

# CHANGING OUR ENVIRONMENT



4<sup>TH</sup> GRADE SOCIAL STUDIES  
STANDARDS BASED UNIT

REBEKAH MERCER

# LESSON ONE: HUMANS AFFECT WATER

## FORMAL FORMATIVE ASSESSMENT: 3 QUESTION CHECK POINT

### **Michigan Content Expectation (GLCE):**

4 – G5.0.1 Assess the positive and negative effects of human activities on the physical environment of the United States.

**Objectives:** This lesson will focus on *water*. After Instruction, TSW determine the importance of clean water to humans and animals. TSW give examples of the pollution humans put into the water. TSW describe ways in which they can help keep the water clean. I will consider mastery of the objectives at least 6/9 points on the formal, formative assessment.

### **Learning Targets:**

I can write down why it's important for people and animals to have clean water.  
I can write down some examples of pollution that people put into the water.  
I can write down a way that I can help to keep the water clean!

### **Purpose & Stakeholders:**

The purpose of this assessment is to ensure that all students understand the material before moving on to the next lesson. The stakeholders involved in this assessment are the students and the teacher. The students take responsibility and follow directions as listed. The teacher oversees the students' actions and guides when necessary.

### **Instructional Strategy:**

Strategy 14 – Using kinesthetics (adaptation).  
See next page for strategy.

**The Assessment:** Students will be asked the following 3 questions:

1. How does the water in a lake get dirty? (Think about WHO or WHAT is making it dirty and how they are making it dirty.)
2. Why is it important to keep the water clean? (Try to think of at least 2 different reasons.)
3. What is one way that YOU can help keep the water clean?

## Instructional Strategy 14 – Using Kinesthetics (adaptation)

Time Required: 10-15 minutes

Room Adjustment: No adjustment necessary

Materials: (For each student) Bowl with water, Bowl with soap, Bowl with dirt, Bowl with pieces of trash, Popsicle stick to stir with

Instructions for Students:

Your bowl of water represents a lake. The soap, trash, and dirt in the small bowls next to your water represent pollution. As we read the following story, follow along by doing what the main character, Jake, does as he adds pollution to his lake. Use your popsicle stick to stir up the elements in your lake.

### Story

Once upon a time, there was a beautiful lake in the middle of a green meadow. In it lived fish, turtles, and other aquatic life. Surrounding this lake lived lush grass and tall trees, with plenty of blossoming flowers to add to the beauty of the meadow.

A few kilometers from this meadow lived a boy named Jake. One day, Jake's dad, a construction worker, got word of a new project for his work crew. They were going to build a housing development around the lake. It would be perfect! The residents would get to use the beautiful lake water and would enjoy the splendor of the beautiful meadow. It took a year for the houses to be finished, but after the project was completed, Jake's family got to move into one of the new houses around the lake!

It was so much fun living by the lake... until one day, Jake noticed a problem with the top of the water in the section by his house. There were soap bubbles in the water! He ran back to his house and told his dad all about the soap bubbles. Jake's dad frowned, and immediately got on the phone with the head of the construction company. Something went wrong with the plumbing in the housing area – the soap from washing dishes in the sink was getting into the lake water!

The next day, plumbers arrived at the scene to help fix the broken drain. While they were there, they made quite a mess! Dirt was flying everywhere. A whole section of the beautiful lake looked like a dump pile of mud. Jake wondered how his aquatic friends under the water felt about all of this dirt and soap in their lake. He put on a pair of goggles and went swimming to find out! Jake made friends quickly with many of the animals in the lake. He laughed at the jokes the Clownfish told, and made sure to stay away from the spikey Zebra fish! When he was playing with a sea turtle, he found out that a lot of the smaller fish weren't doing so well with all of the changes in their lake. Some of the fish actually died because the water was too soapy and dirty for them! When Jake heard this, he decided to tell everyone in the houses around the lake to be extra careful around the fragile meadow.

As he was walking around the lake to warn everyone to be careful of how they treated the lake water, he noticed something that made him sick to his stomach – trash. There was trash in the lake! Little pieces of garbage, candy wrappers, soda cans, and even plastic garbage bags! Jake's eyes welled up with tears. How could this happen? His beautiful lake was becoming no more than a dumping ground for garbage! Not only were the animals suffering, but now Jake couldn't even enjoy the lake for himself, either! He couldn't swim in the water, or use it for anything since it was full of filth!

As Jake told his mom the horrible story about what was happening to the lake, Jake's mom was forming a plan in her head. When Jake finished, his mom shared her plan with him. She suggested that Jake and his friends pick up some of the trash around the lake. She even said she would pay him for doing that! After they were finished with that, they could put up signs asking people to not throw their garbage out in the meadow. And, they could even request some garbage cans from the city to put up around the lake, so people have a good place to take their trash. Jake's face brightened when he heard these ideas, and he got started right away! A few days later, after a lot of hard work, the lake started to look much better. Thanks to Jake, the meadow was back to being a beautiful place for people to spend time around and a wonderful habitat for aquatic life.

