Pack 1: Numbers
Session A) Counting and grouping
Session B) Value of the place
Session C) Regrouping
Session D) Build and adjust

Pack 3: Multiplication facts
Session A) Multiplication facts
Session B) Doubling
Session C) Multiples of 10 and 5
Session D) Derived facts

Pack 4: Multiplication strategies
Session A) Adjusting a factor by 1
Session B) Monthly payments
Session C) Adjusting a factor by 10
Session D) Exploring calculation strategies

Pack 11: Division strategies
Session A) Division and multiplication
Session B) Halving strategies
Session C) Division structures
Session D) Models of division
Timing
Each session is 30 minutes
20 minute Talk Task and 10 minute independent activity

Session guidance
Get talking and grow your language.

Use equipment, manipulatives, models and images to show and explain.

Challenge yourself to think mathematically. Use the Prompts for Thinking listed below to help build up habits in the way you think about mathematical situations.

Reason it
Explain how you know. Focus on reasons rather than answers. What could you say, do, draw or write to help someone else understand?

Generate examples and non-examples
What are the important features? What features are not important (e.g. colour)?

True or false?
If true, give examples to support your answer. If false, give a counter example.

Find all possibilities
Have you found all the possible answers? How do you know? Did you work systematically?

What’s the same? What’s different?
Compare and contrast and look for connections. How many different answers can you give?

Always, sometimes or never true?
Give examples to show if the statement is always, sometimes or never true. How do you know?
Pack 1 Session A  
**Activity:** Counting and grouping

1) Complete the table to show each number with Dienes and in words.

<table>
<thead>
<tr>
<th>number</th>
<th>Dienes</th>
<th>words</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>One hundred and fifty four</td>
</tr>
<tr>
<td>307</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2) If you count in steps of 10 starting at 56, will you say these numbers? Tick the ones you will say. What other numbers would you say?

65  Ninety six
106 One hundred and ten
160 Two hundred and twenty six
Talk Task: The value of the place

How many different 2-digit and 3-digit numbers can you build and write with these digits?

3  1  4

Four hundred and thirteen

Fourteen

How do you know you have found them all?
Activity: The value of the place

1) Use these digits to create numbers for each of the properties

\[
\begin{array}{ccc}
5 & 2 & 4
\end{array}
\]

a) A number less than 100

b) A number greater than 300

c) An even number

d) A number that you can show with 7 Dienes blocks

e) An odd number

2) Generate at least two examples and non-examples for each

<table>
<thead>
<tr>
<th>Examples</th>
<th>Non-examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>A number with 4 tens that is greater than 500</td>
<td></td>
</tr>
<tr>
<td>An even number with 3 hundreds</td>
<td></td>
</tr>
<tr>
<td>A number with 6 ones that is greater than 100 but less than 200</td>
<td></td>
</tr>
</tbody>
</table>
Pack 1 Session C
Talk Task: Counting coins

What is the same? What is different?
Use Dienes to explain and show why
Pack 1 Session C  
**Activity**: Regrouping

1) Match the representations

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- $90 + 14$  
- $90 + 55$  
- $100 + 40 + 14$

- $5$ tens and $95$ ones  
- $1$ hundred, $2$ tens and $34$ ones  
- $4$ tens and $64$ ones

2) Fill in the blanks to show each number in different ways. How many more can you think of?

<table>
<thead>
<tr>
<th>Number</th>
<th>Representation</th>
</tr>
</thead>
<tbody>
<tr>
<td>$42$</td>
<td>$40 + [ ]+ 12$</td>
</tr>
<tr>
<td></td>
<td>$20 + [ ]+ 21$</td>
</tr>
<tr>
<td>$84$</td>
<td>$[ ]+ 4 + 60 + [ ]$</td>
</tr>
<tr>
<td>$168$</td>
<td>$[ ]+ 60 + 8$</td>
</tr>
<tr>
<td></td>
<td>$51 + [ ]$</td>
</tr>
</tbody>
</table>
Pack 1 Session D

Talk Task: Build and adjust

Exactly ten blocks
What numbers can and cannot be shown?

