Contents
Unit 1 ................................................................................................................................... 3
    Whole Numbers ............................................................................................................... 3
    Activity 1 ....................................................................................................................... 3
    Activity 2 ....................................................................................................................... 5
    Activity 3 ....................................................................................................................... 6
Unit 2 ................................................................................................................................... 8
    Multiplication: 4 digit numbers by 3 digit numbers ...................................................... 8
    Activity 1 ....................................................................................................................... 8
    Activity 2 ....................................................................................................................... 9
Informal assessment .......................................................................................................... 10
Unit 3 .................................................................................................................................. 13
    Properties of 3-D objects ............................................................................................. 13
    Activity 1 ..................................................................................................................... 13
    Activity 2 ..................................................................................................................... 14
    Activity 3 ..................................................................................................................... 15
    Activity 4 ..................................................................................................................... 16
    Activity 5 ..................................................................................................................... 17
    Activity 6 ..................................................................................................................... 17
Unit 4 .................................................................................................................................. 18
    Geometric Patterns ...................................................................................................... 18
    Activity 1 ..................................................................................................................... 18
    Activity 2 ..................................................................................................................... 21
Unit 5 .................................................................................................................................. 23
    Geometric patterns and symmetry ............................................................................... 23
    Activity 1 ..................................................................................................................... 23
    Activity 2 ..................................................................................................................... 25
    Activity 3 ..................................................................................................................... 26
Informal Assessment ......................................................................................................... 27
Unit 1
Whole Numbers

Activity 1
Whole Numbers.

1. Copy and complete each number line.
   a.  
      \[12000 \quad 11800 \quad 11000\]
      \[213395 \quad 213495 \quad 213795\]
      \[250650 \quad 250700 \quad 250750\]

2. Write these words as numbers.
   a. Two hundred and seven thousand five hundred and sixty eight.
   b. Six hundred and twenty four thousand nine hundred and seventy.
   c. One hundred and fifty two thousand four hundred and fourteen.
   d. Seven hundred and twenty three thousand and eight.

3. Write these numbers in words.
   a. 542 618  
   b. 214 037  
   c. 447 182  
   d. 301 271  
   e. 624 503  
   f. 172 445  
   g. 103 997  
   h. 645 117  

4. What is the place value of the 3 in each of these numbers?
   a. 346 514  
   b. 280 378  
   c. 983517  
   d. 147 832  
   e. 106 493  
   f. 539 782  
   g. 369 798  
   h. 638 586  

5. Compare these numbers. Write both numbers down and insert > < or =.
   a. 155 645 * 155 654  
   b. 101 111 * 101 110  
   c. 773 575 * 773 575  
   d. 321 123 * 312 123  
   e. 888 788 * 887 788  
   f. 300 999 * 309 999
6. Arrange these numbers from smallest to biggest.
   a. 66 651; 65 561; 65 651; 66 156; 66 615
   b. 158 158; 158 851; 185 851; 158 815; 185 581
   c. 99 369; 99 639; 96 369; 96 996; 99963

7. Copy and complete the table by rounding off to the nearest 5, 10, 100 and 1 000.

<table>
<thead>
<tr>
<th>Number</th>
<th>≈ 5</th>
<th>≈ 10</th>
<th>≈ 100</th>
<th>≈ 1 000</th>
</tr>
</thead>
<tbody>
<tr>
<td>346 154</td>
<td>346 155</td>
<td>346 150</td>
<td>346 200</td>
<td>346 000</td>
</tr>
<tr>
<td>705 496</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>663 283</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>258 194</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>306 827</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

8. Prime numbers.

- Draw a 100 grid like this in your book.
- Fill in numbers 1 to 100 on the grid.

Remember: a prime number has only 2 factors: the number itself and 1
If you follow the instructions below, you will work out all the prime numbers less than 100.
1. Cross out 1.
2. Circle 2 and then cross out all other multiples of 2.
3. Circle 3 and cross out all other multiples of 3.
4. Circle 5 and cross out all other multiples of 5.
5. Circle 7 and cross out all multiples of 7.
6. Circle all the numbers which you have not yet crossed out.
7. All the circled numbers are prime numbers smaller than 100.
Write the prime numbers down in your book.

**Activity 2**
Revision of multiplication: 3 digit x 2 digit numbers.

Remember, when you multiply by 400, you can times by 4 and then by 100...

Copy and complete the tables.

1.

<table>
<thead>
<tr>
<th></th>
<th>10</th>
<th>20</th>
<th>30</th>
<th>40</th>
<th>50</th>
<th>60</th>
<th>70</th>
<th>80</th>
<th>90</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>x 4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b.</td>
<td></td>
<td>x 40</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c.</td>
<td></td>
<td>x 400</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2.

<table>
<thead>
<tr>
<th></th>
<th>x 100</th>
<th>x 300</th>
<th>x 400</th>
<th>x 500</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>10</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b.</td>
<td>20</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c.</td>
<td>30</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d.</td>
<td>40</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>e.</td>
<td>50</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
3. 

<table>
<thead>
<tr>
<th></th>
<th>x 10</th>
<th>x 100</th>
<th>x 1 000</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b.</td>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c.</td>
<td>90</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d.</td>
<td>20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>e.</td>
<td>60</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

   a. Chumani packs 150 t-shirts in a box.
      How many does he pack into 20 boxes?
   b. A pocket of potatoes has a mass of 12 kg. What is the mass of 400 pockets?

Activity 3
Multiplying 3 digit numbers by 2 digit numbers.

Round off each number to the nearest 10, 100 and 1 000.

<table>
<thead>
<tr>
<th>Number</th>
<th>≈ 10</th>
<th>≈ 100</th>
<th>≈ 1 000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example</td>
<td>1 539</td>
<td>1 540</td>
<td>1 500</td>
</tr>
<tr>
<td>a.</td>
<td>2 724</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b.</td>
<td>4 265</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c.</td>
<td>6 452</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d.</td>
<td>3 378</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Copy and complete the table.

<table>
<thead>
<tr>
<th>Number sentence</th>
<th>Round off: ≈ 10</th>
<th>Working out</th>
</tr>
</thead>
<tbody>
<tr>
<td>318 x 22 = ?</td>
<td>320 x 20 = 6400</td>
<td>318 x 22</td>
</tr>
<tr>
<td></td>
<td></td>
<td>636  + 6360</td>
</tr>
<tr>
<td>a. 254 x 27</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. 173 x 16</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. 428 x 14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. 342 x 18</td>
<td></td>
<td></td>
</tr>
<tr>
<td>e. 235 x 22</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3. There are 168 hours in a week.
   How many hours are there in 26 weeks?

