**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***