Essential Services

Leaking Taps

Lesson objective

In this lesson, students investigate leaking taps around the school and develop some skills that would be useful in fixing these taps. As WHS issues prevent the actual changing of tap fittings, the skills developed in this lesson focus on the measuring and ordering of washers.

Lesson overview

This lesson is in two parts.

Part 1 – students complete a survey of the school to identify any leaking taps. Students measure the amount of water lost due to the leaks.

Part 2 – students look at a range of washers and use measurements to identify relevant washers in a hardware catalogue

Classroom Organisation

Students work in small groups. Part 1 will require students to tour the school to examine all of the taps. Boys and girls (plus an appropriate staff member) will need to look at taps in toilets and change rooms of students.

Resources

Part 1

Print

- ❑ Tap Checklist

Other

- ❑ Measuring cups

Part 2

Print

- ❑ Catalogue extract
- ❑ Order form worksheet

Other

- ❑ Miscellaneous round or flat washers – one set per group
- ❑ Rulers with 1mm increments

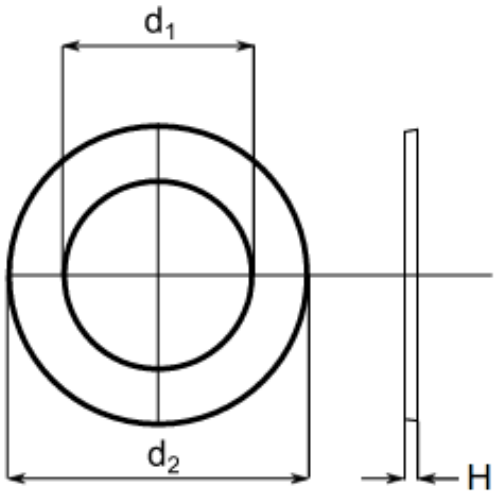
Instructions

Part 1

1. In small groups, students move through the school grounds investigating all accessible taps. For ease of supervision, you may like to have students go with an Assistant Teacher while you work with the remaining students.
2. Students complete the checklist as they find leaking taps.
3. Students place a measurement cup under leaking taps for a short while. The duration will depend on the likelihood of the tap being used e.g., taps in toilets are more frequently used than others.
4. After each measurement, students calculate the amount of water wasted daily e.g. if 10 ml of water is collected in an hour, 240 ml is wasted in a day.

Part 2

1. Students form small groups of two to four.
2. The groups will need to measure the following dimensions of a range of washers:
   - Inside Diameter (ID - *d1*)
   - Outside Diameter (OD – *d2*)
   - Thickness (*H)*



Note: All measurements are in millimetres (mm)

3. Students record the measurements in the worksheet.
4. Students use the measurement to find a part number in the stock list. Record this information in the worksheet.