4. Copy and complete.
   a. 5 \[\times 6\] 50 500 5000
   b. 8 \[\times 7\] 80 800 8000
   c. 6 \[\times 10\] 60 600 6000
Unit 2

Multiplication: 4 digit numbers by 3 digit numbers

Activity 1

Column method multiplication.

There are 2 column methods:

Method 1:

```
758
x  25
```

```
40 (5 x 8)
+ 250 (5 x 50)
+ 3000 (5 x 700)
+ 160 (20 x 8)
+ 1000 (20 x 50)
+ 14000 (20 x 700)
18950
```

Method 2:

```
758
x  25
```

```
3790 (5 x 758)
+15160 (20 x 758)
18950
```

1. Copy and complete.

a. 3 5 2

```
352
x  42
```

```
14784 (2 x 352)
+14480 (40 x 352)
14784
```

b. 4 2 3

```
423
x  32
```

```
13536 (2 x 423)
+12744 (30 x 423)
13536
```
2. Calculate using either column method.
   a. 213 x 44   b. 178 x 21   c. 268 x 28   d. 483 x 24
   e. 235 x 41   f. 422 x 23   g. 265 x 22   h. 521 x 17
   i. 159 x 34   j. 372 x 15   k. 186 x 25   l. 257 x 16

3. A box contains 235 chocolate bars.
   How many chocolate bars will there be in 12 boxes?

4. 325 people attend our school concert.
   Tickets cost R15 each. How much money did the school collect?

**Activity 2**

*When you multiply by 3 000, you can times by 3 and then by 1 000.*

Copy and complete the tables.

1.

<table>
<thead>
<tr>
<th></th>
<th>100</th>
<th>200</th>
<th>300</th>
<th>400</th>
<th>500</th>
<th>600</th>
<th>700</th>
<th>800</th>
<th>900</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>x 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>300</td>
</tr>
<tr>
<td>b.</td>
<td></td>
<td>x 30</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c.</td>
<td></td>
<td></td>
<td>x 300</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2.

<table>
<thead>
<tr>
<th></th>
<th>x 2 000</th>
<th>x 3 000</th>
<th>x 4 000</th>
<th>x 5 000</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b.</td>
<td>200</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c.</td>
<td>300</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d.</td>
<td>400</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>e.</td>
<td>500</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
3.

<table>
<thead>
<tr>
<th>Number sentence</th>
<th>Round off: ≈ 100</th>
<th>Working out</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 265 x 132</td>
<td>1 300 x 100 = 130 000</td>
<td>1 264 x 132 = 2 530 + 37 950 = 126 500 = 166 980</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. 2 345 x 126</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. 1 638 x 134</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. 2 189 x 143</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. 1 862 x 252</td>
<td></td>
<td></td>
</tr>
<tr>
<td>e. 2 573 x 278</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Informal assessment

Whole numbers.

1. Copy and complete the number patterns.
   a. 1 250; 1 375; 1 500; --------; --------; --------; --------
   b. 4 575; --------; --------; 4 650; --------; --------; --------
2. Ordering: arrange the numbers in ascending order.

| 15 251 | 15 521 | 12 552 | 12 251 | 15 512 | 15 125 | 12 512 | 12 555 |

Underline the odd numbers in green and the even numbers in blue.

3. Write these numbers in words.
   
a. 261 473  
b. 438 057  
c. 366 728  
d. 512 404

4. Rounding off: copy and complete the table.

<table>
<thead>
<tr>
<th></th>
<th>≈ 5</th>
<th>≈ 10</th>
<th>≈ 100</th>
<th>≈ 1 000</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. 751 624</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. 116 573</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. 304 879</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

5. Multiplication: up to 4 digits x 3 digits.

Copy and complete the table.

<table>
<thead>
<tr>
<th></th>
<th>10</th>
<th>20</th>
<th>30</th>
<th>40</th>
<th>50</th>
<th>60</th>
<th>70</th>
<th>80</th>
<th>90</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. x 6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. x 60</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. x 600</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


   a. A box contains 144 sweets.
      How many sweets will there be in 15 boxes?

   b. One box costs R134.
      How much will all 15 boxes cost?
7. Multiplication with rounding off.

Copy and complete the table.

<table>
<thead>
<tr>
<th>Number sentence</th>
<th>≈ 10</th>
<th>≈ 100</th>
<th>Actual calculation</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. 257 x 53</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. 1 275 x 134</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. 2 348 x 146</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Unit 3
Properties of 3-D objects

Activity 1
Identify 3-D objects and describe their surfaces.

1. Write the letter of each 3-D object with the correct name:

Example:                  a. cylinder

a. cone  b. soccer ball  c. rectangular prism  d. cone  e. cereal box
f. cube  g. square-based pyramid  h. cheese  i. blocks

cone     sphere     cylinder
square-based pyramid     cube     rectangular prism
hexagonal prism
pentagonal prism     triangular prism
2. Flat and curved surfaces.

Describe the faces and surfaces of each 3-D object in the picture at the top of page 79.

Example
a. cylinder: flat and curved surface.

Activity 2
Pyramids.

In which African country do we find pyramids?

This is a tetrahedron (triangular based pyramid)
It has 4 flat triangular faces.
Tetra is the Greek word for 4.
Hedron is the Greek word for face.
There are many kinds of pyramids.
Pyramids are named by the shape at the base of the pyramid.

1. Match each pyramid with the correct set of faces. Write the name and matching letter.

- Triangular pyramid
- Hexagonal pyramid
- Square based pyramid
- Pentagonal pyramid

Activity 3

Faces, edges and vertices.
1. Copy and complete the table.

<table>
<thead>
<tr>
<th>3-dimensional object</th>
<th>Name of 3-D object</th>
<th>Number of faces</th>
<th>Shape of each face</th>
<th>Number of edges</th>
<th>Number of vertices</th>
</tr>
</thead>
</table>

Activity 4
3-D objects and nets.

Write the name of each 3-D object with the letter of the matching net.

Example: cube: d
**Activity 5**

Describe 3-D objects.

Write the name of the object and its description.

<table>
<thead>
<tr>
<th>Image</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Object" /></td>
<td>I have 1 flat circular face and 1 curved surface that forms a vertex. (point)</td>
</tr>
<tr>
<td><img src="image" alt="Object" /></td>
<td>I have 2 flat circular faces and 1 curved surface.</td>
</tr>
<tr>
<td><img src="image" alt="Object" /></td>
<td>I have 1 flat square face and 4 triangular faces.</td>
</tr>
<tr>
<td><img src="image" alt="Object" /></td>
<td>I have 4 flat triangular faces.</td>
</tr>
<tr>
<td><img src="image" alt="Object" /></td>
<td>I have 5 flat faces. 2 of them are triangular and 3 are rectangular.</td>
</tr>
<tr>
<td><img src="image" alt="Object" /></td>
<td>I have 6 flat square faces, 12 edges and 8 corners.</td>
</tr>
</tbody>
</table>

**Activity 6**

Measuring angles.

