vegetable = 4 spears of asparagus or 12 baby carrots

Fruit = 1 handful of grapes or 1 medium orange or apple

Meat = 1 palm of meat

What square unit would be ideal for finding the area?

What do you think the area of each portion size is?
Main task question:

Complete the inequalities. Show how you know they are true.

<table>
<thead>
<tr>
<th>50 square centimeters</th>
<th>______</th>
<th>15 square inches</th>
</tr>
</thead>
<tbody>
<tr>
<td>40 square inches</td>
<td>______</td>
<td>1 square foot</td>
</tr>
<tr>
<td>18 square centimeters</td>
<td>______</td>
<td>2 square inches</td>
</tr>
<tr>
<td>30 square inches</td>
<td>______</td>
<td>______ square centimeters</td>
</tr>
<tr>
<td>______ square inches</td>
<td>______</td>
<td>45 square centimeters</td>
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</tbody>
</table>

Task Debrief:

1. What do the numbers in the problem represent?
2. What is the relationship between the quantities?
3. What strategies or tools might help you?
4. Have you tried making an estimate?
5. What is something that has an area of about 50 square centimeters? (Use with any measurement.)
6. How can you prove which measurement is larger?
7. How does the shape you arrange the squares in affect the area?
8. What ways can you check if the area of your rectangle is accurate?
9. Order the following units from least to greatest: 1 square foot, 1 square inch, 1 square meter, 1 square centimeter.
10. How can 2 square inches be larger than 6 square centimeters?
11. How can you prove which has a larger area?
12. How do a rectangle's length and width help determine the area?
Big Idea of Lesson:

Order from least to greatest:

200 square centimeters, 20 square feet, 40 square inches, 1 square meter