

Loop de Loop

OBJECTIVE: To introduce recycling symbols to children.

MATERIALS: glue, paper, pen or pencil, **HANDOUTS:** **The Twister** (D25), **Twisting Arrows** (D26), **Arrow Cut-Outs** (D27)

VOCABULARY: consumers, Mobius loop, recycling, remanufactured, symbol

BACKGROUND:

Recycling is in theory a never ending process. Steel, aluminium, paper and other recyclable materials are remanufactured repeatedly. Because of its continuous nature, recycling requires a special symbol.

In the 19th Century a German mathematician named August Mobius made a loop by taking a strip of paper, twisting it once and joining the strip's ends. The strip was meant to be a toy for children but today it is the symbol for recycling. By twisting the piece of paper Mobius created a loop with one continuous side that has no start and no finish just like recycling itself. By adding three arrows, the loop represents the three stages of recycling: separation and collection of materials, manufacturing of recycling products, and consumers buying recycled products.

PROCEDURE:

1. In front of the class take a strip of paper, twist it once and attach the ends of the paper together. Explain to the children that the loop you have made has one continuous side; there is no end or beginning to the loop.
2. Have the children make their own loops. Distribute the **HANDOUT: The Twister** (D25) to the class. Ask them to take a pen, pencil, etc. and draw a line on the loop. The line should appear on both sides of the loop, before arriving back where the line began, if it is drawn properly.
3. Tell the class the story of August Mobius, the inventor of the loop.
4. Now hold up a picture of the recycling symbol to the class. Ask the students what the symbol means.
5. Explain the symbol stands for recycling and it too is a Mobius loop. Mention to the class how recycling is a never ending process where things are placed in the Blue Box, recycled, sold and then placed in the Blue Box over and over. Because the Mobius loop has no end it is a good symbol for recycling.
6. Tell the class the arrows were added to the loop to show how recycling "goes around and around".

RECYCLE - PRIMARY ACTIVITY 1

Loop de Loop (cont.)

PROCEDURE (cont.)

7. Use the HANDOUT: **Twisting Arrows** (D26) to show the children how they will make their own Mobius Loop. Photocopy the HANDOUT: **Arrow Cut-Outs** (D27) and distribute a copy to each child. If possible, copy the HANDOUT as it appears (printed on both sides). This will make a better finished recycling symbol.
8. After cutting out the arrows the children tape them point to tail (see Step 1 on D26) to make a strip. The strip is then twisted once before closing into a loop (Step 2). Finally, the children fold the arrows flat (Step3).
9. Finish the activity by telling the class to watch for the recycling symbol on things they buy, use or throw away.

EXTENSION:

1. Have the class draw or paint a picture about recycling. Place the drawing or pictures on a bulletin board using the children's recycling symbols as a border.
2. Use the students recycling symbols as the foundation for posters.
3. Award different coloured (silver, gold, green) symbols to students who are "good recyclers".

EVALUATION:

1. Ask the class why a Mobius loop is a good symbol for recycling.
2. Will the students begin to look for the recycling symbol at home and in school?
3. Did the students have the skills necessary to construct a Mobius loop?