**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 2)** |

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| **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   + number of vertices   + number of edges(   prisms and pyramids) |

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| 1. **RESOURCES:** | DBE workbook 2, Sasol-Inzalo book 2, Textbooks |
| 1. **PRIOR KNOWLEDGE:** | * Polygons * Edge, Faces and Vertices |
| 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)   From the previous lesson, our main focus will be on geometric solids with flat surfaces ONLY.  ACTIVITY   1. **The diagram below shows a a prism and its faces..**  |  |  | | --- | --- | |  |  |  1. What shape is the base?   \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   1. What shape are the other faces?   \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   1. What is the collective name for all the faces shown above?   \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   1. **The diagram below shows a pyramid and the shapes needed to make one.**  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | |  |  |  |  |  |  |  1. What shape is the base?   \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   1. What shape are the other faces?   \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   1. What is the collective name for all the faces shown above?   \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | |

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| 1. **LESSON PRESENTATION/DEVELOPMENT** (Suggested time: 20 minutes) | |
| **Teaching activities** | **Learning activities**  (Learners are expected to:) |

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| The teacher will explain the following to learners   * All the faces of the geometric solids above are polygons. * A polygon is a flat shape with straight lines. * This group of geometric solids (prisms and pyramids) are called polyhedra because all their faces are polygons. * A polyhedron is a 3D object or geometric solid with faces that are polygons.   Do the activity below with learners.  **Activity 1**  For each polyhedron below, write down the name of the polyhedron as well as the name and number of each face (polygon). Note that not all faces can be seen.   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | Polyhedron |  |  |  |  |  | | Name of each face & number |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  | | Name of polyhedron |  |  |  |  |  |   NOTE:   * **A prism** is a polyhedron of which all lateral faces are rectangles. It has two congruent and parallel faces that are called bases. The base could be any polygon. * **A pyramid** is a polyhedron of which all lateral faces are triangles. The triangles meet at a common vertex called an apex. The base could be any polygon. * We name prisms and pyramids according to their bases. The base is not necessarily the face it is sitting on. [The teacher to explain this concept]   Apex  Lateral faces  Base   |  |  |  | | --- | --- | --- | |  |  |  | |  |  |  | | PYRAMID |  | PRISM | | Do the activity below with teachers.  Respond to leading questions |

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| 1. **CLASSWORK** (Suggested time: 15 minutes) |
| Answer the following questions.   1. A cube is a special prism. Why?   \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   1. What is another name for a cube?   \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   1. What is a ‘right’ prism? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2. A triangular pyramid is a special pyramid. Why?   \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   1. What is another name for a triangular pyramid   \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

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| 1. **CONSOLIDATION/CONCLUSION & HOMEWORK (Suggested time: 5 minutes)** |
| 1. Emphasise that:    * **A prism** is a polyhedron which has all lateral faces that are rectangles. The base could be any polygon.    * **A pyramid** is a polyhedron which has all lateral faces that are triangles. The triangles meet at a common vertex called an apex. The base could be any polygon.    * **An apex** is the highest point of a geometric solid with respect to a line chosen as base.    * We name prisms and pyramids according to their bases 2. 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. DBE Workbook 2; on page 79 . Number 2 (a – d) |