Adjust your model
Add one block.
What could happen? What could not happen?

Take away one block.
What could happen? What could not happen?

Choose a number. Add 10

The digit in the ones place changes.
The digit in the tens place changes.
The digit in the hundreds place changes.

Explore if the statements are always, sometimes or never true.
Pack 1 Session D

**Activity:** Build and adjust

1) Draw and write numbers with **exactly five Dienes blocks**

![Dienes blocks representation]

2) Circle always, sometimes or never and give examples to support your answer.

- **Always**
  - If you add 1 to a number, the digit in the ones place changes.

- **Sometimes**
  - If you add 1 to a number, the digit in the tens place changes.

- **Never**
  - If you add 1 to a number, the digit in the hundreds place changes.
Pack 3 Session A
Talk Task: Multiplication facts

<table>
<thead>
<tr>
<th>×</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>0</td>
<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>
<td>11</td>
<td>12</td>
</tr>
<tr>
<td>2</td>
<td>0</td>
<td>2</td>
<td>4</td>
<td>6</td>
<td>8</td>
<td>10</td>
<td>12</td>
<td>14</td>
<td>16</td>
<td>18</td>
<td>20</td>
<td>22</td>
<td>24</td>
</tr>
<tr>
<td>3</td>
<td>0</td>
<td>3</td>
<td>6</td>
<td>9</td>
<td>12</td>
<td>15</td>
<td>18</td>
<td>21</td>
<td>24</td>
<td>27</td>
<td>30</td>
<td>33</td>
<td>36</td>
</tr>
<tr>
<td>4</td>
<td>0</td>
<td>4</td>
<td>8</td>
<td>12</td>
<td>16</td>
<td>20</td>
<td>24</td>
<td>28</td>
<td>32</td>
<td>36</td>
<td>40</td>
<td>44</td>
<td>48</td>
</tr>
<tr>
<td>5</td>
<td>0</td>
<td>5</td>
<td>10</td>
<td>15</td>
<td>20</td>
<td>25</td>
<td>30</td>
<td>35</td>
<td>40</td>
<td>45</td>
<td>50</td>
<td>55</td>
<td>60</td>
</tr>
<tr>
<td>6</td>
<td>0</td>
<td>6</td>
<td>12</td>
<td>18</td>
<td>24</td>
<td>30</td>
<td>36</td>
<td>42</td>
<td>48</td>
<td>54</td>
<td>60</td>
<td>66</td>
<td>72</td>
</tr>
<tr>
<td>7</td>
<td>0</td>
<td>7</td>
<td>14</td>
<td>21</td>
<td>28</td>
<td>35</td>
<td>42</td>
<td>49</td>
<td>56</td>
<td>63</td>
<td>70</td>
<td>77</td>
<td>84</td>
</tr>
<tr>
<td>8</td>
<td>0</td>
<td>8</td>
<td>16</td>
<td>24</td>
<td>32</td>
<td>40</td>
<td>48</td>
<td>56</td>
<td>64</td>
<td>72</td>
<td>80</td>
<td>88</td>
<td>96</td>
</tr>
<tr>
<td>9</td>
<td>0</td>
<td>9</td>
<td>18</td>
<td>27</td>
<td>36</td>
<td>45</td>
<td>54</td>
<td>63</td>
<td>72</td>
<td>81</td>
<td>90</td>
<td>99</td>
<td>108</td>
</tr>
<tr>
<td>10</td>
<td>0</td>
<td>10</td>
<td>20</td>
<td>30</td>
<td>40</td>
<td>50</td>
<td>60</td>
<td>70</td>
<td>80</td>
<td>90</td>
<td>100</td>
<td>110</td>
<td>120</td>
</tr>
<tr>
<td>11</td>
<td>0</td>
<td>11</td>
<td>22</td>
<td>33</td>
<td>44</td>
<td>55</td>
<td>66</td>
<td>77</td>
<td>88</td>
<td>99</td>
<td>110</td>
<td>121</td>
<td>132</td>
</tr>
<tr>
<td>12</td>
<td>0</td>
<td>12</td>
<td>24</td>
<td>36</td>
<td>48</td>
<td>60</td>
<td>72</td>
<td>84</td>
<td>96</td>
<td>108</td>
<td>120</td>
<td>132</td>
<td>144</td>
</tr>
</tbody>
</table>

