

# UNIT 5: REUSE

## VOCABULARY

Disposable  
Durable  
Opportunity Shop  
Waste

Reduce  
Reuse  
Recycle



## BACKGROUND

The concept of REUSE is a simple and important one: to use something again and again. If we reused things like plastic and glass containers and recycled all that we could, our rubbish wouldn't be such a problem.

There are several things we can reuse ourselves or pass on to friends, relatives or neighbours. Used toasters, televisions, radios, dolls, toys, books and clothing are just a few items that can be donated to community groups, schools or sold to second-hand shops or at garage sales.

Instead of throwing that old bike away, why not repair it? Before you buy something new, why not check a second-hand shop.

Simple things like reusing plastic shopping bags at the supermarket can help conserve resources and reduce our rubbish. Buying durable goods instead of disposables makes reuse easier. We can reuse items for a similar purpose such as a used glass jar for holding food or for a different purpose such as a decoration.

## Materials students may bring from home

small bag of clean rubbish  
plastic gloves  
old cardboard box  
white glue  
tempra paints  
brushes  
old magazines and newspapers  
book of collage  
toilet paper rolls  
meat trays  
old socks  
tin cans  
milk cartons (plastic or cardboard)  
egg cartons  
ice block sticks  
old toys  
juice bottles  
plastic bags  
margarine or butter containers  
yoghurt cups  
bottle tops  
old calendars  
pieces of cloth material  
thread or yarn  
needles



# REUSE IT

## Where to Begin!



### KEY CONCEPT

Waste can be reused in many different ways.

### LEARNING OBJECTIVES

Students will recognise different types of waste and will develop ways to reuse it. Students will realise second hand and opportunity shops are often sources of good inexpensive clothing and toys.

### MATERIALS

- Have each student bring in one or two examples of waste from his or her home (ask children to be sure the waste has been cleaned as much as possible before bringing it in). The collected materials should include old toys, books, clothing, plastic containers, aluminium cans, tin cans, paper, glass bottles and cardboard. As the students NOT to bring in any metal objects or other sharp materials.
- Worksheet 16 "What to Do..."

### BACKGROUND INFORMATION

Waste comes in all shapes and sizes. In order to understand that waste can be separated into different categories, students should be familiar with the different types of waste.

### LEARNING STEPS

1. Place all of the waste materials in one pile on the classroom floor, taking care not to break the glass. Talk about the

different resources they originated from and their individual characteristics:

- Toys: plastic, wood
- Magazines: paper which comes from trees, flexible, and lightweight
- Plastic: flexible, lighter than glass, waterproof, made from oil
- Glass: solid, breakable, made from sand
- Aluminium: light, doesn't rust, non-magnetic, made from bauxite
- Steel: made of alloy, magnetic, made from minerals
- Paper: light, easy to tear, made from trees
- Cardboard: sturdy, made from trees
- Clothing: made from natural fibres like cotton and wool or synthetic fibres like rayon and polyester

2. Label boxes or piles at front of the classroom and have children sort the waste into categories such as paper waste, clothing, metal, glass, aluminium etc. Notice the feel of the different texture and shapes.

Question: can we reuse any of this waste?

3. Students complete Worksheet in groups or individually. Discuss. Create a poster showing all the 'reuse it!' possibilities.
4. Why not get your class to organise a 'swap shop' for such items as comic books, magazines, books, toys, games, puzzles, tapes/cds, ornaments and posters? If the 'swap shop' is a success, why not go the whole way! With support of the PTA and Board of Trustees promote a community-wide garage sale at the school! Encourage

the reuse of household items and reduce waste. One person's waste is another's treasure.



## EXTRA ACTIVITIES

### 1. It Pays to Advertise

As a language exercise, have the class prepare newspaper advertisements for a "For Sale" column, or a "Buy, Sell or Swap" session on talkback radio. Limit the number of words to be used in describing their bike, skateboard, sportsgear, clothes etc. Perhaps encourage some to actually place their advertisement for unwanted goods!

### 2. Let Your Rubbish Fly

All sorts of waste can be used to make a kite - experiment with different designs and sizes. Try some waste plastic sheeting, cord, string, stick, paper and bread bags. Who knows? In our time you can be flying your rubbish!

