

## Natural Resources and the Role of REcycling

### GRADES K-3

#### OVERVIEW:

This lesson will present the concept of cycle, and REcycle.

Students will understand that a cycle is continuous.

Students will understand that recycling is part of a continuing cycle.

Students will understand the roles that individuals play in recycling and waste management.

Student will learn that many objects are made from natural resources and that natural resources are something that needs to be sustained.

#### DURATION:

20 - 30 minutes

#### VOCABULARY:

Cycle

Compost

Natural resources

Recycle

#### MATERIALS:

“Background Information for Teachers: Connections from the Cafeteria to the Classroom” and/ or “Solid Waste in Clark County” PowerPoint

Overhead diagrams:

1) Bicycle

2) Cycle

3) Recycle

#### WORKSHEETS & HANDOUTS:

Trash/ Natural Resource Matching Game worksheet (may be used as a color page or cut into game pieces). This worksheet may be used for assessment.

#### PROCEDURE:

To be motivated to recycle students must understand the basics of recycling.

Project the overhead diagram **1) Bicycle**. Trace the circle shape of the wheel and name it “circle.” Describe how it is continuous.

Describe how a CYCLE is like a circle in that it is also continuous. Write the word “cycle.” Discuss cycles including natural cycles such as evaporation, seasons, and other examples that your class has studied. Project the overhead diagram **2) Cycle**.



Write the word RECYCLE and project diagram 3) **Recycle**, a diagram of a large bicycle wheel with spokes. Each of the spokes is labeled with commonly recycled items (glass bottle, newspaper, aluminum can, plastic bottle, wood, cloth, yard waste). Name these for the students.

Ask students to compare how the word “bicycle” and “recycle” are alike. “*Bi*” means two, and the bicycle has two wheels or circles. “*Re*” means again, and to recycle means to use again, or make new again.

Relate the concept of CYCLE to SOLID WASTE using the information in the “**Background Information for Teachers: Connections from the Cafeteria to the Classroom**” and/ or “**Solid Waste in Clark County**” PowerPoint. You may wish to show the PowerPoint to the class at this time. Recycling is an important part of solid waste; it takes materials that can be used out of the waste stream to be made into something new.

Emphasize to the students that, as an individual, we make choices about what we place in the recycling bin or garbage.

Define NATURAL RESOURCES (a naturally occurring material) and list several examples that students will recognize (trees/ paper, cotton/cloth, yard waste/compost, leftover lunch/compost) and explain how these items can be reused or recycled (reused for another purpose or manufactured into something new).

Point out several examples of materials around the classroom and decide as a class if they are made from NATURAL RESOURCES.

### **ASSESSMENT:**

List some things students commonly throw away at home or school. Ask the students to identify the natural resources used to make some of the items. Sort the items that are recyclable and discuss some ways that the items may be recycled (glass bottle into new bottles, paper into recycled paper, plastics into new plastic items). Make a separate list for items that can be reused for another purpose.

The Trash/Natural Resources worksheet may be used as a study guide or as a cut and match game or activity.

Ask the students to study the trash in column A and the NATURAL RESOURCE that each item is derived from in column B.

Next have the students cut the page into matching cards. The students can then match the recyclable object with the natural resource from which it is derived in pairs as a matching

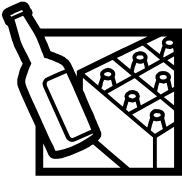






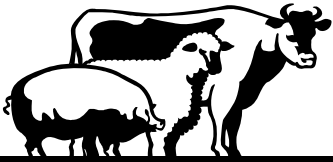
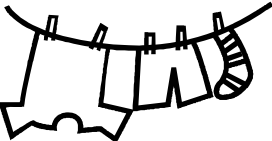





game. The pieces may be glued to a larger piece of paper and students can draw lines connecting the correct items in column A with column B and color the page.

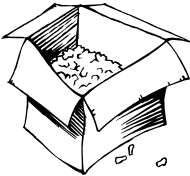



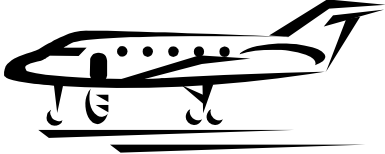




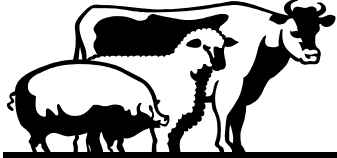
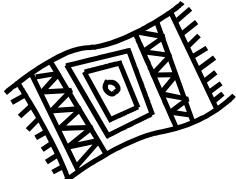

**EXTENSIONS:**

- 1) Using the objects discussed during assessment, challenge the students to think of new ways they can reduce or reuse each item. Are any of the items compostable? Many items now have biodegradable options: disposable bowls, plastic trash liners.
  
