How have I done today?
The times table I feel most confident with is: .................................................................
The times table I’m trying to improve is: ..............................................................................
Next time, I would like my score to be: /96
Y3 Au4

ANSWERS - AUTUMN 4

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<tr>
<td>6</td>
<td>60</td>
<td>24</td>
<td>18</td>
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<td>5</td>
<td>50</td>
<td>20</td>
<td>15</td>
<td>40</td>
</tr>
<tr>
<td>8</td>
<td>80</td>
<td>32</td>
<td>24</td>
<td>64</td>
</tr>
</tbody>
</table>

How have I done today?
The times table I feel most confident with is: .................................
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Next time, I would like my score to be: /96

Primary Times Tables YEAR 3 © Popcorn Education
Matilda's Multiplication

I can calculate mathematical statements for the 2, 5 and 10 times tables.

Fill in the number sentences to match Matilda's clue.

1. \( \times 2 \) = 

2. \( \times 10 \) = 

3. \( \times \) = 

4. \( \times \) = 

\[ \text{Images of eggs and purses}\]
5. I have 9 packets of football cards. There are 5 cards in each packet. How many cards do I have altogether?

6. Can you make up one of your own?

7. I have 9 packets of football cards. There are 5 cards in each packet. How many cards do I have altogether?

8. Can you make up one of your own?
Matilda's Multiplication

I can calculate mathematical statements for the 2, 5 and 10 times tables.

Fill in the number sentences to match Matilda's clue.

1. \[ \times 2 = \square \]  
   \[ \text{IN} \] \[ \text{OUT} \]  
   \[ \text{●●●●●} \]

2. \[ \times 10 = \square \]  
   \[ \text{IN} \] \[ \text{OUT} \]  
   \[ \text{●●●●●} \]

3. \[ \times \square = \square \]  
   \[ \text{IN} \] \[ \text{OUT} \]  
   \[ \text{●●●●●} \]

4. \[ \times \square = \square \]  
   \[ \text{IN} \] \[ \text{OUT} \]  
   \[ \text{●●●●●} \]
Matilda's Multiplication

5. I have 9 pairs of socks to hang on the line. How many pegs do I need?

6. Can you make up two of your own? Draw a picture and write a puzzle to match the sentence you put into the machine.

7. 

---
Matilda's Multiplication

I can calculate mathematical statements for the 2, 5 and 10 times tables.

Fill in the number sentences to match Matilda's clue, then write a puzzle for each one.

1. \[\text{IN} \times \_ = \text{OUT}\]

2. \[\text{IN} \times \_ = \text{OUT}\]

3. \[\text{IN} \times \_ = \text{OUT}\]
Can you make up one of your own? Draw a picture and write a puzzle to match the sentence you put into the machine.

7. What multiplication sentences might Matilda have put into the machine to get 30 coming out? How many can you think of?
## Answers

<table>
<thead>
<tr>
<th>1.</th>
<th>$7 \times 2 = 14$</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.</td>
<td>$3 \times 10 = 30$</td>
</tr>
<tr>
<td>3.</td>
<td>$11 \times 2 = 22$</td>
</tr>
<tr>
<td>4.</td>
<td>$3 \times 5 = 15$</td>
</tr>
<tr>
<td>5.</td>
<td>$12 \times 2 = 24$</td>
</tr>
<tr>
<td>6.</td>
<td>$7 \times 10 = 70$</td>
</tr>
<tr>
<td>7.</td>
<td>$9 \times 5 = 45$</td>
</tr>
<tr>
<td>8.</td>
<td>Accept any multiplication sentence with a matching array, picture or word puzzle.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1.</th>
<th>$5 \times 2 = 10$</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.</td>
<td>$8 \times 2 = 16$</td>
</tr>
<tr>
<td>3.</td>
<td>$10 \times 5 = 50$</td>
</tr>
<tr>
<td>4.</td>
<td>$5 \times 5 = 25$</td>
</tr>
<tr>
<td>5.</td>
<td>$9 \times 2 = 18$</td>
</tr>
<tr>
<td>6.</td>
<td>Accept any multiplication sentence with a matching array, picture or word puzzle.</td>
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</table>

<table>
<thead>
<tr>
<th>1.</th>
<th>$12 \times 10 = 120$</th>
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</thead>
<tbody>
<tr>
<td>2.</td>
<td>$8 \times 5 = 40$</td>
</tr>
<tr>
<td>3.</td>
<td>$12 \times 5 = 60$</td>
</tr>
<tr>
<td>4.</td>
<td>$6 \times 2 = 12$</td>
</tr>
<tr>
<td>5.</td>
<td>Accept any multiplication sentence with a matching array, picture or word puzzle.</td>
</tr>
<tr>
<td>6.</td>
<td>$3 \times 10 = 30; 6 \times 5 = 30; 15 \times 2 = 30; 1 \times 30 = 30; these may all be reversed.</td>
</tr>
</tbody>
</table>
1) Complete these statements.
   a) 1 pod contains 3 peas.
   b) 3 pods contain ____ peas.
   c) ____ pods contain 21 peas.
   d) 12 pods contain ____ peas.