### 3. Fix a Toy

Start a 'broken toy' collection and encourage children to bring old and broken toys from home. In groups ask children to talk about particular toys - What is it made of? What caused it to break or wear out? Could it have been better made? How could it be fixed, renewed, smartened up? Could the original design be improved? How can we recycle toys? Could we start a toy or game library at school? What about starting a used toy, game and book drive for our local children's hospital? Bring group ideas to the whole class and use toy restoration as a theme for art and craft lessons.

Collect toys, magazines, books for distribution to the local play centre, kindergarten, hospital, doctor or dentist rooms.

# WORKSHEET 15

## WHAT TO DO WITH ALL THOSE...

Appliances:

A. schools

Art supplies:

B. child centres

Books:

C. libraries

Cloth:

D. learning centres

Furniture:

E. shelters

Magazines:

F. scrap dealers

Metals:

G. technical schools

Paint:

H. dance/theatre groups

Paper:

I. used book shops

Cds and Tapes:

J. used record shops

Tools:

K. second hand shops

Toys:

L. fleamarkets

M. garage sales

N. antique shops

Can you think of any other things for reuse?



# ONE MORE TIME!

## Reusing Waste

### KEY CONCEPT

Reusable waste can be used again in its original form or as a work of art

### LEARNING OBJECTIVES

Students will learn how materials can be used over and over again.

### MATERIALS

- Plastic gloves for sorting
- Small pile of pre-sorted rubbish
- Old box
- White glue, tempura paints, brushes, newspaper, and magazines
- Make or find examples of collages. (Most art/art history books should have these)
- Several clean, reusable waste items, each student can bring in several items (see Seps for suggestions on what to collect)

### BACKGROUND INFORMATION

Some items should not be disposed of when they have only been used once. Many materials can be reused when combined with other materials or as substitute items.

### LEARNING STEPS

1. Bring in a pile of presorted rubbish for students, perhaps even taking another classroom's rubbish bin. Be sure to include recyclables, as well as things which may be reused in their original state. Do not include food scraps, sharp metal or glass objects or any other harmful materials.

Removing the recyclables and reusables will help students understand that they reduced the amount of rubbish they throw away. Go through the items individually, asking whether some of these are found in the rubbish at home. Discuss how they can reduce their family's rubbish by taking recyclable and reusable things out of the rubbish.

2. Ask the students how many uses they can think of for a large peanut butter jar or a coffee can. List all the uses.
3. Set up a 'use-it-again' box for the classroom, where students place all materials that can be used again. Welcome contributions on a day to day basis. For example, paper that has only been used on one side can be used again for drawing paper, quiz sheets etc. Craft items from home (egg cartons, margarine tubs etc) can also be brought in to make collages, mobiles and other art projects. Decorate the box.
4. Ask the students to think of ways to reuse the following items in either their original form (eg juice containers used again for a drink bottle or a flower vase) or as something else (eg an old sock decorated to make a puppet)
  - toilet paper rolls
  - meat trays
  - old socks
  - tin cans
  - milk cartons (plastic or cardboard)
  - egg cartons
  - ice block sticks
  - old toys
  - old juice bottles
  - plastic bags
  - margarine or butter containers
  - yoghurt cups
  - old wooden blocks
  - bottle tops
  - old calendars
5. Have students create collages, models, sculptures, etc with any leftover materials.

6. Display the reused items in the school library, assembly hall or classroom.

## EXTRA ACTIVITIES

### 1. A Hundred and More!

Take a common item of rubbish eg PET plastic bottle or aluminium can - and get your class to brainstorm as many uses as possible for this item; for example the kitchen, workshop, garden shed, sports, fruit shop, dairy or by children, teenagers, adults, senior citizens or by a carpenter, office worker, farmer, fisherman, or scientist. Can we get 101 ideas? Easily!