What is this grid? How do you read it?

What is the result if a number is multiplied by zero or one?

Are there numbers that appear more than once?

Colour in the facts you know. Which facts do you find tricky?

Are they near each other in the grid?
### Activity: Multiplication facts

<table>
<thead>
<tr>
<th>Multiplication facts I know. I have them memorised:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Multiplication facts I can quickly work out:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Multiplication facts I find tricky:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
Choose a number. Double and double again. You get a multiple of 4.

Double $4 \times 6$ is $8 \times 6$

Double $4 \times 6$ is $4 \times 3$

Double $4 \times 6$ is $6 \times 6$

Double $4 \times 6$ is $4 \times 8$

Double $4 \times 6$ is $4 \times 12$
Pack 3 Session B

Activity: Equal groups

1) Use these arrays and doubling to complete the calculations

2) Give examples to show that each of these strategies works.

3) Match each calculation to a valid strategy and then to the answer.

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Pack 3 Session C
Talk Task: Multiples of 10 and 5

Improve this explanation

To multiply by 10 just add zero

12 + 0 is not 120.

<table>
<thead>
<tr>
<th>Hundreds</th>
<th>Tens</th>
<th>Ones</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>0</td>
</tr>
</tbody>
</table>

The zero is a place holder. What do you think this means?

Use the models and calculations to explain how multiplying by 10 and halving can be used to multiply by 5

\[
3 \times 10 \\
\downarrow \\
\text{Half of 30} \\
\downarrow \\
3 \times 5
\]

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Pack 3 Session C
Activity: Regrouping

1) Write calculations to describe each model.

- \[ \square \times \square = \square \]
- \[ \square \times \square = \square \]
- \[ \square \times \square = \square \]
- \[ \square \times \square = \square \]

2) Decide if the following are true or false. If they are true, then calculate the answer. If they are false, give a correct statement and calculate the answer.

- Half of 80 = 5 \times 8
- 7 \times 5 = \text{half of 30}
- 12 \times 5 = 6 \times 10

3) Use the relationships between multiples of 10 and 5 to complete the calculations

- \[ 12 \times 10 = \square \] \quad \frac{\text{find half}}{} \quad \square = 12 \times 5
- \[ \square \times 10 = 160 \] \quad \frac{\text{find half}}{} \quad 80 = 16 \times \square
- \[ 26 \times \square = 260 \] \quad \frac{\text{find half}}{} \quad \square = 26 \times 5
Talk Task: Derived facts

What multiplication and division facts can these arrays represent?

If both factors are 10 times greater, the product is ___ times greater.

If a factor is 100 times greater, the product is ___ times greater.

If both factors are 10 times greater, the product is ___ times greater.
Copy and complete the calculations this array could represent as the value of each counter is changed.

**Each counter has a value of 1**

\[
\begin{align*}
4 \times 6 &= \underline{24} \\
\underline{24} \times 4 &= 24 \\
24 \div 6 &= \underline{4} \\
\underline{4} \div 4 &= 6
\end{align*}
\]

**Each counter has a value of 10**

\[
\begin{align*}
40 \times 6 &= \underline{240} \\
\underline{240} \times 40 &= 240 \\
240 \div 6 &= \underline{40} \\
240 \div \underline{60} &= 6
\end{align*}
\]

Use the fact that \(4 \times \underline{___} = 28\) to answer the following.