2) Which statements match this image? Circle them.

3) Complete these statements.

<table>
<thead>
<tr>
<th></th>
<th>a) 1 × ____ = 3</th>
<th>b) 7 × 3 = ____</th>
</tr>
</thead>
<tbody>
<tr>
<td>c)</td>
<td>____ × 3 = 6</td>
<td>d) ____ × 3 = 24</td>
</tr>
<tr>
<td>e)</td>
<td>3 × 3 = ____</td>
<td>f) 9 × 3 = ____</td>
</tr>
<tr>
<td>g)</td>
<td>4 × ____ = 12</td>
<td>h) ____ × 3 = 30</td>
</tr>
<tr>
<td>i)</td>
<td>5 × 3 = ____</td>
<td>j) 11 × 3 = ____</td>
</tr>
<tr>
<td>k)</td>
<td>____ × 3 = 18</td>
<td>l) ____ × 3 = 36</td>
</tr>
</tbody>
</table>
1) Pippa has used different models to represent some facts from the three times table. Paulo says she has made some mistakes. Do you agree with Paulo? Explain your reasons.

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<th>Explanation:</th>
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<tbody>
<tr>
<td>a)</td>
<td>3 [\times] 3 [\times] 3 [\times] 3 [\times] 3 [\times] 3 = 24</td>
</tr>
<tr>
<td>b)</td>
<td>[Visual representation of 24 groups of 3 cubes]</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Explanation:</th>
</tr>
</thead>
<tbody>
<tr>
<td>c)</td>
<td>2 [\times] 5 [\times] 3 = 30</td>
</tr>
<tr>
<td>d)</td>
<td>4 [\times] 3 + 2 [\times] 2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Explanation:</th>
</tr>
</thead>
<tbody>
<tr>
<td>e)</td>
<td>3 + 3 + 3 + 3 + 3 = 18</td>
</tr>
<tr>
<td>f)</td>
<td>[Visual representation of sum of 3+3+3+3+3]</td>
</tr>
</tbody>
</table>

2) Paulo says, “Half of the numbers in the three times table are odd numbers.” Explain why this is correct.
Priya is planning how to arrange the tables in her new cafe.

1) Priya has a total of 12 tables but can't remember how many are rectangles and how many are circles. (She has at least one of each type of table.) How many people could she fit into the café? Find all the possibilities.

2) Priya thinks she will need enough seats for 38 people. How many of each table might she use? Find all the possibilities.

Explain to a friend how you worked systematically.
1) 
   a) 12  
   b) 7  
   c) 48  

2) 
<table>
<thead>
<tr>
<th>Expression</th>
<th>Answer</th>
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<td>6 × 4 = 24</td>
<td>✓</td>
</tr>
<tr>
<td>4 ÷ 6 = 24</td>
<td>X</td>
</tr>
<tr>
<td>4 × 6 = 24</td>
<td>✓</td>
</tr>
<tr>
<td>24 ÷ 4 = 6</td>
<td>✓</td>
</tr>
<tr>
<td>6 ÷ 4 = 24</td>
<td>X</td>
</tr>
</tbody>
</table>

3) 

<p>| | | | | | |</p>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1 × 4 = 4</td>
<td>7 × 4 = 28</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 × 4 = 8</td>
<td>8 × 4 = 32</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 × 4 = 12</td>
<td>9 × 4 = 36</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 × 4 = 16</td>
<td>10 × 4 = 40</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 × 4 = 20</td>
<td>11 × 4 = 44</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 × 4 = 24</td>
<td>12 × 4 = 48</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1) Paulo is right. The multiples in the four times table increase by 4 each time. 4 is an even number. If you add two even numbers, you will get an even number. As you are always adding an even number, the pattern will continue to be even numbers.

2) 
   a) This model correctly shows 6 × 4 = 24.
   b) This model is incorrect. The answer should be 12.
   c) Paulo has made a mistake. The calculation shows 5 lots of 4, which is 20.
   d) Paulo has made a mistake. Although the towers contain 16 cubes, which is a multiple of the 4 times table, the towers are not in equal groups of 4.
   e) This model correctly shows 8 × 4 = 32.
   f) This model correctly shows 24 ÷ 4 = 6.
1) Raul has 15 biscuits.