1. Write the name of each 3-D shape, shape of the face and describe the angles.

<table>
<thead>
<tr>
<th>Name of object</th>
<th>Shape of face</th>
<th>right (\angle) smaller than a right (\angle) ,bigger than a right (\angle)</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Object" /></td>
<td><img src="image" alt="Object" /></td>
<td><img src="image" alt="Object" /></td>
</tr>
<tr>
<td><img src="image" alt="Object" /></td>
<td><img src="image" alt="Object" /></td>
<td><img src="image" alt="Object" /></td>
</tr>
<tr>
<td><img src="image" alt="Object" /></td>
<td><img src="image" alt="Object" /></td>
<td><img src="image" alt="Object" /></td>
</tr>
<tr>
<td><img src="image" alt="Object" /></td>
<td><img src="image" alt="Object" /></td>
<td><img src="image" alt="Object" /></td>
</tr>
<tr>
<td><img src="image" alt="Object" /></td>
<td><img src="image" alt="Object" /></td>
<td><img src="image" alt="Object" /></td>
</tr>
</tbody>
</table>
Unit 4
Geometric Patterns

A geometric pattern is a sequence of objects or drawings.

Look for, and think of patterns in your everyday life.

Activity 1
Patterns, tables and rules.

• Copy and complete the pattern.
• Copy and complete the table.
• Copy and complete the rule.

<table>
<thead>
<tr>
<th>Pattern no.</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>
</tr>
</thead>
<tbody>
<tr>
<td>Number of squares</td>
<td>2</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Describe the pattern: ________________________________

Rule: Add _____ squares to each pattern.
### Pattern 1

<table>
<thead>
<tr>
<th>Pattern number</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>
</tr>
</thead>
<tbody>
<tr>
<td>Number of circles</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Describe the pattern: ______________________________________

Rule: ___________________________________________________

### Pattern 2

<table>
<thead>
<tr>
<th>Pattern number</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>
</tr>
</thead>
<tbody>
<tr>
<td>Number of circles</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Describe the pattern: ______________________________________

Rule: ___________________________________________________
Did you notice that for the geometric patterns above, a number was multiplied by itself to get each answer?

1x1=1  2x2=4  3x3=9  4x4=16

Describe the pattern: __________________________________________________

Rule: _______________________________________________________________

<table>
<thead>
<tr>
<th>Pattern number</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>
</tr>
</thead>
<tbody>
<tr>
<td>Number of triangles</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Describe the pattern: __________________________________________________

Rule: _______________________________________________________________
Activity 2
Building geometric shapes.

Continue the pattern by building on.

<table>
<thead>
<tr>
<th>Pattern number</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>
</tr>
</thead>
<tbody>
<tr>
<td>Number of matches</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Describe the pattern: ________________________________________________________________

Rule: ____________________________________________________________________________

??? How many matches would you need to build pattern 20?

Activity 3.

Patterns and flow diagrams.

Siya put: 32 marbles in the first pile
16 marbles in the second pile
8 marbles in the third pile.

How many marbles would be in the fourth and fifth pile?
Describe the pattern: ____________________________________________________
Rule: __________________________________________________________________

Flow diagrams are a kind of number pattern.
**Unit 5**

Geometric patterns and symmetry

**Activity 1**

Matchstick patterns.

1. How would you build patterns 4, 5 and 6?

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

Describe the pattern: ____________________________________________

Rule: ___________________________________________________________
Copy and complete the flow diagram.


Describe the pattern: __________________________________________________________

Rule: ______________________________________________________________________

<table>
<thead>
<tr>
<th>Pattern number</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>
</tr>
</thead>
<tbody>
<tr>
<td>Number of rectangles</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Activity 2
Extending geometric patterns.

1. Copy each pattern and draw the next 5 shapes

a. 

b. 

c. 

d. 

e. 

f. 

Describe the pattern: circle, square, circle, circle, triangle, circle, circle
Activity 3
Lines of symmetry.

A line of symmetry can be:

- vertical
- horizontal
- diagonal

Remember, a 2-D shape can be divided into 2 halves that are a mirror image of each other. We call the line that divides them a line of symmetry. Some shapes have more than one line of symmetry.

Trace the shapes below. Fill in as many lines of symmetry as you can. Describe the lines of symmetry.

Example:

1 vertical line of symmetry.

a.  

b.  

c.  

d.  

e.  

f.  

3. Write the number of lines of symmetry in each flag.

a.  

b.  

c.  
Informal Assessment

Properties of 3-D shapes.

Match the letter of each 3-D object with its correct name.

pentagonal prism  cone  hexagonal prism  square based pyramid

cylinder  sphere  rectangular prism
2. Copy and complete the table.

<table>
<thead>
<tr>
<th>Name of 3-D object</th>
<th>Number of faces</th>
<th>Shape of each face</th>
<th>Number of edges</th>
<th>Number of vertices</th>
</tr>
</thead>
<tbody>
<tr>
<td>triangular prism</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>cube</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3. Name the angles in each shape (e.g.) acute, obtuse, reflex…

a.  

b.  

c.  
4. Copy and complete pattern 4 and 5.

![Pattern Image]

b. Copy and complete the table.

<table>
<thead>
<tr>
<th>Pattern number</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>
</tr>
</thead>
<tbody>
<tr>
<td>No. of squares</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

c. Describe the pattern.

d. Rule: _______________________________

5a. How many lines of symmetry does this shape have?

   Draw the shape in your book and fill in the lines of symmetry on the shape.

   ![Symmetry Image]

b. Draw a shape which has only 1 vertical line of symmetry.

c. Draw a shape which has only 1 horizontal line of symmetry.
d. Draw a shape which only has 1 diagonal line of symmetry.
Unit 6
Division

Remember, division and multiplication are inverse (opposite) operations and can be used to check answers.

Activity 1
Multiplication and Division

1. Number families.

Write 4 number sentences for each group of numbers.

<table>
<thead>
<tr>
<th>Eg:</th>
<th>56   8   7</th>
<th>8×7=56</th>
<th>56×7=8</th>
<th>56÷7=8</th>
<th>56÷8=7</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>10  21 210</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b.</td>
<td>6  200 100 62</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c.</td>
<td>20  800 40</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d.</td>
<td>400 25 16</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>e.</td>
<td>11 12 132</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. Copy and complete.