- I do 40 minutes of exercise every day. How many minutes will I have done after 7 days?
- 280 grams of sugar is split into bowls with 40g in each. How many bowls of sugar are there?
- Completing a level of a game gets you 70 points. You manage to do 40 levels, how many points do you have?
- £280 is shared equally between 4 people. How much does each get?
Pack 4 Session A
Talk Task: Derived facts – adjusting a factor by 1

There are 8 apples in each bag.

\[ 8 \times 7 = 56 \]

Take away a bag

Add a bag

Take one apple out of every bag

Add one apple to every bag

\[ 14 \times 6 = 84 \]

14 \times 5 \quad 14 \times 7 \quad 13 \times 6 \quad 15 \times 6

14 \times 5 \text{ is } \underline{\text{less than}} \ 14 \times 6  
13 \times 6 \text{ is } \underline{\text{less than}} \ 14 \times 6  
14 \times 7 \text{ is } \underline{\text{more than}} \ 14 \times 6  
15 \times 6 \text{ is } \underline{\text{more than}} \ 14 \times 6
Pack 4 Session A  
**Activity:** Derived facts – adjusting a factor by 1

1) Use the known fact to place the calculations onto the number line and complete the statements to describe the relationship.

29 × 6 is ____ less than 30 × 6  
31 × 6 is ____ more than 30 × 6  
30 × 5 is ____ less than 30 × 6  
30 × 7 is ____ more than 30 × 6

2) Complete the calculations. What relationships do you notice?

\[
\begin{align*}
3 \times 5 + 3 &= 3 \times \underline{5} \\
4 \times 5 + 4 &= 4 \times \underline{5} \\
5 \times 5 + 5 &= 5 \times \underline{5} \\
6 \times 5 + 6 &= 6 \times \underline{6} \\
7 \times 5 + 7 &= \underline{7} \\
9 \times 2 &= 20 - 2 \\
9 \times 3 &= \underline{3} - 3 \\
9 \times 4 &= 40 - \underline{4} \\
9 \times 5 &= \underline{5} - 5 \\
9 \times 6 &= \underline{6} - 6 \\
9 \times 14 &= 140 - \underline{14}
\end{align*}
\]
I have a Saturday job and I earn £32.

My mobile phone costs £18 a month.

<table>
<thead>
<tr>
<th>Month</th>
<th>1</th>
<th>2</th>
<th>5</th>
<th>10</th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost</td>
<td>18</td>
<td>36</td>
<td></td>
<td></td>
<td>180</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Month</th>
<th>1</th>
<th>2</th>
<th>5</th>
<th>10</th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost</td>
<td></td>
<td></td>
<td></td>
<td>180</td>
<td>216</td>
</tr>
</tbody>
</table>

I have a Saturday job and I earn £32.

<table>
<thead>
<tr>
<th>Week</th>
<th>1</th>
<th>2</th>
<th>5</th>
<th>10</th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Money</td>
<td>32</td>
<td>64</td>
<td></td>
<td></td>
<td>320</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Week</th>
<th>1</th>
<th>2</th>
<th>5</th>
<th>10</th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Money</td>
<td></td>
<td></td>
<td></td>
<td>320</td>
<td>384</td>
</tr>
</tbody>
</table>
**Pack 4 Session B**

**Activity:** Monthly payments

For each situation, write as much information as you can about the cost across a year.

- **My contact lenses cost £14 each month.**

<table>
<thead>
<tr>
<th>Month</th>
<th>1</th>
<th>2</th>
<th>5</th>
<th></th>
<th></th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost</td>
<td>14</td>
<td></td>
<td></td>
<td></td>
<td>140</td>
<td></td>
</tr>
</tbody>
</table>

0 1 2 5 6 10 12
0 14 70 84 140 168

- **My mobile phone costs £23 each month.**

0 1 2 5 6 10 12
0 23 230  |

After 5 months I have paid £155

After 6 months I have paid £186
Talk Task: Derived facts – adjusting by a factor by 10

13 × 4
10 × 4 + 3 × 4

23 × 4
20 × 4 + 3 × 4

33 × 4
30 × 4 + 3 × 4

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Pack 4 Session C

**Activity:** Derived facts – adjusting a factor by 10

1) Label the area models and complete the calculations.