### 2. Make a Solar Cuppa Tea

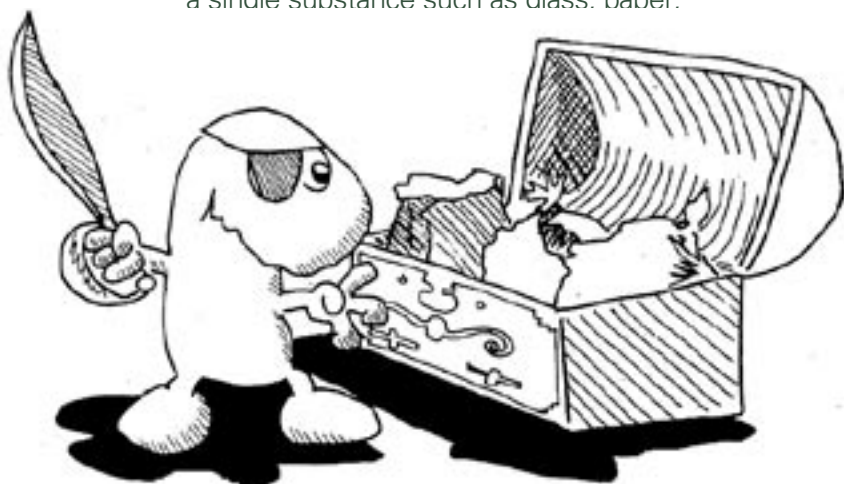
Using a variety of materials (including aluminium foil and a dish shaped object to serve as a reflector) suspend a can of water at the point where the sun's rays converge. See how long it takes to boil the water or turn this into a class group competition. Enjoy your cuppa!

### 3. New Treasures from Old

Have a competition within the class - who can make useful articles, presents, toys, ornaments etc from discarded plastic or metal containers, cans, bottles, cardboard, boxes. Make sculptures from paper mache? Desk tidy from aluminium cans? Child's mobile from coloured plastic tops?

### 4. Musical Instruments

Provide students (or they bring their own selection) with a wide range of rubbish/junk materials and encourage them to invent/design a new musical instrument which is going to 'take the world by storm'. Instruments could be made of a single substance such as class. paper.



plastic or wood, or could be a mixture of materials. Presentation could be as an 'orchestral recital' to the class, school, PTA etc

### 5. Construction Art

- A. A Money Box House
  - small milk carton (rinsed well and left to dry)
  - paper, brown and coloured
  - stapler
  - glue

Cover the container with brown paper. Staple the top. Cut out coloured paper to add house features. Cut a slit in the roof.

- B. Pop-Up Puppets
  - foam cups or yoghurt cups (rinsed out well)
  - ice block sticks
  - paper
  - felt tips
  - glue

Have the students draw a face and two hands on paper. Glue onto top of ice block stick. Make a slit in the bottom of the cup. Decorate the cup.

- C. Plant Pots
  - Use milk cartons, plastic takeaway containers, or large plastic bottles as a planter. Cut a small hole in the bottom of the container for drainage.

- D. Junk Hat
  - Have students make a special 'junk hat' from scrap items like construction paper, string, egg cartons, glitter and stickers.

### 6. Shopping Mall Display

Build up a class or school display combining the results of individual or small group investigations and research. Projects, posters, charts, maps, photographs, craft work, mural, junk sculptures, stories, videos, community surveys, student leaflets and brochures, recycled products. Now arrange to set up this display in your local shopping centre, supermarket, library, council office, bank or community centre. Having convinced your students and