…is exactly divisible by

Circle/colour the correct number(s):

<table>
<thead>
<tr>
<th></th>
<th>1 2 3 4 5 6 7 8 9 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. 84</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
</tr>
<tr>
<td>b. 160</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
</tr>
<tr>
<td>c. 275</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
</tr>
<tr>
<td>d. 1 263</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
</tr>
<tr>
<td>e. 4 132</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
</tr>
<tr>
<td>f. 22 163</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
</tr>
</tbody>
</table>
3. Divide the numbers in column B by the numbers in column A.

Copy and complete the table.

<table>
<thead>
<tr>
<th>Column A</th>
<th>Column B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example:</td>
<td>1</td>
</tr>
<tr>
<td>Answers:</td>
<td></td>
</tr>
<tr>
<td>a.</td>
<td>2</td>
</tr>
<tr>
<td>Answers:</td>
<td></td>
</tr>
<tr>
<td>b.</td>
<td>3</td>
</tr>
<tr>
<td>Answers:</td>
<td></td>
</tr>
<tr>
<td>c.</td>
<td>5</td>
</tr>
<tr>
<td>Answers:</td>
<td></td>
</tr>
<tr>
<td>d.</td>
<td>7</td>
</tr>
<tr>
<td>Answers:</td>
<td></td>
</tr>
<tr>
<td>e.</td>
<td>9</td>
</tr>
<tr>
<td>Answers:</td>
<td></td>
</tr>
</tbody>
</table>

4. Division with remainders.

Complete each number sentence and check your answer.

Example: \( \square + 6 = 7 \text{ rem } 2 \)
Check: \( (\square \times 4) + 5 = 41 \)
\( 41 \div 9 = 4 \text{ rem } 5 \)

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>a. ( \square + 6 = 7 \text{ rem } 2 )</td>
<td>i. ( \square + 9 = 7 \text{ rem } 7 )</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. ( \square + 8 = 3 \text{ rem } 5 )</td>
<td>j. ( \square \div 3 = 9 \text{ rem } 3 )</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. ( \square + 7 = 6 \text{ rem } 4 )</td>
<td>k. ( \square + 5 = 10 \text{ rem } 5 )</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. ( 62 \div \square = 5 \text{ rem } 2 )</td>
<td>l. ( \square + 4 = 8 \text{ rem } 3 )</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>e. ( 87 \div \square = 7 \text{ rem } 3 )</td>
<td>m. ( 76 \div \square = 9 \text{ rem } 4 )</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>f. ( 59 \div \square = 6 \text{ rem } 5 )</td>
<td>n. ( 69 \div \square = 8 \text{ rem } 5 )</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Activity 2
Dividing by 10, 100 and 1 000.

1. Dividing by 10.

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>40</td>
<td>10</td>
<td>= 4</td>
</tr>
<tr>
<td>70</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>90</td>
<td>10</td>
<td></td>
</tr>
</tbody>
</table>

What do you notice when you divide a number by 10?

2. Dividing by 100.

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>400</td>
<td>100</td>
<td>= 4</td>
</tr>
<tr>
<td>700</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>900</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

What do you notice when you divide a number by 100?

3. Dividing by 1 000.

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>4 000</td>
<td>1 000</td>
<td>= 4</td>
</tr>
<tr>
<td>7 000</td>
<td>1 000</td>
<td></td>
</tr>
<tr>
<td>9 000</td>
<td>1 000</td>
<td></td>
</tr>
</tbody>
</table>

What do you notice when you divide a number by 1 000?
4. Copy and complete the flow diagrams.

Activity 3

Division: 3 digit by 1 digit.

Remember, you have already learned to divide 3 digits by 1 and 2 digits. Let’s revise this…

Example: $472 \div 5 = ?$

\[
\begin{array}{c|c c c}
 & 4 & 7 & 2 \\
\hline
5 & 4 & 7 & 2
\end{array}
\]

\[9 \text{ rem } 2\]

1. Calculate, and then check your answers by using multiplication.

a. $275 \div 4$
   
   b. $347 \div 3$
   
   c. $416 \div 5$
   
   d. $528 \div 7$
   
   e. $843 \div 6$
   
   f. $608 \div 8$
   
   g. $739 \div 9$
   
   h. $653 \div 4$
2. Solve these problems.

a. There are 7 girls in a netball team.
   
   How many teams can be picked from 216 girls?

b. A farmer has 743 apples which he packs into packets.

   If each packet has 8 apples in it, how many packets can he fill?
Unit 7

Division: 4 digit by 2 digit

Activity 1

The method is the same as for dividing by 1 digit...

Example: 316÷12

\[
\begin{array}{c|ccc}
& 12 & 24 & 36 \\
\hline
3 & 1 & 6 \\
- & 2 & 4 \\
\hline
7 & 6 \\
- & 7 & 2 \\
\hline
4 & & \\
\end{array}
\]

1. Calculate, and check your answers with multiplication.

a. 514÷14  
b. 279÷15  
c. 691÷5  
d. 438÷12  
e. 903÷16  
f. 722÷13  
g. 586÷19  
h. 637÷14

2. Solve these problems.

   a. There are 12 eggs in a dozen.

   Farmer Brown’s chickens lay 465 eggs. How many dozen eggs can he sell?

   b. Farmer Joe needs to plant new mealie plants.

   He has 712 seeds and needs to plant 15 seeds in each row.

   How many rows can he fill?

   c. There are 231 Grade 6 learners.

   If there are 33 children in a class, how many Grade 6 classes are there?
d. A school outing to the beach cost R360 for 24 learners.

How much must each learner pay?

Activity 2

Use a clue board to divide a 4 digit number by 2 digits.

Example: 3 447÷17=?

I don’t know the 17 times tables so I am going to use a clue board.

