Focus Standards and Claim

Claim 4
5.MD.C.5

Stimulus

Picking a Pet

Your class is trying to decide what type of animal to get for the class pet. Your teacher is letting the class vote to choose a goldfish, a turtle, or a hamster as the class pet. All 20 students in your class voted for both their 1st choice and their 2nd choice for the class pet. The results are shown in Table 1.

Table 1. Class Pet Votes

<table>
<thead>
<tr>
<th>Student</th>
<th>1st Choice</th>
<th>2nd Choice</th>
<th>Student</th>
<th>1st Choice</th>
<th>2nd Choice</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Turtle</td>
<td>Hamster</td>
<td>11</td>
<td>Turtle</td>
<td>Hamster</td>
</tr>
<tr>
<td>2</td>
<td>Goldfish</td>
<td>Hamster</td>
<td>12</td>
<td>Turtle</td>
<td>Goldfish</td>
</tr>
<tr>
<td>3</td>
<td>Goldfish</td>
<td>Turtle</td>
<td>13</td>
<td>Hamster</td>
<td>Turtle</td>
</tr>
<tr>
<td>4</td>
<td>Hamster</td>
<td>Turtle</td>
<td>14</td>
<td>Hamster</td>
<td>Goldfish</td>
</tr>
<tr>
<td>5</td>
<td>Goldfish</td>
<td>Turtle</td>
<td>15</td>
<td>Turtle</td>
<td>Goldfish</td>
</tr>
<tr>
<td>6</td>
<td>Turtle</td>
<td>Goldfish</td>
<td>16</td>
<td>Goldfish</td>
<td>Turtle</td>
</tr>
<tr>
<td>7</td>
<td>Hamster</td>
<td>Goldfish</td>
<td>17</td>
<td>Turtle</td>
<td>Goldfish</td>
</tr>
<tr>
<td>8</td>
<td>Turtle</td>
<td>Goldfish</td>
<td>18</td>
<td>Turtle</td>
<td>Goldfish</td>
</tr>
<tr>
<td>9</td>
<td>Goldfish</td>
<td>Hamster</td>
<td>19</td>
<td>Turtle</td>
<td>Hamster</td>
</tr>
<tr>
<td>10</td>
<td>Goldfish</td>
<td>Hamster</td>
<td>20</td>
<td>Goldfish</td>
<td>Hamster</td>
</tr>
</tbody>
</table>
Your principal surprises you by buying your class a turtle. He brings the turtle to your class along with a sheet from the pet store titled “Turtle Tank Rules”.

The rules state:
- Tank walls must be at least 1 foot tall so the turtle can’t climb out.
- There must be at least 400 square inches of floor space for the turtle to walk around on.

Your teacher says the volume of the tank must be smaller than 5000 cubic inches so it doesn’t take up too much room in the classroom.

Give the dimensions of a tank that would work for your new turtle. Use words and numbers to explain how your tank satisfies the “Turtle Tank Rules” and your teacher’s requirement.

Volume of a rectangular prism = length x width x height

Sample Responses

**Sample Response A**
The dimensions that I used work because it is one foot tall, there is 416 space for the turtle to walk, and it is less than 5000 inches so it doesn’t take up too much space.
Length = 26 in long
Width = 16 in
Height = 12 in tall

**Sample Response B**
2 x 700 x 3 = 4,200

**Sample Response C**
Since the floor has to be at least 400 sqi I decided the width 40 and length 10. Which equals 400. Then I multiplied 400 by 12 and got 1800 square inches. Since 12in is equal to 1 ft the tank is big enough for the turtle and it can’t climb out. Also it is not too big for the classroom since 4800 in is under 5000 inches.
| Sample Response D | Length = 50 inches  
|                  | Width = 8 inches       
|                  | Height = 12 inches     |
| Sample Response E | length: 400 
|                  | width: 1 ft            
|                  | height: 1 ft           
|                  | 1 foot = 12 inches     
|                  | 400 x 1 = 400         
|                  | 400 x 12 = 4800       
|                  | 4800 inch squared      |
| Sample Response F | The dimensions of a functional tank for the turtle could be 8in. by 50in. by 12in. This tank is functional because it follows the teachers “Turtle Tank Rules.” 
|                  | Length = 50 in         
|                  | Width = 1 ft or 12 in  
|                  | Height = 8 in          |
| Sample Response G | 12x100=1200 x4 = 4800 
|                  | The dimensions are One hundred four and twelve because One hundred times four is tour hundred and four hundred times twelve is 4800 
|                  | l=100in               
|                  | w=4in                 
|                  | H=12in                |
| Sample Response H | Length = 500 
|                  | Width = 10            
|                  | Height = 1 foot        |