



What's In A Cycle?*

Activity P.p

GRADE LEVELS: K - 3

OBJECTIVE: To identify, compare, and evaluate cycles.

RATIONALE:

In order to understand the importance of recycling, students must first understand the meaning of “cycle” and how cycles are important.

MATERIALS:

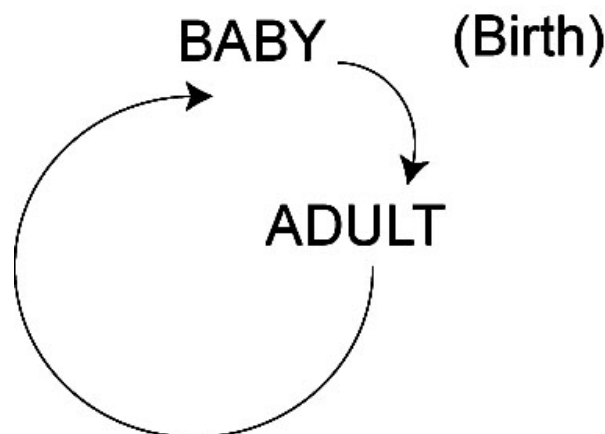
For the cycle game, you will need about 25 3-inch by 5-inch note cards.

PRE- AND POST-TEST QUESTIONS:

1. What is a cycle?
2. What is meant by the term “nonrenewable natural resource?” (List three nonrenewable natural resources.)
3. How does recycling conserve natural resources? (List two nonrenewable natural resources you conserve by recycling.)

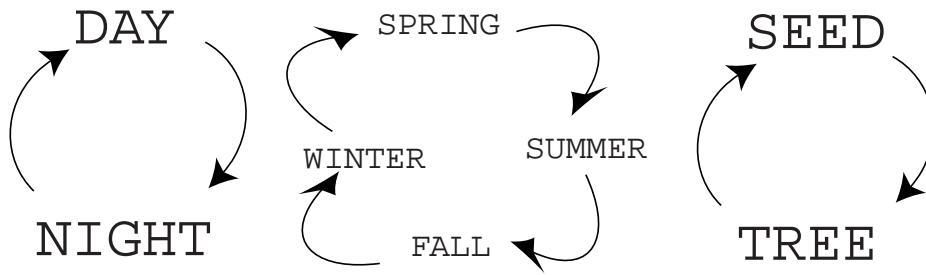
PROCEDURE:

1. Explain to students that cycles are an important aspect of life on earth. A cycle may go through many phases, yet it always arrives back at the point of origin. Thus, cycles ensure that life can go through many changes, yet maintain stability. Write on the board and examine the following cycle of life:



We could include in this cycle the many stages from birth to death to new birth. However, in simplest terms, this cycle show how life is able to change, through new birth, and yet remain stable. The new life is patterned after the old.

2. Explain to students that there are endless cycles around us. Ask: “Can you think of some endless cycles?”



3. (For Grades 2 and up) Cycles are important to our everyday lives. Have students draw a cycle of their typical Tuesday at school, and a cycle of their typical week. Discuss what would happen if every day or every week were completely different, that is without repeating pattern. (You couldn't build on the past, nor accomplish as much.)

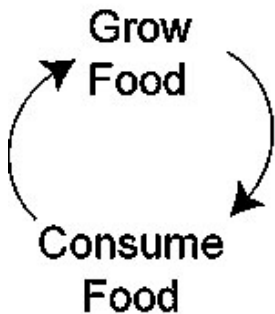
4. Once any step in a cycle is disrupted, the cycle ceases or is altered. Discuss what is wrong with the following process.



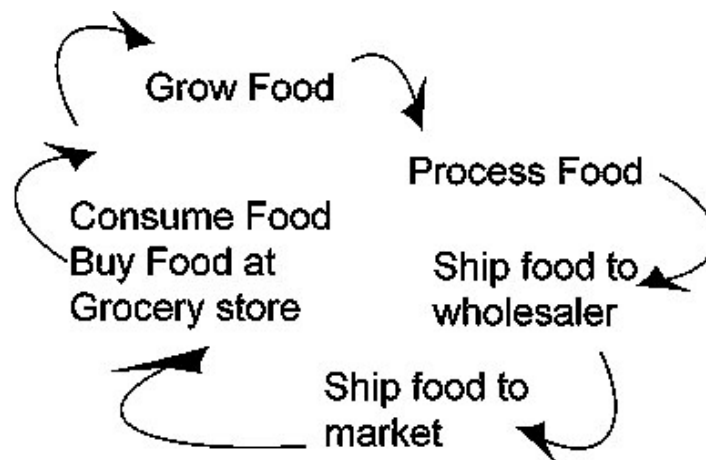
(This process cannot go on forever – because oil is a nonrenewable resource.)

5. Cycles ensure survival. Compare these two cycles:

A.



B.



Discuss which of these cycles of food consumption represents our lifestyle (B); which cycle can be more easily disrupted (B) and why; and which cycle is more dependent on nonrenewable natural

resources (B).

Ask: “What is a nonrenewable resource?” “Can anyone give an example of a nonrenewable resource?” (A natural resource is nonrenewable because of the great length of time needed for its formation. Petroleum is an example.) “What are some other nonrenewable natural resources?” List on the board.

6. Which of these examples is a cycle?

A.		B.	
Mine aluminum		Mine aluminum	
Consume	Make aluminum cans	Return cans to manufacturer	Make aluminum cans
		Consume	

Draw in the arrows for each example. Ask: “What is the last stage in ‘A’?” (lost in the landfill) “What is the true cycle in ‘B’ called?” (recycling) Name at least two advantages in recycling (saves nonrenewable resources, saves energy, does not fill landfills, curtails littering).

7. The Cycle Game: The Cycle Game helps students understand the meaning of cycles in general, and recycling cycles in particular. Discuss which items on this list come from renewable resources. Which items come from nonrenewable resources?

tin can	aluminum
car	food
food	metals
minerals	book
glass	paper
rubber	wool sweater
synthetic clothes	building
rain	petroleum (oil)
lifecycle of a pet	bus route
newspaper	crop
plastic	tree
flower	mountain
seasons of the year	

Rules: Divide the class into teams of four players.

Make a stack of 3 by 5-inch note cards, each containing the name of one of the items from the cycle list. (You may add your own items).

Add one extra card and write CREATIVE CARD on it.

Place the cards face down in a pile.

Select a student from one of the teams to select a card.

Give that student 30 seconds to prepare the steps of a cycle in proper order. (He or she may write it down.)

One point is given for each step in the cycle, but to be a valid cycle, at least three steps must be given. (Either the teacher or a designated student can keep score.)

An extra point will be given if the student can tell if the cycle is for a nonrenewable resource or a renewable resource.

After the first team has used a card, go to each team in turn, until each member of each team has given an answer, or you may set a time limit such as 15 minutes.

If the CREATIVE CARD is drawn, that student may pick any cycle he or she wishes. It cannot be any cycle that has already been used. A CREATIVE CARD cycle is worth 2 points for each step.

The winning team is determined by total points.

* Source: Washington State Dept. of Ecology A-Way With Waste