Let's check by multiplying:

| 2 0 2 rem 13 |
| 17 | 3 | 4 | 4 | 7 |
| 17 | 0 | 4 | 7 |
| 102 | 1 3 |

Let's check by multiplying:

| 2 0 2 | 3 434 |
| X 1 7 | + 13 |
| 1 4 1 4 | 3 447 |
| + 2 0 2 0 |

1. Calculate and check your answer.

a. 4 968÷23  
b. 5 192÷44  
c. 9 864÷14

d. 3 981÷31  
e. 1 372÷16  
f. 2 844÷18

g. 1 819÷17  
h. 7 026÷21  
i. 8 612÷19
2. Solve these problems.

a. The school tuck shop buys a box of packets of chips for R60.
   There are 24 small packets in the box.
   How much does each packet cost?

b. A farmer wants to plant 1 440 orange trees.
   He only has space for 36 rows.
   How many trees should he plant in each row?

c. Sizwe buys radios to sell at his shop.
   He paid R6 875 for 55 radios.
   How much did each radio cost?

d. A company donated boxes of soccer balls to a school.
   Each box has 37 soccer balls in it. If there are 9 065
   balls altogether, how many boxes of soccer balls were
   donated?

e. Lindi sells flowers at a market each Saturday.
   If 12 roses cost R7,20, how much will 18 roses cost?

f. Jim’s class collected newspaper for recycling project.
   The total amount of newspaper for recycling was 2 380kg.
   If there are 35 children in his class, how much newspaper did each child collect?
g. The school shop buys 56 shirts. 
The total cost was R2 016. 
How much did 1 shirt cost?

h. A farmer has 2 379 apples that he packs into pockets. There are 18 apples in each pocket. 
How many pockets can he fill?
Fractions with a denominator of 10, 100 or 1 000 can be written as decimals. A decimal is any number which has a decimal comma.

A decimal comma separates whole numbers from tenths, hundredths and thousandths.

- The first number after the decimal comma represents tenths: \( \frac{1}{10} = 0,1 \)
- The second number after the decimal comma represents hundredths: \( \frac{1}{100} = 0,01 \)
- The second number after the decimal comma represents thousandths: \( \frac{1}{1000} = 0,001 \).

Activity 1

Tenths

1. Look at each strip of 10 squares. Write each as a fraction and a decimal.

Example:

\[
\begin{array}{cccccccc}
\text{□□□□□□□□□□} \\
\end{array}
\]

\[ \frac{2}{10} = 0,2 \]

a.

\[
\begin{array}{cccccccc}
\text{□□□□□□□□□□} \\
\end{array}
\]

b.

\[
\begin{array}{cccccccc}
\text{□□□□□□□□□□} \\
\end{array}
\]

c.

\[
\begin{array}{cccccccc}
\text{□□□□□□□□□□} \\
\end{array}
\]

d.
2. Write the decimals which indicate where each man is standing.

Example:

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

Example:

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

```
a=3,2  
b=3,5  
c=3,9  
```

a.  
```
<p>| | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
```

b.  
```
<p>| | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
```

c.  
```
<p>| | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
```

d.  
```
<p>| | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
```

**Activity 2**

**Hundredths**

1. Look at each hundredths grid.

Write each as a fraction and a decimal.
Example:

\[
\frac{20}{100} = 0.20
\]
2. Write the following as decimals.

a. \( \frac{37}{100} \)  

b. \( \frac{83}{100} \)  

c. \( \frac{7}{100} \)  

d. \( \frac{10}{100} \)  

e. \( \frac{9}{100} \)  

f. \( \frac{18}{100} \)  

g. \( \frac{59}{100} \)  

h. \( \frac{97}{100} \)  

i. \( \frac{1}{100} \)  

j. \( \frac{47}{100} \)  

k. \( \frac{75}{100} \)  

l. \( \frac{20}{100} \)  

3. Write the following fractions as decimals.

a. \( \frac{1}{2} = \)  

b. \( \frac{1}{5} = \)  

c. \( \frac{3}{5} = \)  

\( \frac{1}{20} = \)  

\( \frac{3}{20} = \)  

\( \frac{1}{25} = \)  

\( \frac{3}{4} = \)  

\( \frac{1}{50} = \)  

\( \frac{3}{50} = \)  

Try these!

Write these as decimals; \( \frac{1}{2} \), \( \frac{1}{4} \), \( \frac{1}{5} \).
4. Write each fraction and the equivalent decimal. Choose answers from the circles.

a. 0,25
b. 0,37
c. 0,75
d. 0,6
e. 0,12
f. 0,33
g. 0,35
h. 0,3
i. 0,4

Activity 3
Calculator fun

It's easy to write fractions as decimals when the denominator is 10, 100 or 1 000. …\(\frac{3}{10}\) = 0,3 \(\frac{3}{100}\) = 0,03 \(\frac{3}{1 000}\) = 0,003 but what happens when the denominator is not 10, 100 or 1 000?
1. Write each fraction in tenths or hundredths, then write each fraction as a decimal.

Check your answer on a calculator.

Example: \( \frac{3}{20} = \frac{15}{100} = 0.15 \) \ldots check on a calculator: \( 3 \div 20 = 0.15 \)

\( \frac{1}{25} = \frac{4}{100} = 0.04 \) \ldots check on a calculator: \( 1 \div 25 = 0.04 \)

a. \( \frac{2}{5} \)

b. \( \frac{1}{2} \)

c. \( \frac{3}{5} \)

d. \( \frac{4}{5} \)

e. \( \frac{1}{20} \)

f. \( \frac{3}{25} \)

g. \( \frac{3}{10} \)

h. \( \frac{15}{100} \)

i. \( \frac{1}{50} \)

j. \( \frac{3}{50} \)

k. \( \frac{7}{20} \)

l. \( \frac{3}{100} \)
Activity 4

Thousandths

1. Tenths ($\frac{1}{10}$)

Example

1 cube of 10 cubes = $\frac{1}{10} = 0,1$
2 cubes of 10 cubes = $\frac{2}{10} = 0,2$

Copy and complete.

a. 3 cubes = $\frac{3}{10} = 00$

b. 7 cubes = $\frac{7}{10} = 00$

c. 5 cubes = $\frac{5}{10} = 00$

d. 9 cubes = $\frac{9}{10} = 00$

e. 8 cubes = $\frac{8}{10} = 00$

2. Hundredths ($\frac{1}{100}$)

Example

1 cube of 100 cubes = $\frac{1}{100} = 0,01$
11 cubes of 100 cubes = $\frac{11}{100} = 0,11$

Copy and complete.

a. 9 cubes = $\frac{9}{100} = 00$

b. 7 cubes = $\frac{7}{100} = 00$

c. 53 cubes = $\frac{53}{100} = 00$

d. 9 cubes = $\frac{9}{100} = 00$

e. 99 cubes = $\frac{99}{100} = 00$

3. Thousandths ($\frac{1}{1000}$)

Example

1 cube of 1000 cubes = $\frac{1}{1000} = 0,001$
112 cubes of 1000 cubes = $\frac{112}{1000} = 0,112$

Copy and complete.

a. 234 cubes = $\frac{234}{1000} = 00$

b. 7 cubes = $\frac{7}{1000} = 00$

c. 85 cubes = $\frac{85}{1000} = 00$

d. 73 cubes = $\frac{73}{1000} = 00$

e. 1 000 cubes = $\frac{1000}{1000} = 1 000$

4. Writing fractions as decimals.

1. Change each fraction to a decimal.
2. Match it to the decimals given.
3. Write the correct letter and find the answer.

a. $\frac{43}{100}$ L  

b. $\frac{2}{5}$ U  

c. $\frac{3}{10}$ E  

d. $\frac{5}{100}$ L  

e. $\frac{1}{25}$ R  

f. $\frac{37}{1000}$ C  

g. $\frac{735}{1000}$ A  

h. $\frac{72}{100}$ M  

i. $\frac{1}{1000}$ S  

j. $\frac{1}{20}$ N  

k. $\frac{4}{5}$ F  

l. $\frac{9}{10}$ D

0,9  0,3  0,037  0,43  0,72  0,735  0,05  0,001

0,735  0,04  0,3

0,8  0,4  0,05

5. Calculate decimals from the hundred square.

Copy the table into your book.