- 2) On a separate sheet of paper students can draw a picture of an object that they recycle and the natural resource from which it is derived.



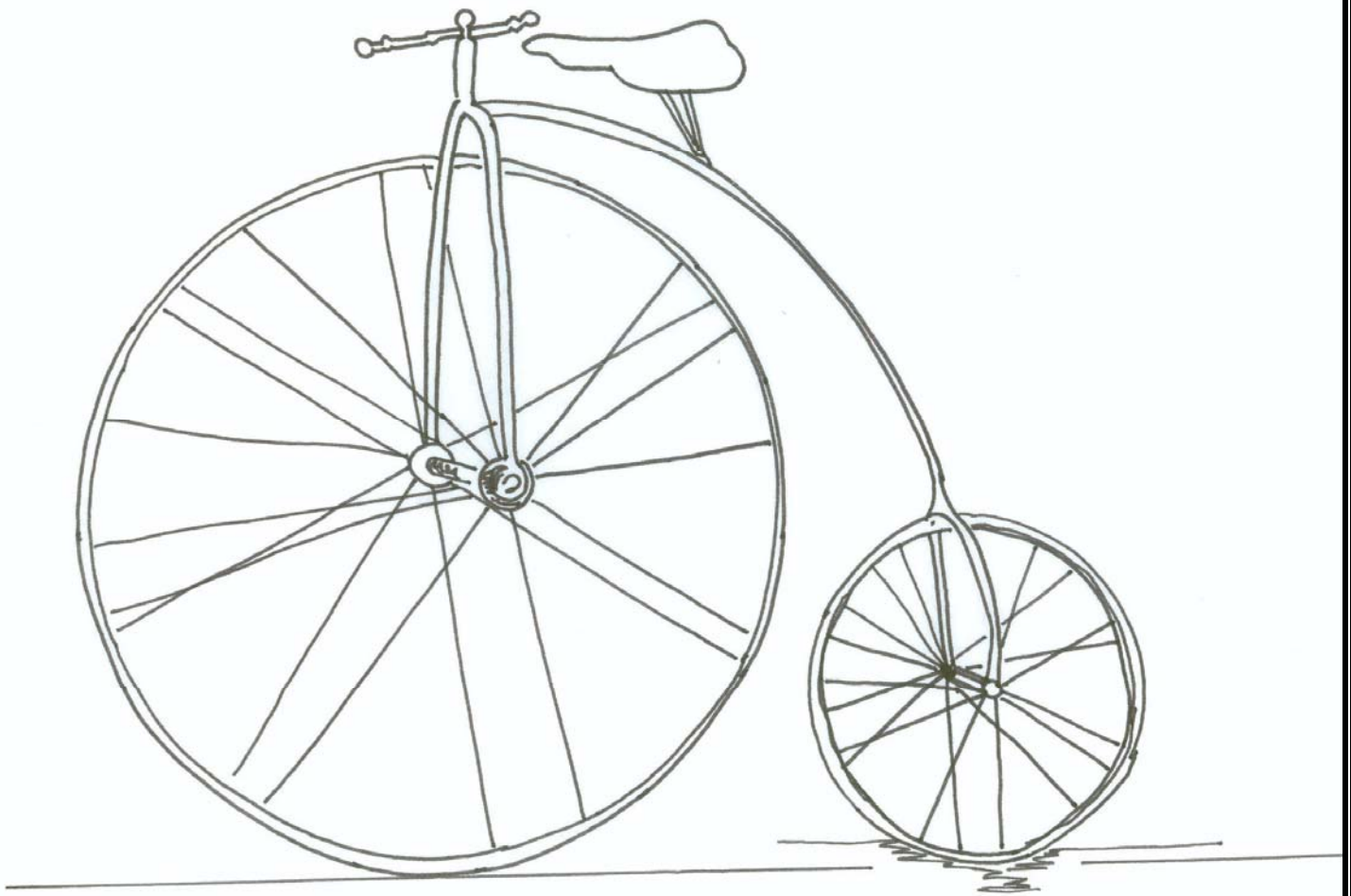
| TRASH   | NATURAL RESOURCE  |
|---|---|
| glass bottle<br>   | Sand<br>                                   |
| aluminum can<br>   | aluminum alloy (tin, magnesium)<br>        |
| newspaper<br>      | tree<br>                                   |
| school lunch<br> | plants and animals<br>                    |
| clothes<br>      | wool, cotton, bamboo, wood, silkworm<br> |
| yard waste<br>   | grass, plants, trees<br>                 |



