



Reducing Negative Environmental Impact

Middle School Food and Agricultural Literacy Curriculum

Precepts

- D. Character
- D6. Value service to others

National Standards

- ESS.04.02.06.c. Survey and evaluate local recycling programs and procedures.
- PST.01.01.01.b. Examine environmental impacts and efficiencies of energy sources.
- CS.01.04.06.c. Evaluate professional and personal values and how they are applied to the service to others.
- NL-ENG.K-12.12 – Applying Language Skills
- NS.5-8.6 – Science in Personal and Social Perspectives
- NSS-C.5-8.5 – Roles of the Citizen

Student Learning Objectives

- As a result of this **unit** the students will...
- Identify best practices to be utilized in Natural Resources Stewardship.
- As a result of this **lesson** the students will ...
- Illustrate two ways to reduce negative environmental impact.

Content Outline

Objective 1. Illustrate two ways to reduce negative environmental impact.

I. Reduce *negative environmental impact*

- A. What does negative environmental impact mean?
 - 1. Anything that poses a threat to or harms the environment
- B. What are examples of negative environmental impact and how can the impact be reduced?
 - 1. Using excessive amounts of paper
 - a. Recycle the paper instead of throwing it away

Time

Instruction time for this lesson: 45 minutes.

Resources

National FFA Organization. (2003). LifeKnowledge Precepts and Signs of Success. — National FFA Organization. (2009). LifeKnowledge Online. Retrieved August 30, 2009, from <http://agedlearning.org>.

Tools, Equipment, and Supplies

- Writing surface
- Flipchart paper or poster board – four pieces
- Transparencies and projector
- MS.NR.7.4.TM.A – one per teacher
- Writing utensil for writing surface
- Copy paper – two sheets per student
- Crayons, markers, or colored pencils – enough for students to share and work at the same time
- MS.NR.7.4.ASSESS.A – one per student

Key Terms

The following terms are presented in this lesson and appear in **bold italics**:

Negative environmental impact

- 2. Excessive use of energy when unnecessary
 - a. Use the stairs instead of an elevator
 - b. Turn off lights when leaving a room

This lesson will use and reinforce material covered in previous lessons. Prior to teaching this lesson, it is suggested that you provide instruction from the following lessons: **MS.NR.7.1**, **MS.NR.7.2**, and **MS.NR.7.3**. Additionally, you will instruct the students to talk with a friend throughout this lesson; grouping of students can be determined by you. It may be easiest to have students match up with someone sitting close by. Do this before starting the lesson.

Interest Approach

In this interest approach, you will bring a trash can to the front of the room and instruct students to take a scrap sheet of paper and roll it into a paper wad. You will then instruct all students to throw their paper wad from their seats into the trash can without standing up. Some paper wads will go into the trash can and some will not, leaving a mess on the floor. You will then facilitate a discussion about the mess that exists and how that potential mess could have been reduced or even prevented.



Lesson Number: MS.NR.7.4

Middle School Food and Agricultural Literacy Curriculum

Reducing Negative Environmental Impact

It's good to see everyone here today because we are going to start class by playing a game. Please take out a scrap sheet of paper.

Pause while students retrieve a scrap piece of paper and then continue.

Next, roll this scrap piece of paper into a paper wad.

Pause while students wad the paper.

If you have not yet moved a trash can to the front of the room, do it now.

Notice that a trashcan has been moved to the front of the room. When I say THROW, you will toss your paper wad at the trash can from your seat. It may or may not go in. If it does not go in, leave it on the floor. When you are ready to toss the paper wad at the trash can, hold it in the air.

Observe for comprehension. If a student is not holding his/her paper wad, verbally check for understanding.

THROW!

Pause while students throw their paper wad at the trash can. Once all students have thrown, continue.

Great work! Some paper wads made it in and some did not. Now there is a mess on the floor.

Gesture to the paper wads lying on the floor.

Sometimes it is faster to throw a paper wad at the trash can, but only if it goes into the trash. When a paper wad misses the trash can, there is a mess and someone has to clean it up. Let's think about this mess.

Gesture again to the paper wads on the floor.

How could we have reduced or even prevented this mess? Answer that question with a friend.

Pause while students answer the question with a partner

Who will share?

Allow students to share responses. If students are slow to respond, prompt different students. Guide students through a discussion about reducing or preventing the mess.

Possible solutions that may come up include: pass paper wads to someone sitting close to the trash can, walk to the trash can and throw the paper wad away, hold on to the paper wad until you are walking by a trash can, recycle the paper instead of throwing it away.

Excellent. We could have reduced this mess had we used methods other than throwing paper wads into the trash. It is important that we recognize this and apply the concept of reduction to the environment. Over the past few days, we have discussed many different examples of things or actions that can have a negative impact on our environment.

Today we will examine ways that we can reduce **negative environmental impact**, which is important. If we demonstrate methods to reduce **negative environmental impact** through our actions, others may see what we do and apply the same actions in their lives. This will, in turn, have a positive impact on our environment. As we move through today's lesson, be prepared to talk with classmates and use problem-solving skills when discussing ways to reduce **negative environmental impact**.