What do we do with the half squares?
<table>
<thead>
<tr>
<th>Example</th>
<th>No. of squares</th>
<th>Common fraction</th>
<th>Decimal fraction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Charlie’s neck</td>
<td>1</td>
<td>$\frac{1}{100}$</td>
<td>0.01</td>
</tr>
<tr>
<td>a. Bank</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Charlie’s head</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Charlie’s body</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. Money bag</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Unit 9
Decimals
Activity 1
Place value

Place value is very important when working with decimals!

<table>
<thead>
<tr>
<th>T</th>
<th>U</th>
</tr>
</thead>
<tbody>
<tr>
<td>tens</td>
<td>units</td>
</tr>
</tbody>
</table>

63,279

tenths  h  th

tenths  hundredths  thousandths

To read this number correctly we would say:

Sixty three comma two seven nine.

That means we have 6 tens, 3 units, 2 tenths, 7 hundredths and 9 thousandths or:

\[20 + 3 + \frac{2}{10} + \frac{7}{100} + \frac{9}{1000}\]

or:

\[20 + 3 + 0,2 + 0,07 + 0,009\]

1. Write the place value of the underlined digits.
   Example: 4\underline{56,139} \rightarrow 5 \quad T

\[
\begin{array}{c}
\frac{1}{10} \\
\text{t}
\end{array}
\begin{array}{c}
\frac{9}{1000} \\
\text{th}
\end{array}
\]
a. 142,853   b. 6 486,219   c. 197,253   
d. 49,756   e. 583,172   f. 9 721,934

2. Write these numbers in digits. Place the decimal comma in the correct position.

Example: four hundred, seven tenths and five thousandths

<table>
<thead>
<tr>
<th>TH</th>
<th>H</th>
<th>T</th>
<th>U</th>
<th></th>
<th>t / \frac{1}{10}</th>
<th>h / \frac{1}{100}</th>
<th>th / \frac{1}{1000}</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>0</td>
<td>0</td>
<td>,</td>
<td>7</td>
<td>0</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

If you would like to, use a table like the one above.

a. three thousand, five units, six tenths and seven thousandths.
b. two hundred, seven tenths, one unit and two hundredths.
c. four thousand, three hundredths, two units and nine tenths.
d. five tens, three hundreds, seven tenths and two units.

e. 300 + \frac{7}{10} + 5 + \frac{9}{100} + \frac{2}{100}
f. 7 + 4 000 + \frac{5}{10} + \frac{6}{1000}

g. 200 + \frac{1}{100} + 3 000 + 5

h. 70 + 100 + 2 000 + \frac{1}{10} + \frac{4}{100}

Activity 2
Counting and ordering decimals

1. Count and write the decimal number sequence.

<table>
<thead>
<tr>
<th>a.</th>
<th>b.</th>
<th>c.</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>0,1</td>
<td>0,2</td>
<td>0,5</td>
</tr>
<tr>
<td>0,3</td>
<td>0,6</td>
<td>0,7</td>
</tr>
<tr>
<td>0,6</td>
<td>0,7</td>
<td>0,9</td>
</tr>
<tr>
<td>0,9</td>
<td>1</td>
<td>1,1</td>
</tr>
<tr>
<td>0,9</td>
<td>1</td>
<td>1,1</td>
</tr>
<tr>
<td>1</td>
<td>1,2</td>
<td>1,2</td>
</tr>
<tr>
<td>1,2</td>
<td>1,5</td>
<td>1,5</td>
</tr>
<tr>
<td>2</td>
<td>2,0</td>
<td>3,2</td>
</tr>
<tr>
<td>0</td>
<td>0,5</td>
<td>0,5</td>
</tr>
<tr>
<td>0,5</td>
<td>0,5</td>
<td>0,5</td>
</tr>
<tr>
<td>0,5</td>
<td>0,5</td>
<td>0,5</td>
</tr>
<tr>
<td>0,5</td>
<td>0,5</td>
<td>0,5</td>
</tr>
</tbody>
</table>
2. Copy these decimal pairs into your book. Replace * with <, > or =.

Example:

- 12,3 > 12,03
- 6,235 < 6,3
- 4,1 = 4,10
- a. 1,14 > 2,0
- b. 4,02 < 8,42
- c. 7,41 = 7,14
- d. 11,39 > 13,39
- e. 64,07 < 64,7
- f. 8,20 = 8,19
- g. 6,08 > 6,10
- h. 5,42 > 5,4
- i. 10,01 = 11,11
- j. 9,99 = 10,0

3. Copy and complete the counting patterns.

- a. 3,6; 3,8; 4,0; ____; ____; ____; ____; ____; ____
- b. 2,50; 2,55; 2,60; ____; ____; ____; ____; ____; ____
- c. 0,13; 0,12; 0,11; ____; ____; ____; ____; ____; ____
- d. 4,44; 4,42; 4,40; 4,38; ____; ____; ____; ____; ____; ____
- e. 7,50; 7,45; 7,40; 7,35; ____; ____; ____; ____; ____; ____
- f. 3,06; 3,09; 3,12; ____; ____; ____; ____; ____; ____
- g. 12,32; 12,28; 12,24; 12,20; ____; ____; ____; ____; ____; ____

4. Use the decimals below to answer questions a – c.

| 0,3 | 0,1 | 0,5 | 0,03 | 0,001 | 0,05 |

- a. Write the largest number.
- b. Write the smallest number.
- c. Order the numbers from smallest to largest.
Activity 3
Addition and subtraction with 2 decimal places

Do you remember how to add or subtract decimals in columns?