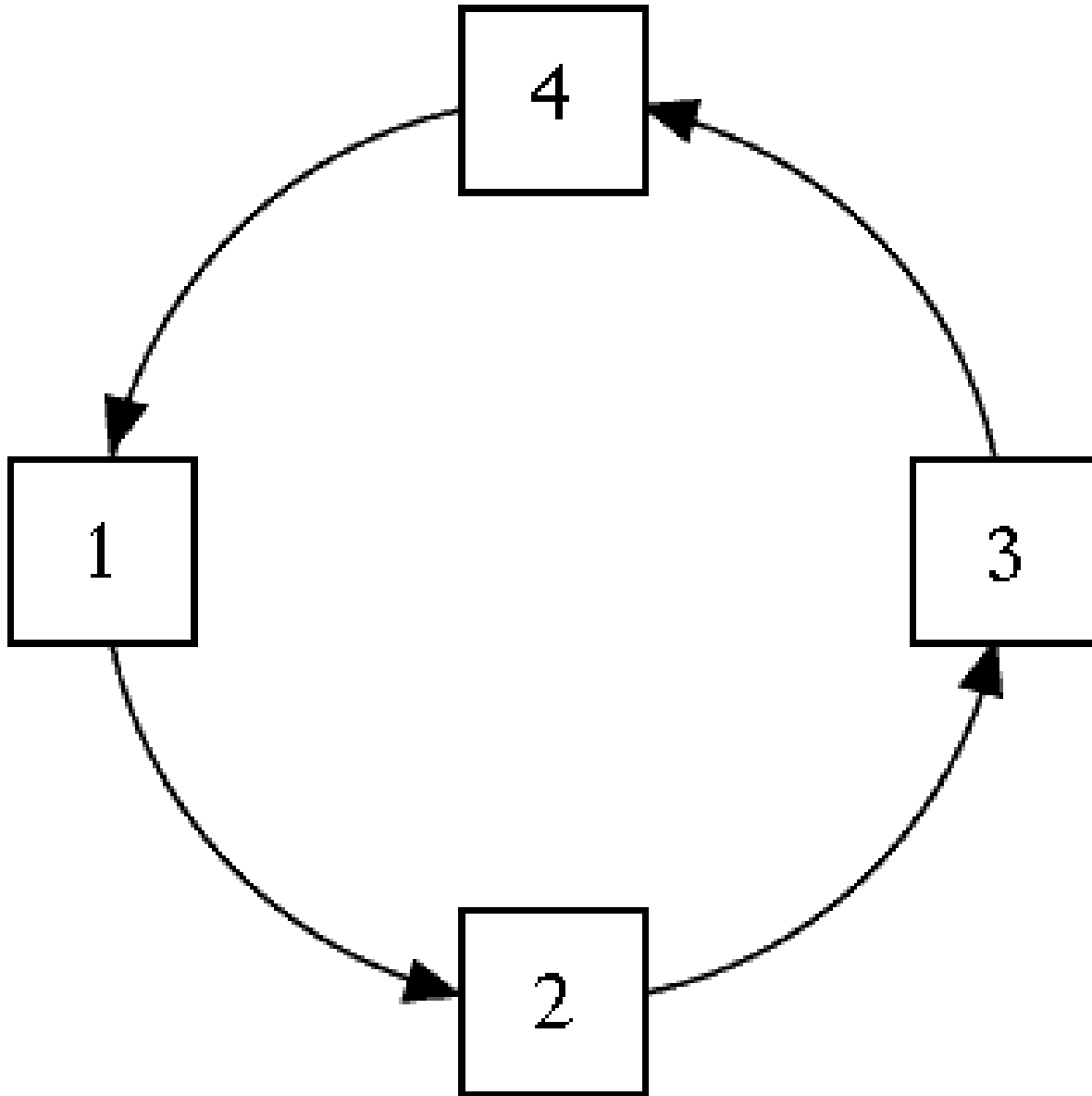
|  |   |
|--|---|
| <p>cardboard box</p>      | <p>trees</p>                                   |
| <p>glass jar</p>          | <p>Sand</p>                                    |
| <p>airplane</p>           | <p>aluminum alloy (tin, magnesium)</p>         |
| <p>paper cup</p>         | <p>tree</p>                                   |
| <p>shoes and boots</p>  | <p>plants and animals</p>                     |
| <p>blanket</p>          | <p>wool, cotton, bamboo, wood, silkworm</p>  |