- **10 × 6**
  - $16 \times 3 = [ ] + 18 = [ ]$

- **20 × 6**
  - $26 \times 3 = [ ] + 18 = [ ]$

- **30 × 6**
  - $36 \times 3 = [ ] + 18 = [ ]$

2) Draw models to represent multiplication calculations

- **Draw an array with Dienes to represent 24 × 3**
- **Draw and label a rectangle to represent 29 × 4**

3) Complete the statements.

- $14 \times 5$ is 50 more than $[ ] \times 5$
- $16 \times [ ]$ is 40 more than $6 \times 4$
- $i \times 3$ is 30 less than $18 \times 3$
- $8 \times 7$ is 70 less than $[ ] \times 7$

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**Talk Task:** Exploring calculation strategies

**75 × 4 = 300**

- Double 75 is 150
- Double 150 is 300

**4 × (80 − 5) × 4 = 320 − 20**

- \((80 − 5) \times 4\)
- \(80 \times 4 − 5 \times 4\)
- \(320 − 20\)

**4 × (3 \times 25) \times 4 = 3 \times 100**

- \((3 \times 25) \times 4\)
- \(3 \times (25 \times 4)\)
- \(3 \times 100\)

**75 \times 4 = 300**

- \(75 \times 4\)
- \(300\)

**4 × (70 + 5) × 4 = 280 + 20**

- \((70 + 5) \times 4\)
- \(70 \times 4 + 5 \times 4\)
- \(280 + 20\)
Pack 4 Session D

**Activity:** Exploring calculation strategies

1) Complete the calculations for two ways to calculate \(15 \times 8\)

15

\[
15 \times 8 = 15 \times 10 - 15 \times \_\_\_\_
\]

\[
= 150 - 30
\]

15

\[
15 \times 8 = 15 \times 2 \times \_\_\_\_
\]

\[
= \_\_\_\_\_ \times 4
\]

2) Show with models and calculations three different ways to calculate \(25 \times 12\)
Pack 11 Session A
Talk Task: Division and multiplication

___ is a multiple of ___  
___ is divisible by ___

How many numbers divisible by seven can you place on the line?
Pack 11 Session A  
**Activity:** Division and multiplication

1) Copy and complete the calculations this array could represent as the value of each counter is changed.

a) Each counter has a value of 1

\[
\begin{align*}
3 \times 8 &= 24 \\
\_ \times 3 &= 24 \\
24 \div 8 &= 3 \\
\_ \div 3 &= 8
\end{align*}
\]

b) Each counter has a value of 10

\[
\begin{align*}
30 \times 8 &= 240 \\
\_ \times 30 &= 240 \\
240 \div 8 &= 30 \\
240 \div \_ &= 8
\end{align*}
\]

\[
\begin{align*}
3 \times 80 &= 240 \\
\_ \times 3 &= 240 \\
240 \div 80 &= 3 \\
240 \div \_ &= 10
\end{align*}
\]

\[
\begin{align*}
24 \times 10 &= 240 \\
\_ \times 24 &= 240 \\
240 \div 10 &= 24 \\
240 \div \_ &= 10
\end{align*}
\]

2) Use the fact that $4 \times 6 = 24$ to answer the following:

<table>
<thead>
<tr>
<th>Calculation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>[\text{£240 is shared equally between 4 people. How much does each person get?}]</td>
<td>240 grams of sugar is split into bowls with 60 g in each. How many bowls of sugar are there?</td>
</tr>
<tr>
<td>[\text{Completing a level of a game gets you 60 points. You have 2400 points. How many levels have you completed?}]</td>
<td>I do 40 minutes of exercise every day. How many days until I have done 240 minutes?</td>
</tr>
</tbody>
</table>
Pack 11 Session B
Talk Task: Halving strategies

**Half of 72**

\[ 72 \div 2 \]

72 = 12 \times 6
Half of 12 \times 6 is 12 \times 3

72 = 60 + 12
Half of 60 is 30
Half of 12 is 6

72 = 70 + 2
Half of 70 is 35
Half of 2 is 1

72 = 6 \times 12
Half of 6 \times 12 is 6 \times 6
Pack 11 Session B
Activity: Halving strategies

1) The images show a halving strategy. Complete the boxes.

Two groups of \(\phantom{0000}\) \(\phantom{0000}\)
\[36 \div 2 = \phantom{000}\]
\[36 \div \phantom{000} = 9\]

2) Complete the images to match the steps of the halving strategy.

Half of 24 is 12
\[24 \div 2 = 12\]

Half of 12 is 6
\[24 \div 4 = 6\]

Half of 6 is 3
\[24 \div 8 = 3\]

3) Complete the strategy and show it works with another calculation.

To divide a number by 6, I can halve and then divide by 3

Half of 48 is \(\phantom{000}\)
24 divide by 3 is \(\phantom{000}\)
\[48 \div \phantom{000} = 8\]
Pack 11 Session C  
**Talk Task:** Division structures

There are 30 pencils in each pack. How many packs is 150 pencils?

There are 30 pens in each pack. How many packs is 150 pens?

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**Pencils**

<table>
<thead>
<tr>
<th>Packs</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pencils</td>
<td>0</td>
<td>30</td>
<td>150</td>
<td></td>
</tr>
</tbody>
</table>

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**Pens**

<table>
<thead>
<tr>
<th>Packs</th>
<th>0</th>
<th>1</th>
<th>10</th>
<th>30</th>
<th>?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pens</td>
<td>0</td>
<td>?</td>
<td>150</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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I have 30 packs of pens. I have 150 pens. How many pens in 1 pack?

30 groups of ___ is equal to 150
Pack 11 Session C

**Activity:** Division structures

1) A frog travels 8 cm for each jump.

![Frog diagram](image)

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>8</td>
<td>40</td>
<td>64</td>
<td>120</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a) How far has it travelled after 2 jumps? _cm_

b) How many jumps does it take to travel 40 cm? _

c) How many jumps does it take to travel 64 cm? _

d) How far has it travelled after 10 jumps? _cm_

e) How many jumps does it take to travel 120 cm? _

2) This frog has jumped 15 equal jumps and travelled 75 cm.

![Frog diagram](image)

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>3</th>
<th>5</th>
<th>10</th>
<th>15</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>3</td>
<td>9</td>
<td>15</td>
<td>45</td>
<td>75</td>
</tr>
</tbody>
</table>

a) How far has it travelled after 5 jumps? _cm_

b) How far has it travelled after 10 jumps? _cm_

c) How big is each jump? _cm_

d) How far has it travelled after 3 jumps? _cm_
Talk Task: Models of division

124 ÷ 4 = 31
96 ÷ 3 = 32
124 ÷ 4 = 31
Pack 11 Session D
Activity: Models of division

1) Label the models and complete the calculations.

   \[
   92 \div 4 = [\quad] \\
   [\quad] \times 4 = 92
   \]

   \[
   162 \div 6 = [\quad] \\
   [\quad] \times 4 = 162
   \]

2) Complete the calculations and label the number line.

   a) \( 4 \times 6 = [\quad] \div 6 = 4 \)
   b) \( 30 \times 6 = [\quad] \div 6 = 30 \)
   c) \( 34 \times 6 = [\quad] \div 6 = 34 \)

3) Draw a model to represent \( 72 \div 3 = 23 \)