** Keep decimal commas underneath each other.
** Add or subtract as normal.

Example 1: Addition:

\[ \begin{array}{c}
39,45 \\
+ 26,82 \\
\hline
66,27 \\
\end{array} \]

Example 2: Subtraction:

\[ \begin{array}{c}
95,62 \\
- 47,38 \\
\hline
48,24 \\
\end{array} \]

1. Copy and complete. Estimate your answer before you calculate.

Example: 39,45 + 26,82…. 39,45 is nearly 40

26,82 is nearly 27

so 40 + 27 = 67

your answer should be close to 67…

a. 16,27+12,08  
b. 14,82+37,71  
c. 53,16+24,73

d. 29,54+36,83  
e. 32,15+37,24  
f. 60,37+26,99

g. 86,42-36,81  
h. 73,51-32,78  
i. 59,13-28,42

j. 95,99-38,12  
k. 56,43-18,17  
l. 65,19-27,23
2. Word problems

a. Detective Decimal bought a new suit for work. The jacket cost him R387,24 and the pants cost him R102,87. How much change did he get from 3 R200 notes?

b. Peter the painter uses 3,75 litres of paint for the fence and 1,65 litres for the gate. How much paint has he got left from a 10 litre tin?

Activity 4

Multiplication by 10 and 100

<table>
<thead>
<tr>
<th>Number</th>
<th>TH</th>
<th>H</th>
<th>T</th>
<th>U</th>
<th>t</th>
<th>h</th>
<th>th</th>
</tr>
</thead>
<tbody>
<tr>
<td>24,5x1</td>
<td></td>
<td>2</td>
<td>4</td>
<td></td>
<td>,</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>24,5x10</td>
<td></td>
<td>2</td>
<td>4</td>
<td>5</td>
<td>,</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>24,5x100</td>
<td></td>
<td>2</td>
<td>4</td>
<td>5</td>
<td>0</td>
<td>,</td>
<td>0</td>
</tr>
<tr>
<td>3,68x1</td>
<td>3</td>
<td>,</td>
<td>6</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3,68x10</td>
<td>3</td>
<td>,</td>
<td>6</td>
<td>,</td>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3,68x100</td>
<td>3</td>
<td>6</td>
<td>8</td>
<td>,</td>
<td>0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Multiply each number by 10 and 100.

a. 3,54 b. 15,78 c. 29,20 d. 38,41
Unit 10
Capacity
Activity 1

Capacity is the **amount of space** inside a container or **how much liquid a container can hold**.

1. Write the name of each container. Say if you would measure the liquid in mℓ or ℓ.
   Example: cup: mℓ.

2. A hosepipe can use up to 30ℓ of water a minute.
   How many ℓ of water would a hosepipe use in:
   a. 5 minutes?   b. $\frac{7}{2}$ minutes?
   c. 10 minutes?   d. 15 minutes?
   e. $\frac{1}{2}$ an hour?   F. 1 hour?

Activity 2
Conversions

**Remember:**  $1\ell = 1\,000\,mℓ$ so....

\[
\frac{1}{2}\ell = 500\,mℓ \quad \frac{1}{4}\ell = 250\,mℓ \quad \frac{1}{5}\ell = 200\,mℓ \quad \frac{1}{10}\ell = 100\,mℓ
\]

1. Replace * with < > or =.
   a. $\frac{1}{2}\ell \times 500\,mℓ$       b. $\frac{1}{4}\ell \times 200\,mℓ$
   c. $\frac{3}{4}\ell \times 800\,mℓ$       d. $\frac{1}{10}\ell \times 100\,mℓ$
   e. $\frac{1}{5}\ell \times 250\,mℓ$       f. $\frac{9}{10}\ell \times 900\,mℓ$
   g. $\frac{2}{5}\ell \times 400\,mℓ$       h. $\frac{3}{5}\ell \times 350\,mℓ$
2. Copy and complete the sentences.
   a. There are ____ 500mℓ in 4ℓ.
   b. There are ____ 250mℓ in 4ℓ.
   c. There are ____ 500mℓ in 6,5ℓ.
   d. There are ____ 250mℓ in 6,5ℓ.
   e. There are ____ 500mℓ in 12,5ℓ.
   f. There are ____ 250mℓ in 12,5ℓ.

3. Copy and complete the table.

<table>
<thead>
<tr>
<th>Fraction</th>
<th>Decimal</th>
<th>ℓ &amp; mℓ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ex:</td>
<td>2 1/2ℓ</td>
<td>2,5ℓ 2ℓ 500mℓ</td>
</tr>
<tr>
<td>a</td>
<td>1/4ℓ</td>
<td></td>
</tr>
<tr>
<td>b</td>
<td>3/4</td>
<td></td>
</tr>
<tr>
<td>c</td>
<td>1,5ℓ</td>
<td></td>
</tr>
<tr>
<td>d</td>
<td>3ℓ</td>
<td>250mℓ</td>
</tr>
<tr>
<td>e</td>
<td>5,25ℓ</td>
<td></td>
</tr>
<tr>
<td>f</td>
<td>1,1ℓ</td>
<td></td>
</tr>
<tr>
<td>g</td>
<td></td>
<td>4ℓ 200mℓ</td>
</tr>
</tbody>
</table>

**Activity 3**

**Measuring capacity.**

1. Which instrument would you use to measure the following:
   a. water to fill a kettle
   b. cough medicine
   c. milk for a pudding recipe
   d. water to dilute powdered cooldrink
   e. flour to make bread
   f. water to wash clothes
   g. half a cup of sugar to bake a cake
Activity 4
Reading capacity

Remember to take your reading from the bottom of the curve of water (meniscus).

I notice that the level of the water in the wide container is lower than the water in the narrow container.

Don’t be fooled by the level of the water. Both containers have 350 ml of water.

1. Write the correct capacity for each container.
   Secondly, round off each reading to the nearest 100 ml.

   1. ml
   2. ml
   3. ml
   4. ml
   5. ml
   6. ml
   7. ml

   50 ml ≈ 100 ml
Activity 5
Kilolitres, litres and millilitres

When we measure large amounts of liquids we measure in kilolitres (kℓ)

1 kℓ = 1 000 ℓ.

The water in water tanks and dams would be measured in kilolitres.