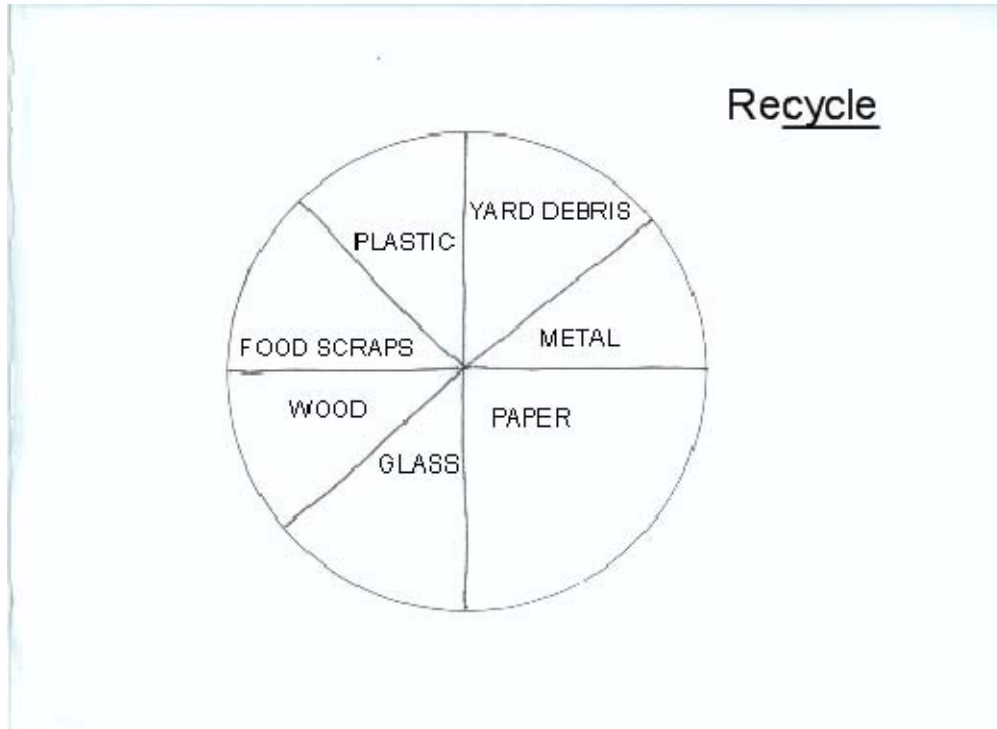
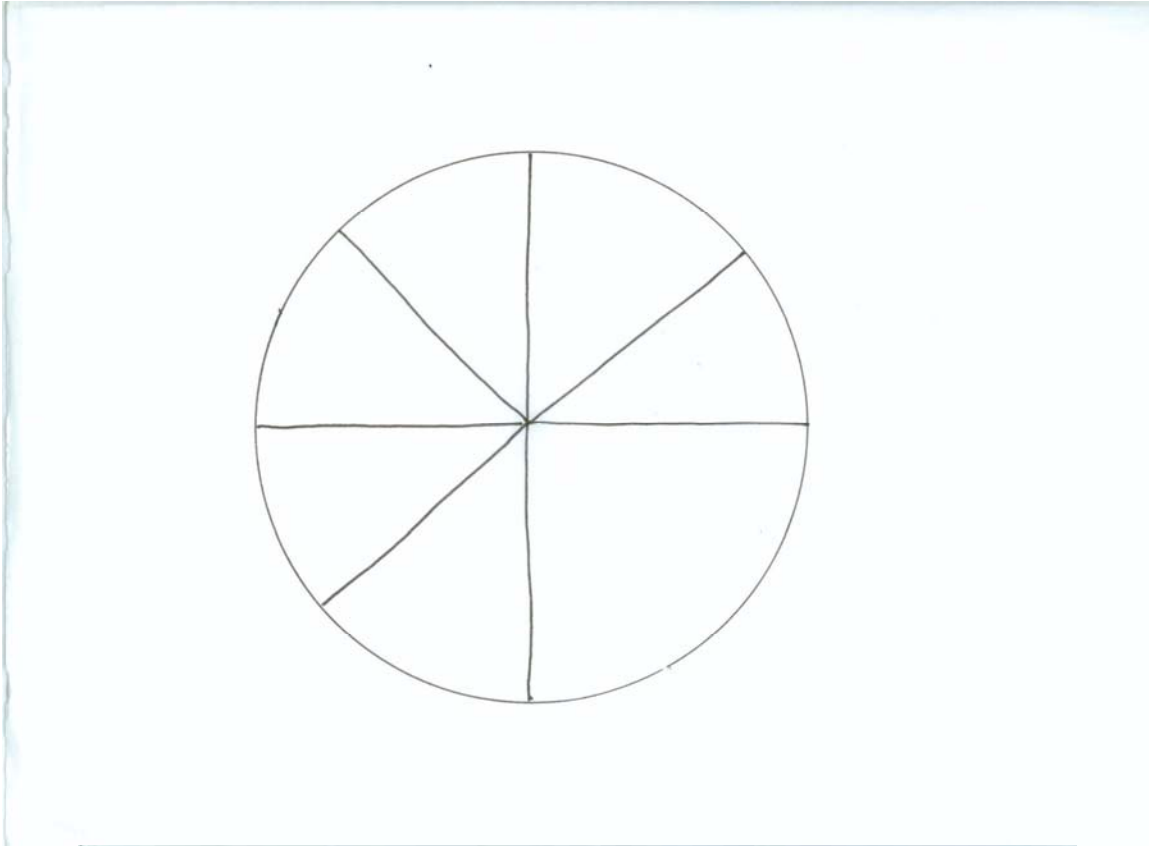
1) BICYCLE