2) Raul could have between 31 and 39 toys.

<table>
<thead>
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<th>Packs of 4</th>
<th>Total Number of Toys</th>
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<td>1</td>
<td>9</td>
<td>1 × 3 = 3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>9 × 4 = 36</td>
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<td></td>
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<td>36 + 3 = 39</td>
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<td>2</td>
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<td>2 × 3 = 6</td>
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<td></td>
<td></td>
<td>8 × 4 = 32</td>
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<td></td>
<td></td>
<td>32 + 6 = 38</td>
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<td>3</td>
<td>7</td>
<td>3 × 3 = 9</td>
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<tr>
<td></td>
<td></td>
<td>7 × 4 = 28</td>
</tr>
<tr>
<td></td>
<td></td>
<td>28 + 9 = 37</td>
</tr>
<tr>
<td>4</td>
<td>6</td>
<td>4 × 3 = 12</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6 × 4 = 24</td>
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<td></td>
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<td>24 + 12 = 36</td>
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<td>5</td>
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<td>5 × 3 = 15</td>
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<td>5 × 4 = 20</td>
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<td></td>
<td></td>
<td>20 + 15 = 35</td>
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<td>6</td>
<td>4</td>
<td>6 × 3 = 18</td>
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<tr>
<td></td>
<td></td>
<td>4 × 4 = 16</td>
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<td></td>
<td></td>
<td>18 + 16 = 34</td>
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<td>7</td>
<td>3</td>
<td>7 × 3 = 21</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 × 4 = 12</td>
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<td>21 + 12 = 33</td>
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<td>8 × 3 = 24</td>
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<td></td>
<td>2 × 4 = 8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>24 + 8 = 32</td>
</tr>
<tr>
<td>9</td>
<td>1</td>
<td>9 × 3 = 27</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 × 4 = 4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>27 + 4 = 31</td>
</tr>
</tbody>
</table>
The 4 times-table

1. Complete the multiplication.
   a) 
   \[ \square \times \square = \square \]
   b) 
   \[ \square \times \square = \square \]

2. Complete the number sentences.
   a) \(6 \times 4 = \square\)
   g) \(24 \div 4 = \square\)
   b) \(4 \times 3 = \square\)
   h) \(8 \div 4 = \square\)
   c) \(\square = 7 \times 4\)
   i) \(0 \div 4 = \square\)
   d) \(4 \times \square = 48\)
   j) \(\square \div 11 = 4\)
   e) \(0 \times 4 = \square\)
   k) \(\square \div 4 = 5\)
   f) \(4 \times 9 = \square\)
   l) \(1 \times 4 = \square\)

What multiplication and division statements does the array represent?

Complete the statements.

\[ \square \times \square = \square \]
\[ \square \times \square = \square \]
\[ \square \div \square = \square \]
\[ \square \div \square = \square \]

3. Complete the number sentences.
   a) \(2 \times 4 = \square\)
   c) \(3 \times 4 = \square\)
   b) \(8 = 4 \times \square\)
   d) \(8 \times 4 = \square\)
   e) \(3 \times 8 = \square\)
   f) \(3 \times 12 = \square\)
   g) \(3 \times 12 = \square\)
   h) \(3 \times 12 = \square\)

What patterns do you notice?
5 Write <, > or = to compare the statements.

a) \( 48 \div 12 \) 4
b) 36 40 \( \div 4 \)
c) \( 16 \div 4 \) 4 \( \times 4 \)
d) \( 4 \div 4 \) 4 \( \times 4 \)
e) \( 1 \times 4 \) 4 \( \times 1 \)
f) \( 4 \times 2 \) 32 \( \div 4 \)

6 A paper clip is 4 cm long.

How long are 6 of these paper clips?

