**LESSON DEVELOPMENT TWO**

**OVERCOMING OR REDUCING FRICTION**

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| **STAGE/TIME** | **TEACHER’S ACTIVITIES** | **LEARNER'S ACTIVITIES – MIND/HANDS ON** | **LEARNING POINTS** |
| **Step 1**  **Introduction – Introductory Activities**  **(5 minutes)** | Asks pupils to rub their palm together. ***What do you observe?***  Tells them to apply oil to their hands and rub again. ***What do you observe?***  ***The smoother the surface, the less the friction.*** | There is present of friction.  There is less friction. | 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 – oils or grease (lubricant), rollers and bearings. | 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**  **(10 minutes)** | ***Asks pupils to –***  1. Try to move a heap of books by pushing them on your desk or table top. ***Is it easy?***  2. Now, use 4 or more fairly round sticks or pencils, try to move heavy book on them. ***What do you observe?***  3. Use several round beads on the floor to move heavier objects.  4. List and discuss ways of reducing friction. | Not easy to push.  Yes, it is easy to move.  Yes, it is easy to move.  Ways of overcoming friction – ***oils (grease or lubricants), rollers, ball bearing and polishing or smoothing the rough surface.*** | Ways of reducing friction. |
| **Step 4**  **Development – Groups Presentation**  **(10 minutes)** | Asks each group to present their results/solutions so that you can compare responses with those in other groups. | **Presentation – Call on any member of at least two pairs in each to make presentation to the class.** | Group Presentation |
| **Step 5**  **Conclusion**  **(10 minutes)** | To conclude the lesson, the teacher revises the entire lesson and ask the key questions.  **SUMMARY –**  Since friction is very useful in some cases while harmful in some cases. There is no to reduce friction where necessary. | The learners listen, ask and answer questions.  **KEY QUESTIONS –**  ***As discussed in groups, write down in your note, ways of overcoming friction.*** | Lesson Evaluation and Conclusion |

***Reference book – Primary 5 Basic Science & Technology***