Summary of Content and Teaching Strategies

Objective 1. Illustrate two ways to reduce negative environmental impact.

In this lesson, project **MS.NR.7.4.TM.A** to highlight content outline of Objective 1. Keep the transparency master covered, and uncover as you discuss each component of the outline.

Over the past few days, we have been discussing many different topics related to the environment and natural resources. We talked about the concept of reduce, reuse, recycle. We identified a variety of conservation techniques, and we discussed personal product choices and possible environmental effects.

Please take out the assignment sheet where we identified examples of positive and negative environmental impact in the previous lesson.



Reducing Negative Environmental Impact

Pause while students remove this sheet.

Today we will discuss different ways that we can reduce negative environmental impact. Remember, a negative environmental impact is anything that poses a threat to or harms the environment. At the bottom of this sheet, please write this definition of negative environmental impact.

I. Reduce negative environmental impact

- A. What does negative environmental impact mean?
1. Anything that poses a threat to or harms the environment

There are many examples of **negative environmental impact**, but the challenge lies in reducing the negative impacts. Let's review a few examples.

- B. What are examples of negative environmental impact and how can the impact be reduced?

Using excessive amounts of paper can have a **negative environmental impact**, but a way to reduce this impact is recycling.

1. Using excessive amounts of paper
 - a. Recycle the paper instead of throwing it away

Another example of **negative environmental impact** would be the excessive use of energy when unnecessary. This is a broad example, but a few ways that we could reduce this impact would be to use the stairs instead of an elevator or shut off the lights when leaving a room.

2. Excessive use of energy when unnecessary
 - a. Use the stairs instead of an elevator
 - b. Turn off lights when leaving a room

Touch your nose if you understand what is meant by negative environmental impact.

Observe for comprehension and then continue.

Thank you. Understanding what this means will be important as we split into groups and prepare for the next activity.

In the next activity, students will work in groups to identify examples of negative environmental impact and then describe ways to reduce the negative impacts identified. Post four writing surfaces (such as chart paper, poster board, etc.) around the room. Each surface should be numbered vertically from 1 – 5 on the left hand side.

A vertical line should be drawn down the middle of the writing surface, dividing it into two columns. The column on the left should be headed "Negative Impact," and the column on the right should be headed "Reduction." The groups will print five different examples of negative environmental impact provided by the group.

After each group has completed this step, groups will rotate clockwise to another writing surface and then a selected writer will describe a method that could be used to reduce the negative impacts. This description should reflect the best method decided upon by the group. Once the activity is completed, you will review each of the negative impacts identified and solutions described with the class.

Divide the students into four groups, instruct each group to stand by a poster, provide each group with a writing utensil, and continue.

Each group should select one person to be the writer. When I say BEGIN, brainstorm and write five examples of **negative environmental impacts** in the left hand column. The writer will take ideas from the group members – the two examples discussed earlier may not be used. Do not write anything in the right hand column. Once all groups have finished identifying **negative environmental impacts**, we will rotate clockwise. Groups will then describe methods that can be used to reduce the negative impacts listed on the writing surface. These methods will be written in the right hand column. Three minutes will be allotted for each part of this activity. What questions are there? BEGIN

After three minutes, instruct the groups to rotate clockwise to the next writing surface. You may have to provide directions for the second part of this activity again. Allow three minutes for students to describe methods of reduction and instruct them to be seated when they have finished the second part of the activity.

While students are working in groups, pass out two sheets of blank paper (copy-type paper). These sheets should be set on the desks of students in preparation for the review.

Once all groups have completed the second part of the activity, continue.



Lesson Number: MS.NR.7.4

Middle School Food and Agricultural Literacy Curriculum

Reducing Negative Environmental Impact

Excellent work on this group activity. There are two sheets of paper on each desk – these will be used in the review today. However, before we move on to the review, let's take a look at the work just completed.

Go to each writing surface and have one student from the respective problem-solving/reducing group read aloud the negative impacts identified and methods of reduction. Correct any inaccurate information. Continue in this manner until all four writing surfaces have been reviewed.

Thanks for participating in this activity. It may have been challenging to identify methods of reducing environmental impact that were listed by another group, but what a great lesson to learn.

When someone damages the environment, often another person will come along to fix it. For example, if someone tosses trash onto the ground, another person may pick the trash up and throw it into the garbage. It may seem that picking up a piece of trash is a small effort that would aid in keeping our environment safe and clean, but remember that every effort, no matter how great or small, is a step in the right direction. Also, keep in mind that we are not keeping the environment clean for just ourselves – we do it for others so that they will also enjoy a clean and safe environment.

Get with a friend and tell them an example of how you have done something good for someone else. Finish this conversation in 30 seconds.

Pause for 30 seconds while students converse and then continue.

It sounds like there are some very service-oriented people in this class. Who will share an example of something good that was done for someone else?

Allow students to share responses. After a few responses continue.