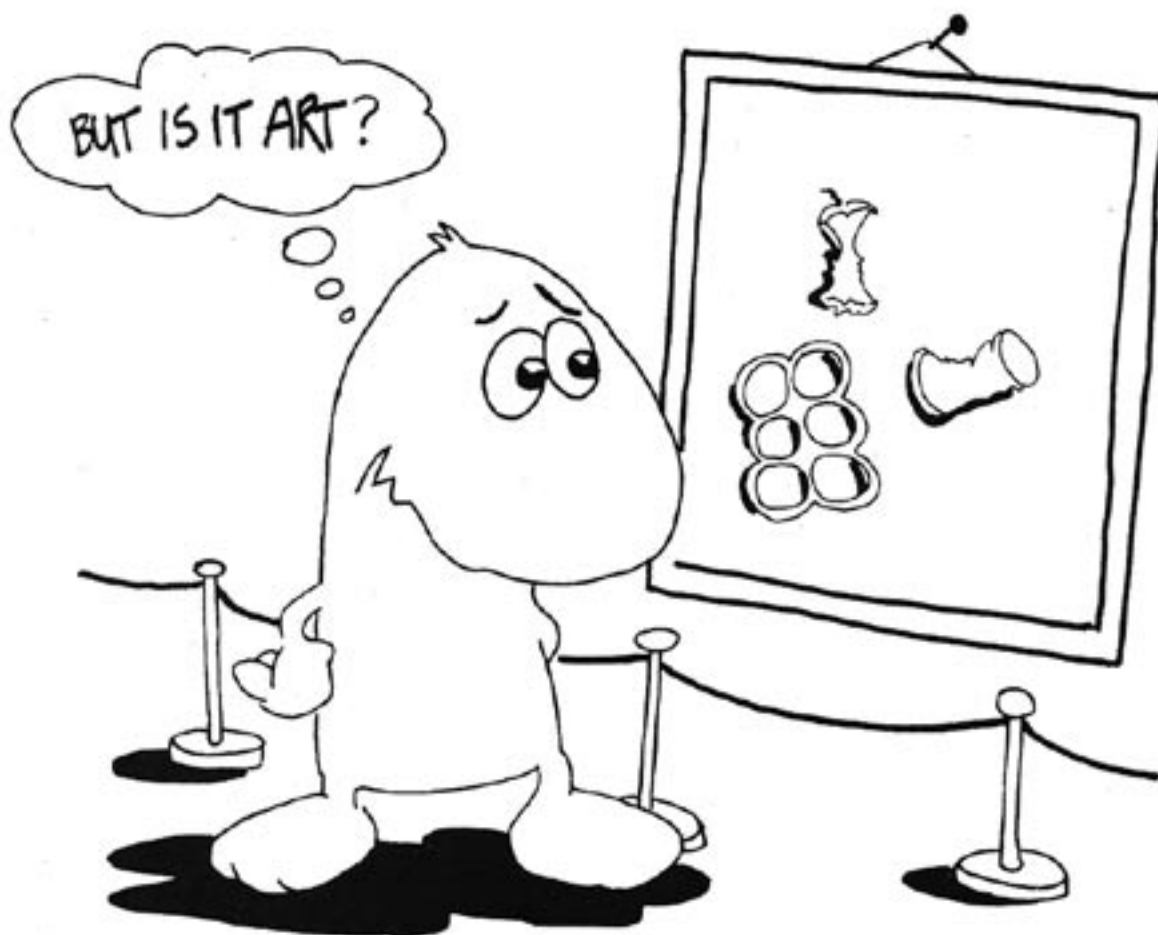
their families, why not the rest of your community?

### 7. A Container of Containers

Collect containers - all sorts, sizes, shapes and materials! Encourage your class to make a display of as many different kinds of packaging as they can find and bring to school - cartons, bottles, packets, bags, boxes... big and small ... square, round, flat, cylindrical ... plastic, foil, cardboard, paper, metal ... simple, complex ... plain, fancy ... Use them in discussing, describing and investigating packaging and how it can be improved, reduced or even eliminated.

### 8. A Technology Challenge

Using only waste materials (cans, bottles, cardboard, plastic etc) plus some glue, staples, tape etc. Design and make a vehicle powered by a standard rubber band. Each group has a band 3mm wide, 1.5mm thick and 100m in circumference, unstretched. The winner is the group whose 'band wagon' travels the longest distance.



# SOMETHING OLD TURNED NEW

## Reusing Fabric



### KEY CONCEPT

Many beautiful objects can be made out of scraps and leftovers.



### LEARNING OBJECTIVES

Students will learn creative ways to reduce solid waste by reusing some of what they might normally throw away. Students will create useful and artistic projects from fabric scraps.



### MATERIALS

- Small bright coloured pieces of material (ask each student to bring some to class)
- Needles
- Thread or yarn



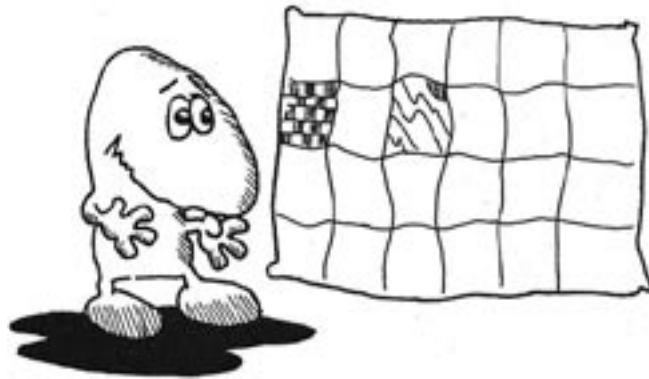
### BACKGROUND INFORMATION

Years ago, rags, clothing, old flour bags and potato sacks were washed and made into clothing or household items, like rugs, oven cloths, dolls and quilts. Nothing was wasted, hand-me-down clothing was the norm not the exception.