1. Copy and complete.
   a. 2kℓ = ___ℓ  
   b. \(2\frac{1}{2}\)kℓ = ___ℓ  
   c. \(3\frac{3}{4}\)kℓ = ___ℓ  
   d. \(1\frac{3}{4}\)kℓ = ___ℓ  
   e. 6,5kℓ = ___ℓ  
   f. 6kℓ = ___ℓ  
   g. \(2\frac{1}{5}\)kℓ = ___ℓ  
   h. 2,4kℓ = ___ℓ  
   i. 3,75kℓ = ___ℓ  

2. Next to each object, write the correct capacity.
   a. a teacup:  
      20ml  
      200ml  
      2ℓ  
   b. a raindrop:  
      1ml  
      10ml  
      100ml  
   c. a water tank:  
      2,5ℓ  
      25ℓ  
      2,5kℓ  
   d. a car’s petrol tank:  
      6ℓ  
      60ℓ  
      600ℓ  
   e. a teapot:  
      10ml  
      1ℓ  
      10ℓ  
   f. a mug:  
      35ml  
      350ml  
      3ℓ  
   g. a swimming pool:  
      60ℓ  
      600ℓ  
      6kℓ  

3. Calculate:
   a. 25% of 100ℓ = ____ℓ  
   b. 6ℓ 312ml = ____ml  
   c. 10 000ℓ = ____ℓ  
   d. 20% of 60ℓ = ____kℓ  
   e. 10% of 50ml = ____ml  
   f. 4ℓ 250ml = ____ml
**Activity 6**

**Word Problems.**

Solve the word problems, showing the working out in full.

1. How many litres of oil did Tom’s Take away use from January to May?

2. Tom’s take away used 400ℓ of oil in the first 6 months of the year. How much oil was used in the month of June?

3. Oil costs R18,50 per litre. How much did Tom pay for the 400ℓ?

2. Every day, Miss Feni uses:

   - 60ℓ of water to bath
   - 6ℓ of water to wash dishes
   - 2,5ℓ of water for cooking
   - 1,5ℓ of water for drinking.

   How much water does Miss Feni use in the month of June?

3. The ladies at the soup kitchen make 9ℓ of soup. 1 cup holds 250mℓ of soup.

   How many people can have a cup of soup?
4. Pancake recipe for 10 pancakes:

- 250mℓ flour
- 125mℓ milk
- 150mℓ warm water
- 1 egg
- 10mℓ oil
- 5mℓ baking powder

Write the ingredients you would need to make 60 pancakes for the class party.

**Mental Maths with Vocabulary**

**Exercise 1**

a. Multiply 40 by 60.

b. Round off 6 452 to the nearest 100.

c. Write 345 281 in words.

d. How many litres in 2,5 kilolitres?

e. Add 625 and 925.

f. How many nines in one hundred and eight?

g. Write 0,7 as a common fraction.

h. Write the first 5 multiples of 15.

**Exercise 2**

a. Round off 6 452 to the nearest 1 000.

b. Write all the factors of 30.

c. Write the place value of the underlined digits: 43 120.

d. Write \( \frac{12}{100} \) as a decimal fraction.

e. Multiply 80 by 400.

f. Divide fifty thousand by one hundred.

g. How many fives in one hundred?

h. Write the smallest number using a 9; 2; 0; 7; 3; 6.
Exercise 3

a. Divide 3 600 by 10.
b. Which is bigger: 2,2 or 2,09?
c. Add 12, 5 and 3,45.
d. How many twelves in 132?
e. Write the place value of the 4 in 36,4.
f. Write all the factors of 25.
g. Write the first five multiples of 25.
h. Write the biggest number using a 4; 0; 3; 7; 2; 8.

Exercise 4

a. Subtract 4 500 from 64 000.
b. Write 737 584 in expanded notation.
c. What is the cost of 300 pencils at R5 each?
d. True or false: 1,5 is bigger than 1,450.
e. Write $10\frac{1}{5}$ as a decimal.
f. Halve the number 442 626.
g. How many millilitres in $2\frac{1}{2}$ litres?
h. Write $\frac{7}{100}$ as a decimal.

Exercise 5

a. Write the next three numbers: 346,2; 346,4; 346,6; ____; ____; ____
b. Write as a number: two hundred and forty thousand four hundred and one.
c. Write in words: 487 203.
d. True or false: a square based pyramid has five flat surfaces.
e. True or false: a cylinder has only flat faces.
f. One hundred pens cost R250. What is the cost of 1 pen?
g. Write these decimals from smallest to biggest: 0,5; 0,25; 0,35; 0,4.
h. I have four triangular faces. What am I?
1. Copy and complete the flow diagrams.

   25 000 + 100 16 000 + 1 000
   12 600 80 000
   62 000 2 000
   40 400 57 000

2. Division with remainders.

   Copy and complete the number sentences.

   a. ___ ÷ 4 = 12 rem 3.                     e. 73 ÷ ____ = 8 rem 1.
   b. 102 ÷ ____ = 10 rem 2.                     f. ____ ÷ 7 = 9 rem 5.
   c. 94 ÷ ____ = 8 rem 6.                         g. ____ ÷ 8 = 6 rem 2.
   d. ____ ÷ 12 = 11 rem 8.                       h. 87 ÷ ____ = 7 rem 3.

3. Calculate and check your answers by using multiplication.

   a. 4 832 ÷ 19  b. 2 361 ÷ 23  c. 5 016 ÷ 31
   d. 7 178 ÷ 42  e. 1 945 ÷ 17  f. 6 947 ÷ 27

4. Write each shaded part as a fraction and a decimal.

   a. 

   b. 

5. Write the place value of the underlined digits:

a. 248,145  
b. 6 271,384  
c. 3 904,672
6. Copy and complete.
   a. 3,5+1,7  
   b. 7,6-2,0  
   c. 16,27+12,08  
   d. 65,19-27,23  
   e. 3,54x10  
   f. 15,78x100  

7. Capacity.
   Replace * with > < or =.
   a. \( \frac{1}{4} \) kℓ * 200mℓ  
   b. \( \frac{1}{5} \) kℓ * 250mℓ  
   c. \( \frac{9}{10} \) ℓ * 900mℓ  

8. Copy and complete the sentences.
   a. There are ____ 500mℓ in 6,5ℓ.  
   b. There are ____ 250mℓ in 3ℓ.  
   c. There are ____ 200mℓ in 2ℓ.  
   d. There are ____ 750mℓ in 1,5ℓ.  

9. Copy and complete the table.

<table>
<thead>
<tr>
<th>Fraction</th>
<th>Decimal</th>
<th>ℓ / mℓ</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. ( 1\frac{1}{2} ) ℓ</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. 5,25ℓ</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. 3ℓ 200mℓ</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

10. Copy and complete.
    a. 2kℓ = ____ ℓ  
    b. 5,5ℓ = ____ mℓ  
    c. 7 500mℓ = ____ ℓ  
    d. 1 350ℓ = ____ kℓ  
    e. 20ℓ = ____ mℓ  
    f. 6ℓ 200mℓ = ____ mℓ  
    g. 25% of 100ℓ = ____ ℓ