7 Dexter buys 10 mugs and 4 key rings. How much money does he spend in total?

8 The pictogram shows the animals a group of children have as pets. Complete the pictogram.

<table>
<thead>
<tr>
<th>Animal</th>
<th>Pictogram</th>
<th>Number of animals</th>
</tr>
</thead>
<tbody>
<tr>
<td>cat</td>
<td></td>
<td></td>
</tr>
<tr>
<td>dog</td>
<td></td>
<td>28</td>
</tr>
<tr>
<td>bird</td>
<td></td>
<td></td>
</tr>
<tr>
<td>mouse</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\( \bigcirc = 4 \) animals

9 Some of the numbers in the 4 times-table are even, but not all of them. All numbers in the 4 times-table are even.

Who is correct? ____________________________

How do you know? Talk about it with a partner.
The 4 times-table

1. Complete the multiplication.
   a) \[8 \times 4 = 32\]
   b) \[4 \times 3 = 12\]

2. Complete the number sentences.
   a) \[6 \times 4 = 24\]
   b) \[4 \times 3 = 12\]
   c) \[28 = 7 \times 4\]
   d) \[4 \times 12 = 48\]
   e) \[0 \times 4 = 0\]
   f) \[4 \times 9 = 36\]
   g) \[24 \div 4 = 6\]
   h) \[8 \div 4 = 2\]
   i) \[0 \div 4 = 0\]
   j) \[44 \div 11 = 4\]
   k) \[20 \div 4 = 5\]

3. What multiplication and division statements does the array represent?
   Complete the statements.
   \[4 \times 7 = 28\]
   \[7 \times 4 = 28\]
   \[28 \div 7 = 4\]
   \[28 \div 4 = 7\]

4. Complete the number sentences.
   a) \[2 \times 4 = 8\]
   b) \[8 = 4 \times 2\]
   c) \[3 \times 4 = 12\]
   d) \[4 \times 4 = 16\]
   e) \[8 \times 4 = 32\]
   f) \[16 = 4 \times 4\]
   g) \[32 = 4 \times 8\]
   h) \[3 \times 8 = 24\]
   i) \[3 \times 12 = 36\]

What patterns do you notice?
Write <, > or = to compare the statements.

a) $48 \div 12 \overset{=}{\underset{<}{\sim}} 4$

d) $4 \div 4 \overset{<}{\underset{=}{\sim}} 4 \times 4$

b) $36 \overset{>}{\underset{=}{\sim}} 40 \div 4$

e) $1 \times 4 \overset{=}{\underset{=}{\sim}} 4 \times 1$

c) $16 \div 4 \overset{<}{\underset{=}{\sim}} 4 \times 4$

f) $4 \times 2 \overset{=}{\underset{=}{\sim}} 32 \div 4$

A paper clip is 4 cm long.

How long are 6 of these paper clips?

Dexter buys 10 mugs and 4 key rings. How much money does he spend in total?

Some of the numbers in the 4 times-table are even, but not all of them. All numbers in the 4 times-table are even.

Who is correct? Eva

How do you know? Talk about it with a partner.

The pictogram shows the animals a group of children have as pets.

Complete the pictogram.

<table>
<thead>
<tr>
<th>Animal</th>
<th>Pictogram</th>
<th>Number of animals</th>
</tr>
</thead>
<tbody>
<tr>
<td>cat</td>
<td>☐ ☐ ☐ ☐</td>
<td>16</td>
</tr>
<tr>
<td>dog</td>
<td>☐ ☐ ☐ ☐ ☐</td>
<td>28</td>
</tr>
<tr>
<td>bird</td>
<td>☐ ☐ ☐ ☐</td>
<td>20</td>
</tr>
<tr>
<td>mouse</td>
<td>☐</td>
<td>4</td>
</tr>
</tbody>
</table>

= 4 animals
1. How many are there in total?
Complete the multiplications.
   a) \[ \square \times \square = \square \]
   b) \[ \square \times \square = \square \]

2. Complete the number tracks.
   a) \[ 0 \quad 8 \quad 16 \quad 24 \quad \square \quad \square \quad \square \quad \square \]
   b) \[ 96 \quad 88 \quad 80 \quad \square \quad \square \quad \square \quad \square \]

3. Here is an array made up of triangles.
   a) What multiplication sentence can you see?
      \[ \square \times \square = \square \]
   b) What division sentence can you see?
      \[ \square \div \square = \square \]

4. Complete the calculations.
   Try to do the calculations in your head.
   a) \[ 6 \times 8 = \square \]
   b) \[ 8 \times \square = 56 \]
   c) \[ 10 \times 8 = \square \]
   d) \[ \square = 8 \times 4 \]
   e) \[ 72 \div 8 = \square \]
   f) \[ \square \div 11 = 8 \]
   g) \[ \square \div 8 = 5 \]
   h) \[ 8 \times 1 = \square \]
Boats can be hired on a lake. There are 5 large boats and 8 small boats on the lake. Each boat is full. How many people are on the lake?

Put the numbers into the sorting diagram.

Are any of the parts empty? Why? Talk about it with a partner.