### LEARNING STEPS

1. Discuss growth with students. Are they taller than a year ago? Can they wear the same clothes as they did then? What happens to clothes when they are outgrown? Do students share them with brothers and sisters or friends who are smaller? Do students donate old clothes to charity? Is this a good idea? Why?



2. Emphasise the idea of taking care of clothes and toys, to keep them in good condition so they can be used by other children.
3. What other things beside fabric have you thrown away that could have been used again or made into something new? What things do you or your family reuse at home?
4. Create a mini-quilt using the patchwork scraps collected. Students can help select pieces and, depending on age, can sew them together. Younger students can stitch or glue patches onto calico.



### EXTRA ACTIVITIES

1. **A Quilt Maker Visit**  
Invite a quilt maker to visit and demonstrate quilt making.
2. **Reusing Scraps**  
Decorate boxes with fabric scrap designs. Use the boxes to collect recyclable materials. Keep a decorated box in the classroom for paper collection.  
  
Make pot holders or oven clothes with fabric scraps.  
  
Material scraps make great collage. Use to make class murals or individual pictures.
3. **Potato Sack Fun**  
Save and wash potato sacks. Students can decorate with applique squares or pulled threads. Bind and back for presentation.

#### 4. Bag Puppets

Make and paint bag puppets or puppets from waste materials, such as PET plastic bottles, and cardboard boxes, milk cartons, or plastic containers and use these in a play or interview about recycling. Make up a stage and stage set using cartons, corrugated cardboard, coreflute boards etc.

Write a script with the same theme and using these characters, develop a show for the rest of the class or the whole school.

# DISPOSABLE VS DURABLE



## KEY CONCEPT

Durable products can be reused over and over. Disposable items create waste.

## LEARNING OBJECTIVES

Students will learn about disposable and durable products.

## MATERIALS

- Old magazines
- Samples of disposable products

## BACKGROUND INFORMATION

Modern conveniences of disposables have led to a shift in consumer habits. While disposables provide some benefits, they also pose serious consequences, particularly when it comes to their disposal.

## LEARNING STEPS

1. Show advertisements from magazines, television etc encouraging the use of disposable items (eg tissues, nappies, razors etc)
2. Bring in examples of disposable products (eg tissues, microwave popcorn, razors) as well as their durable counterparts
3. What do you do when your pen runs out of ink? What did people write with before the invention of disposable pens?

4. What are some examples of disposable products that you have used? (nappies, pens, razors, cameras, shopping bags, wrapping paper, takeaway food containers, paper plates, paper towels)
5. Why do you think people use these disposable products rather than more durable, or long-lasting alternatives?
6. Help students to understand that people often use disposable items because it is easier, and sometimes cheaper, to replace these items than to clean, refill, or repair durable goods. Unfortunately, these disposable items create a significant amount of waste.

## EXTRA ACTIVITIES

### 1. Disposable/Durable

Brainstorm 2 lists of products, disposables and durables.

- a. What is the difference about the disposable products from the durable products?
- b. What problems do the disposable products cause?

### 2. Survey Local Supermarket

Take a trip to the supermarket to assess the numbers and types of disposable and durable goods on the shelves. Ask students to suggest alternatives for replacing disposables.

### 3. Using Rubbish to Create Art

Here are some reuse ideas:

- use an old pump sprayer to decorate scrap paper
- use old sponges and paints to decorate scrap paper .. make bookmarks, note pads etc

- use cardboard scraps as paint brushes or as a print block

#### **4. Build Up A Display**

Create a two part poster display; one half for disposable goods, the other for durable substitutes. Try using used products from home or school or draw the products.

#### **5. Fragile Goods Container**

The challenge is for each group to design a container to protect a fragile product during transportation without breakage. Divide into groups of two with time for discussion, planning and gathering materials, and time for construction and testing. Sometimes this exercise is done with a set amount of paper, string, sellotape etc, or with a set limit on the weight of material used. Easier to issue each group with 5 sheets of used A4 photocopy paper, one metre of sellotape, one metre of string, 100cc of white glue and one large uncooked egg! Test the containers either from a height (off a two storey building) or progressively from two metres, four metres, eight metres etc.

#### **6. Personal Action**

Design posters or wall charts encouraging consumers to reduce their use of inefficient packaging, mention buying in bulk, refillable containers, reusing packaging, using a shopping bag or basket, returning recyclable items, collecting return deposits, avoiding over-packaged items etc.