Great examples – doing good things and placing the needs of others before our own is an excellent way to demonstrate positive character. Helping keep the environment clean is another way to demonstrate good character.

Today we have identified many example of negative environmental impact. Additionally, we have described ways that we could reduce this impact. In a few moments, we will illustrate some of these concepts.

As we prepare for the next activity, we should be focused on reducing negative environmental impact. Think about the topics discussed in class today and visualize these things happening.

Pause for a few seconds while students think to themselves.

Review/Summary

In this review, you will utilize the *Picasso e-Moment®* to have students illustrate what reducing negative environmental impact looks like to them. Each student will have two sheets of copy paper and utensils for drawing/coloring (crayons, markers, colored pencils, etc.) should be available for students to share. If you keep these in a common location, students should be familiar. If not, you will need to set these materials out for student use.

You will instruct students to draw a picture on each sheet of paper that illustrates/represents one way to reduce negative environmental impact. Students will then be asked to pair up and explain how their picture represents the concept of reducing environmental impact. After students have completed this activity, you can have a gallery walk, if time permits. A gallery walk allows students to walk around and look at the artwork of their classmates.

We all have two sheets of blank paper. Also, (insert name of coloring utensil – markers, crayons, etc.) are available to use (gesture to coloring utensils).

Perhaps the name Pablo Picasso is familiar? Picasso was a Spanish painter who spent a lifetime creating images of life as he saw it. There is a little Picasso in each of us and today we are going to let that creative ability out. Recall some of the many ways that we can decrease **negative environmental impact**.

Pause for a few seconds while students think.

On each sheet of paper, draw a picture illustrating one way we can decrease **negative environmental impact**. Everyone will draw two pictures representing two different methods of decreasing **negative environmental impact**. After creating the artwork, we will explain to a friend what each picture represents. If time permits, we will walk around and look at everyone's artwork. Five minutes will be allotted to create these illustrations. If you are ready to begin drawing your pictures and do not have questions, hold both sheets of paper in the air.



Lesson Number: MS.NR.7.4

Middle School Food and Agricultural Literacy Curriculum

Reducing Negative Environmental Impact

Observe for comprehension; answer questions if necessary.

This should be a fun activity for us all – start drawing.

As students are drawing, watch the clock for time. You may not need the full five minutes and you may have to adjust to give more time. Once students have completed this activity, instruct them to explain their pictures to a friend. If time permits, facilitate a gallery walk.

Excellent job with the illustrations! There may be some future artists among us. Hopefully today's activities will help us remember different things that we can do to help keep our environment safe and clean. There are many ways that we can help decrease **negative environmental impact** so that future generations can enjoy the world that we live in. As we continue throughout today and the rest of our lives, remember that it is everyone's social responsibility to help reduce **negative environmental impact**.

Application

Extended classroom activity:

Students can write a 30-second public service announcement that encourages others to decrease negative environmental impact through a specific action discussed in class. Have students take turns reading the PSAs aloud.

FFA activity:

The FFA Chapter can create a coloring book that focuses on reducing negative environmental impact. Outlines of pictures created during the Picasso eMoment can be sketched using a black marker and then a series of pictures can be stapled together to make the coloring book. Distribute copies of the coloring book to elementary classrooms. A variation would be to design coloring sheets and host an elementary school coloring contest which focuses on reducing negative environmental impact.

SAE activity:

Students with an SAE in this area can create a poster titled "10 Ways to Reduce Negative environmental impact" and display this poster somewhere in the school.

Evaluation

MS.NR.7.4.ASSESS.A.

Answers to Evaluation

1. a
2. b
3. d
4. d
5. c



Reduce negative environmental impact

What does negative environmental impact mean?

- Anything that poses a threat to or harms the environment

What are examples of negative environmental impact and how can the impact be reduced?

- Using excessive amounts of paper
- Recycle the paper instead of throwing it away
- Excessive use of energy when unnecessary
- Use the stairs instead of an elevator
- Turn off lights when leaving a room



Name _____

Date _____

Directions: Read each statement and decide whether it is true or false.

1. _____ **Not recycling paper is an example of a negative environmental impact.**
 - a. True
 - b. False
2. _____ **Taking an elevator instead of using the stairs does not have a negative environmental impact.**
 - a. True
 - b. False

Directions: Read each question and circle the response that best answers the question.

3. _____ **Which of the following is an example of negative environmental impact?**
 - a. Operating the dishwasher with only a few dishes in it
 - b. Not keeping tires properly inflated to save on gas usage
 - c. Leaving the lights on in a room after you leave
 - d. All of the above answers
4. _____ **Which of the following is not an example of negative environmental impact?**
 - a. Throwing litter on the ground
 - b. Throwing away a used manila envelope when in good condition
 - c. Allowing the water to run while brushing teeth
 - d. Riding a bus
5. _____ **Who has the social responsibility for reducing negative environmental impact?**
 - a. The federal government
 - b. The person who creates a negative impact
 - c. Everyone
 - d. None of the above answers