**MATHEMATICS LESSON PLAN**

**GRADE 7**

**TERM 3: July – September**

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| **PROVINCE:** |  |
| **DISTRICT:** |  |
| **SCHOOL:** |  |
| **TEACHER’S NAME:** |  |
| **DATE:** |  |
| **DURATION**: | 1 Hour |

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| 1. **TOPIC: GEOMETRY OF 3D OBJECTS**: Classifying 3D Objects (Lesson 1) |

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| 1. **CONCEPTS & SKILLS TO BE ACHIEVED:**   **By the end of the lesson, learners should know and be able to:**Describe, sort, and compare polyhedra in terms of shape and number of faces |

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| 1. **RESOURCES:** | Geometric solids, DBE workbook 2, Sasol-Inzalo book 2, Textbooks |
| 1. **PRIOR KNOWLEDGE:** | * Geometry of 2D shapes * Surfaces |
| 1. **REVIEW AND CORRECTION OF HOMEWORK** (suggested time: 10 minutes)   Homework provides an opportunity for teachers to track learners’ progress in the mastery of mathematics concepts and to identify the problematic areas which require immediate attention. Therefore it is recommended that you place more focus on addressing errors from learner responses that may later become misconceptions. | |
| 1. **INTRODUCTION** (Suggested time: 10 Minutes)   Introduce the concept of a geometric solid to the learners with real life objects, like the one illustrated below. The concept geometric solids are 3 Dimensional (3D) in nature should also be explained to learners.  A cereal box can be represented diagrammatically as shown in Figure 2 below. It looks like a skeleton of a cereal box.  **Activity**  Label the geometric solid below and then define each of the terms listed below the geometric solid. This serves as a revision of the work that was done in grade 6.   |  |  |  | | --- | --- | --- | | cereal box: Illustration of a ... |  | Curved surface  Flat surface | | *Figure 1* | *Figure 2* | *Figure 3* |   Surface: …………………………………………………………………………………………….  Face: ………………………………………………………………………………………………. | |

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| 1. **LESSON PRESENTATION/DEVELOPMENT** (Suggested time: 20 minutes) | |
| **Teaching activities** | **Learning activities**  (Learners are expected to:) |
| Guide learners as they work through activity.  **Activity**  Sort the geometric solids below into three or four main groups. Explain the criteria used to classify the geometric solids.  NB: Using real life objects is more beneficiary as it brings reality to the classroom.  [Learners may work in groups to do this activity and the teacher checking their reasoning skills]   |  |  |  |  |  | | --- | --- | --- | --- | --- | | 1. | 2. | 3. | 5. | 6. | | 4. | | 7 | 8 | 10 | 11 | 12. | | 9 | 13. |   Learners may use different criteria to sort the geometric solid and the teacher needs to bring them to a common understanding.  The outline below serves as a guide. | * Sort the geometric solids below into three or four main groups. * Explain the criteria used to classify the geometric solids. |
| Summary of the properties  There are three main groups of geometric solids that we focus on. There are geometric solids with:   1. All the surfaces that are flat. These include prisms and pyramids 2. Flat and curved surfaces. These include cylinders, cones and semi-spheres. 3. All surfaces that are curved. These include sphere, and ellipses e.g. rugby ball.   Learners need to be asked to then sort geometric solids according to the above criteria |  |

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| 1. **CLASSWORK** (Suggested time: 15 minutes) |
| **Activity**  Identify, name and label as many pyramids, prisms, cylinders, cones and sphere as you can in the pictures below.   |  | | --- | |  | | Image result for castle | |  | | http://www.molu.co.za/wp-content/uploads/2013/09/Castle-Neuschwanstein.jpg | |  | | Image result for rondavel houses | |
| 1. **CONSOLIDATION/CONCLUSION & HOMEWORK (Suggested time: 5 minutes)** |
| 1. Emphasis that:  * Geometric solids can be according to their surfaces   + Prisms and pyramids have flat surfaces   + Cones and cylinders have a combination of curved and flat surfaces   + Spheres have curved surfaces.  1. The primary purpose of Homework is to give each learner an opportunity to demonstrate mastery of mathematics skills taught in class. Therefore Homework should be purposeful and the principle of ‘Less is more’ is recommended, i.e. give learners few high quality activities that address variety of skills than many activities that do not enhance learners’ conceptual understanding.   Carefully select appropriate activities from the Sasol-Inzalo books, workbooks and/or textbooks for learners’ homework. The selected activities should address different cognitive levels.  **Recommended Homework**:   1. Use the terms Cylinder; sphere; Cone; Prism; Pyramid to match with the 3D objects below.  |  |  |  | | --- | --- | --- | | A. | B. | C. | | Image result for party hats | Image result for tennis ball | Image result for coke can | |  |  |  | | Pyramid, Model, Egyptian, Decorated | Image result for cube storage | Image result for shoe box | |