Dear Teacher

I hope that the following lesson description will help to improve your teaching strategy in your classroom. It was particularly designed with you the teacher in mind. The methods used are fun, easy and cost effective. I hope you will find it useful and apply the methodology with a positive and enthusiastic approach.

**Before we can begin any lesson we must understand the following:**

**WHAT IS MATHEMATICS?**
Mathematics is a language that makes use of symbols and notations for describing numerical, geometric and graphical relationships. It is a human activity that involves observing, representing and investigating patterns and qualitative relationships in physical and social phenomena and between mathematical objects themselves. It helps to develop mental processes that enhance logical and critical thinking, accuracy and problem-solving that will contribute to decision-making. (quoted from the CAPS document)

Every Mathematics lesson should be **hour 24 minutes per day for Grades 1 to 3.**

**SPECIFIC SKILLS**
To develop essential mathematical skills the learner should:

- develop the correct use of the language of Mathematics;
- develop number vocabulary, number concept and calculation and application skills;
- learn to listen, communicate, think, reason logically and apply the mathematical knowledge gained;
- learn to investigate, analyse, represent and interpret information( quoted from the CAPS document)
## Weighting of Content Areas in Foundation Phase

<table>
<thead>
<tr>
<th>Weighting of Content Area</th>
<th>Grade 1</th>
<th>Grade 2</th>
<th>Grade 3</th>
<th>Time per week</th>
</tr>
</thead>
<tbody>
<tr>
<td>Numbers, Operations and Relationships*</td>
<td>65%</td>
<td>60%</td>
<td>58%</td>
<td>120 minutes</td>
</tr>
<tr>
<td>Patterns, Functions and Algebra</td>
<td>10%</td>
<td>10%</td>
<td>10%</td>
<td>80 minutes</td>
</tr>
<tr>
<td>Space and Shape (Geometry)</td>
<td>11%</td>
<td>13%</td>
<td>13%</td>
<td>80 minutes</td>
</tr>
<tr>
<td>Measurement</td>
<td>9%</td>
<td>12%</td>
<td>14%</td>
<td>80 minutes</td>
</tr>
<tr>
<td>Data Handling (Statistics)</td>
<td>5%</td>
<td>5%</td>
<td>5%</td>
<td>60 minutes</td>
</tr>
</tbody>
</table>

Note: This lesson plan is only part of an entire daily Mathematics lesson.

You should include as part of this lesson plan:

- Counting
- Mental Mathematics
- Consolidation of concepts
- Problem Solving
- Group work
- Independent Activities

<table>
<thead>
<tr>
<th>Content Area</th>
<th>Topic</th>
<th>Concept and skills for the year Grade 1</th>
<th>Concept and skills for the year Grade 2</th>
<th>Concept and skills for the year Grade 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Space and Shape</td>
<td>Symmetry</td>
<td>Recognise symmetry in own body. Recognise and draw line of symmetry in 2-D geometrical and non-geometrical shapes</td>
<td>Recognise and draw line of symmetry in 2-D geometrical and non-geometrical shapes</td>
<td>Recognise and draw line of symmetry in 2-D geometrical and non-geometrical shapes. Determine line of symmetry through paper folding and reflection</td>
</tr>
</tbody>
</table>

**Apparatus**

1. Scissors
2. Colour paper
3. Data Projector
4. Symmetrical pictures
5. Butterfly print on a page
6. Cut out shapes
<table>
<thead>
<tr>
<th>Definition</th>
<th>Symmetry: Symmetry is when one shape becomes exactly like another if you flip, slide or turn it. The simplest type of Symmetry is &quot;Reflection&quot; (or &quot;Mirror&quot;)</th>
</tr>
</thead>
</table>
| Teaching Methods | **Whole class lesson:**  
  - PowerPoint: Introduction: definition of symmetry  
  - Slides of examples of symmetry in nature - pictures of buildings, fences, fruit, tables...  
  - Learners identify lines of symmetry in pictures  
  - Learners identify symmetry in the classroom.  
  Educator hands out alphabet letters A-Z to learners. The learners who have letters that have lines of symmetry draw the line of symmetry. Educator calls those learners forward to show their cards. e.g.:  
  A - does not have a line of symmetry  
  B - does have a line of symmetry  
  C - does have a line of symmetry  
  D - does have a line of symmetry  
  E - does have a line of symmetry  
  F - does not have a line of symmetry |

![Symmetry Diagram](image-url)
Activity: Make a “snowflake” (Learners recognise the symmetry in their snowflakes.)

Follow educator’s instructions:

Teacher explains the following:
Symmetry is a small part in the teaching of geometry. It however plays an important part in linking Mathematics to the real world.
Symmetry helps children to learn how to classify objects. It also encourages learners to focus on the qualities and parts of an object.
Studying the symmetry of animals, plants and everyday things encourage the learners to take an interest about the world around them.

Explain class activity:
Learners complete their snowflakes.
Different class groups complete a worksheet on symmetry.
Educator calls a small group to work on the mat

Small Group Lesson on the mat: Practical activity
Educator gives learners a template of a butterfly and an assortment of cut-out shapes.
Educator asks learners to place shapes on the one side of the butterfly. Ask them to make a symmetrical pattern on the other side of the butterfly.
Ask learners to draw the symmetrical butterfly in their exercise books.
Once learners are completed with exercise they return to their seats and complete their snowflakes.
www.mathsisfun.com

www.superteacherworksheets.com

www.primaryresources.co.uk

www.sparklebox.co.uk/sa