**MATHEMATICS LESSON PLAN**

**GRADE 7**

**TERM 1: July – September**

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

|  |
| --- |
| 1. **TOPIC: GEOMETRY OF 3D OBJECTS**: Building 3D models **(Lesson 7)** |

|  |
| --- |
| 1. **CONCEPTS & SKILLS TO BE ACHIEVED:**   **By the end of the lesson, learners should be able to :**   * Revise using nets to create models of geometric solids, including:   + cubes   + prisms |

|  |  |
| --- | --- |
| 1. **RESOURCES:** | DBE workbook 2, Sasol-Inzalo book 2, Textbooks, containers, pair of scissors, ruler, set square |
| 1. **PRIOR KNOWLEDGE:** | * Construction of parallel lines * Construction of perpendicular lines * Measurement |
| 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)   Learners will be given the activity below to complete.   1. Draw and cut out a circle with a radius of 6 cm. Cut out a slice/part of a circle as shown in the picture. 2. Bring the end points together. 3. What geometric solid does it resemble? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 4. Now fold the endpoints so that they pass each other. What happens? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   1. Carry on doing so and note what happens. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  **Consolidation**  The net above fold into a cone. If the endpoints pass each other, the radius of the base decreases and the cone becomes smaller in terms of radius but its height does not change. | |

|  |  |
| --- | --- |
| 1. **LESSON PRESENTATION/DEVELOPMENT** (Suggested time: 20 minutes) | |
| **Teaching activities** | **Learning activities**  (Learners are expected to:) |
| **Activity 1**  **The teacher should guide learners throughout this activity.**  **NOTE**: The construction of nets does not require measuring of the internal angles of polygons.   * 1. Construct a **square-base pyramid** net   STEP 1  Construct two perpendicular lines. The lengths of AD and AB should be the same. Use your pair of compasses to measure them. Form there construct rectangle ABCD  .    STEP 2  Using AB as a base, construct a triangle.  Using DC as a base, construct a triangle.    STEP 3  Using DA as a base, construct a triangle.  Using BC as a base, construct a triangle | Do the activity  Draw the net using a pencil, ruler and a set square and a protractor..  Follow instructions and answer questions |
| 1. **CLASSWORK** (Suggested time: 15 minutes) | |
| 1. Follow the steps below to construct a net of a **tetrahedron**.  |  |  | | --- | --- | | STEP 1  Construct an equilateral triangle. Label it ABC. | STEP 2  Construct another equilateral triangle with one base joined to base AB of the first triangle. | |  |  | | STEP 3  Construct another triangle using BD as a base. | STEP 4  Construct another triangle using AD as the base. | |  |  | | STEP 5  Cut your net out and fold it into object. | |  1. Reflect on the two constructions you did in class. 2. What did you enjoy about the activity?   \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   1. Did you experience any difficulties?   \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   1. Is there anything you would do differently?   \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | |

|  |
| --- |
| 1. **CONSOLIDATION/CONCLUSION & HOMEWORK (Suggested time: 5 minutes)** |
| 1. Emphasise that:    * Accuracy and neatness is very important    * When drawing learners must always use a sharp pencil    * A calibrated ruler should also be used 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**:  Construct any net you choose. Cut the net out and fold it to create your chosen 3D object. Choose from the following 3D objects:   * Cube * Rectangular Prism * Triangular Prism |