**LESSON DEVELOPMENT 0NE**

**CONVERSION OF BASE 2 AND BASE 10**

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| **STAGE/TIME** | **TEACHER’S ACTIVITIES** | **LEARNER'S ACTIVITIES – MIND/HANDS ON** | **LEARNING POINTS** |
| **Step 1****Introduction – Introductory Activities** **(5 minutes)** | Revises with the pupils, the relationship between base 2 and base 10. | ***To base 10*** 111 base 2= 1 x 2^2 + 1 x 2^1 + 1 x 2^0= 1 x 4 + 1 x 2 + 1 x 1= 4 + 2 + 1 = 7 base 10***To base 2***7/2 = 3 R 13/ 2 = 1 R 11/2 = 0 R 1 7 base 10 = 111 base 2 | Linking the Previous knowledge to the new lesson  |
| **Step 2** **Development** **(5 minutes)** **Grouping** | 1. Groups the learners into four groups – A, B, C, and D. 2. Guide the learners to choose a leader and secretary for your group. 3. Gives each group learning materials – Chart showing relationship between base 2 and 10.  | 1. Belong to a group. 2. Choose their leader and secretary. 3. Received learning materials for their group.  | Learner’s group, leader and secretary confirmed. |
| **Step 3****Development – Groups Activities** **(15 minutes)** | Guides the pupils to convert 110 base 10 to base 2. Lets them convert 1101110 base 2 to base 10 and state the relationship between both questions. | 110/2 = 55 R 055/2 = 27 R 127/2 = 13 R 113/2 = 6 R 16/2 = 3, R is 03/2 = 1 R 11/2 = 0 R 1110 base 10 = 1101110 base 2. | Base 2 and base 10  |
| **Step 4****Development – Groups Activities and Presentation** **(10 minutes)** | Presentation  |  | Groups Activities and Presentation  |
| **Step 5****Development****(5 minutes)**  | To conclude the lesson, the teacher revises the entire lesson and ask the key questions. **SUMMARY** To convert an expression in base ten notation to base two notation, just do the arithmetic. | The learners listen, ask and answer questions.**KEY QUESTIONS** Convert 88 to base 2 and the result, convert it back to base 2. | Lesson Evaluation and Conclusion  |