CYCLE DIAGRAM



RECYCLE DIAGRAM



## EALR CONNECTIONS

### **SCIENCE:**

1. The student understands and uses scientific concepts and principles.
  - 1.1 use properties to identify, describe, and categorize substances, materials, and objects, and use characteristics to categorize living things
  - 1.2 recognize the components, structure, and organization of systems and the interconnections within and among them

### **SOCIAL STUDIES:**

#### CIVICS

4. The student understands the rights and responsibilities of citizenship and the principles of democratic civic involvement.
  - 4.1 understand individual rights and their accompanying responsibilities

#### ECONOMICS

1. The student understands basic economic concepts and analyzes the effect of economic systems on individuals, groups, and society.
  - 1.1 comprehend key economic concepts and economic systems

### **COMMUNICATION:**

1. The student uses listening and observation skills to gain understanding.
  - 1.1 focus attention
  - 1.2 listen and observe to gain and interpret information
  - 1.3 check for understanding by asking questions and paraphrasing
3. The student uses communication strategies and skills to work effectively with others.
  - 3.1 use language to interact effectively and responsibly with others
  - 3.2 work cooperatively as a member of a group

### **MATH:**

4. The student communicates knowledge and understanding in both everyday and mathematical language.
  - 4.1 gather information
  - 4.2 organize and interpret information
  - 4.3 represent and share information



**OSPI ENVIRONMENTAL/ SUSTAINABILITY GUIDELINES:**

**EE Goal I. The student will develop knowledge about the components of the environment and understand their interactions within natural systems.**

Objective A: The student will analyze the interrelationships of living and nonliving components within ecosystems.

Objective C: The student will evaluate interactions occurring between humans and the environment.

Objective D: The student will examine the implications of resource conservation.

**EE Goal II. The student will understand how social and natural systems are fundamental in supporting our lives, economy, and emotional well-being.**

Objective D: The student will examine the role that cultural values plays in how people relate to the environment.

**EE Goal III. The student will recognize how individual decisions and actions impact the environment.**

Objective A: The student will investigate how individuals can shape and influence cultural interactions with the environment.

Objective B: The student will analyze how personal decisions and actions alter the outcomes of environmental topics.

**EE Goal IV. The student will develop and utilize the knowledge and skills necessary for cooperative action to maintain or enhance the environment.**