5 What multiplication can you see?

6 Complete the multiplications.

a) \(2 \times 8 = \) \_

b) \(8 = 8 \times \) \_

\(4 \times 8 = \) \_

\(16 = 8 \times \) \_

\(8 \times 8 = \) \_

\(32 = 8 \times \) \_

What patterns do you notice?

7 a) Amir draws 7 jumps of 8 on a number line.

What number does Amir end on? \_

Explain how you worked it out.

b) This time, Amir makes 7 jumps of 8, but starts from 1

What number does Amir end on this time? \_

Explain how you know.
The 8 times-table

1. How many are there in total?
   Complete the multiplications.
   a) \[
   \begin{array}{l}
   5 \times 8 = 40 \\
   \end{array}
   \]
   b) \[
   \begin{array}{l}
   4 \times 8 = 32 \\
   \end{array}
   \]

2. Complete the number tracks.
   a) \[
   \begin{array}{l}
   0 \quad 8 \quad 16 \quad 24 \quad 32 \quad 40 \quad 48 \quad 56 \\
   \end{array}
   \]
   b) \[
   \begin{array}{l}
   96 \quad 88 \quad 80 \quad 72 \quad 64 \quad 56 \quad 48 \quad 40 \\
   \end{array}
   \]

3. Here is an array made up of triangles.
   a) What multiplication sentence can you see?
   \[
   8 \times 8 = 64
   \]
   b) What division sentence can you see?
   \[
   64 \div 8 = 8
   \]

4. Complete the calculations.
   Try to do the calculations in your head.
   a) \[
   6 \times 8 = 48 \\
   \]
   e) \[
   72 \div 8 = 9 \\
   \]
   b) \[
   8 \times \underline{7} = 56 \\
   \]
   f) \[
   \underline{86} \div 11 = 8 \\
   \]
   c) \[
   10 \times 8 = \underline{80} \\
   \]
   g) \[
   \underline{40} \div 8 = 5 \\
   \]
   d) \[
   \underline{32} = 8 \times 4 \\
   \]
   h) \[
   8 \times 1 = \underline{8} \\
   \]

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5. What multiplication can you see?

6. Complete the multiplications.
   a) $2 \times 8 = 16$
   b) $8 = 8 \times 1$
   $4 \times 8 = 32$
   $16 = 8 \times 2$
   $8 \times 8 = 64$
   $32 = 8 \times 4$

   What patterns do you notice?

7. a) Amir draws 7 jumps of 8 on a number line.

   What number does Amir end on? 56
   Explain how you worked it out.

   b) This time, Amir makes 7 jumps of 8, but starts from 1.

   What number does Amir end on this time? 57
   Explain how you know.

8. Boats can be hired on a lake.
   There are 5 large boats and 8 small boats on the lake.
   Each boat is full.
   How many people are on the lake?
   Put the numbers into the sorting diagram.

   Are any of the parts empty? Why?
   Talk about it with a partner.

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## Year 3 Multiplication and Division

### Word Problems x3, x4, x8

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>How many wheels would 9 tricycles have?</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>24 people travel to an airport in taxis. 4 people travel in each taxi. How many taxis are used?</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Hanan is a keen archer. One day she shoots 5 arrows. Each arrow scores an 8. What is her total score?</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Three judges award 27 marks overall. They each give the same score. What score did they each give?</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Cinema tickets are £8. Six people go to see a film. How much will they pay altogether?</td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>Cans of lemonade are sold in packs of 4. Cherie wants 36 cans for a party. How many packs should she buy?</td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>Trish, Karen and Layla share equally a packet of nuts. There are 21 nuts in the pack. How many nuts do each get?</td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>A machine making mango pieces puts 8 pieces in each snack packet. The machine makes 88 pieces in 1 minute. How many packets are filled every minute?</td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>A carpenter makes tables. Some have 3 legs and some have 4 legs. He plans to make 5 tables with 3 legs, and 4 tables with 4 legs. How many legs will he need?</td>
<td></td>
</tr>
</tbody>
</table>
## Year 3 Multiplication and Division Word Problems x3 x4 x8 *Answers*

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>27 wheels</td>
</tr>
<tr>
<td>2</td>
<td>6 taxis</td>
</tr>
<tr>
<td>3</td>
<td>40</td>
</tr>
<tr>
<td>4</td>
<td>9 marks</td>
</tr>
<tr>
<td>5</td>
<td>£48</td>
</tr>
<tr>
<td>6</td>
<td>9 packs</td>
</tr>
<tr>
<td>7</td>
<td>7 nuts each</td>
</tr>
<tr>
<td>8</td>
<td>11 packs</td>
</tr>
<tr>
<td>9</td>
<td>31 legs</td>
</tr>
</tbody>
</table>