## Rubric

#	3 points	2 points (Mastery)	1 point
1	States more than one action that a human takes to create dirty water.	States an action that a human takes to create dirty water.	Lists a way in which the water is dirty, but does not describe how the water gets dirty.
2	Gives information about the animals that live in the water and about humans that use the water and how they are affected by water pollution.	Gives information about the animals that live in the water or about humans that use the water and how they are affected by water pollution.	Makes a comment about how the water will be dirty if we do not keep it clean.
3	Gives a personal and realistic example of a way in which a 4 <sup>th</sup> grade student could help to keep lake water clean.	Offers a generic statement about a way in which humans can help keep water clean.	Offers a vague statement related to clean water, but does not pertain to how people can help keep water clean.

**Data:** The data that will be collected will consist of one number grade per question for each student. An example is below:

Students	Question 1	Question 2	Question 3
Sam	3	2	2
Liz	2	1	2
Jess	2	2	2

### If/Then Action Plan:

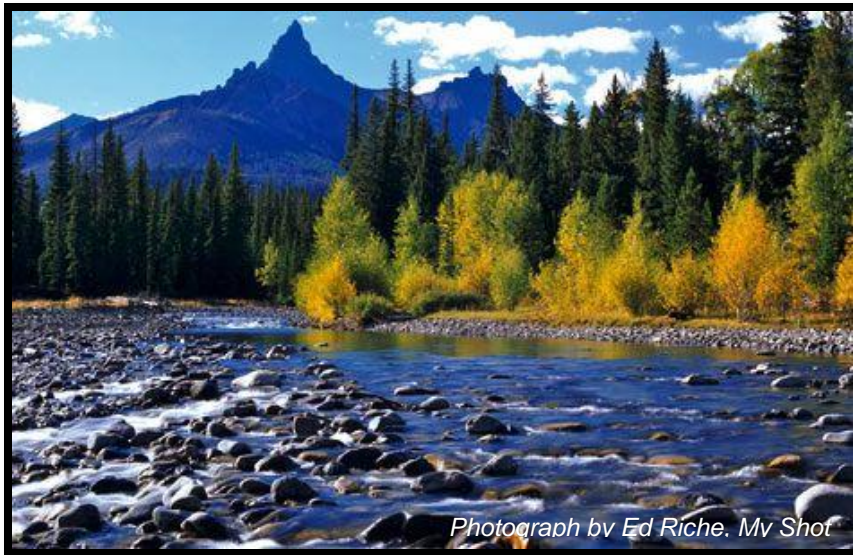
If a student reached mastery on all objectives, that student should color a picture of a beautiful landscape. When other students are finished with their “action plan” assignments, they should color a picture, as well.

If a student did not reach mastery on question 4, that student should read the “Water Pollution” page and highlight any words or sentences that give information about the ways in which humans create dirty water. Then, the student should write one sentence about a way(s) in which humans create dirty water, such as “Humans make water dirty by putting trash into it.”

If a student did not reach mastery on question 5, that student should read the “Water Pollution” page and highlight any words or sentences that give information about how water pollution affects humans and animals. Then, the student should write two sentences. One sentence should focus on a way that water pollution negatively affects humans, and the other sentence should focus on a way that water pollution negatively affects animals living in the water. For examples, a students’ sentences may read “Water pollution is bad for people because we have to use water to drink and we want to drink clean water – not

dirty water. Water pollution is bad for the animals that live in the polluted water because they have to drink that water, too!”

If a student did not reach mastery on question 6, that student should review the '24 tips' worksheet. Then, he/she should highlight the three options that appealed the most to them. Then, the students should star the option that is the most do-able. After an option has been selected, the student should draw a picture of himself/herself performing the selected action.



## Change the World's Water!

You can make a big difference when it comes to protecting the planet.

These 24 tips help conserve water; keep pollution out of oceans, rivers, streams; and protect the animals that live there.

### **1. Get Moving**

Bike/walk as much as possible to keep car pollution from being absorbed into waterways.

### **2. Don't Release Pets Into the Wild**

Some pets are not native to the area where they are kept as pets. When nonnative animals are released into rivers, lakes, or streams, they can mess up the ecosystem.

### **3. Participate**

Help clean up a river, lake, or beach.

### **4. Be a Water Monitor**

Report leaks and drips at home and school.

### **5. Turn Off the Water**

When you are brushing your teeth, turn off the tap.

### **6. Take Short Showers**

Set a timer and see if you can get clean in five minutes.

### **7. Never Release Helium Balloons Into the Air**

Balloons often fall into the water and animals mistake them for food.

### **8. Do Less Work**

Wash only full loads in the dishwasher or washing machine.

### **9. Make Your Own Soap**

Create new bars of soap by squishing together slivers of leftover bars of soap to keep small pieces of soap from slipping down the drain and entering waterways.

### **10. Don't Use the Toilet as a Trash Can**

Flushing things like medicine may contaminate water sources. It also simply wastes water.

**11. Scoop the Poop!**

Pick up after your pet to keep it from ending up in water sources.

**12. Reuse Hotel Towels**

When you stay at hotels, reuse the sheets and towel so the hotel can reduce its water use.

**13. Paint "No Dumping" Art on Storm Drains**

Join the stenciling program with your city. This discourages people from dumping paint, trash, dog poop, oil, and soapy water from car washes in storm drains, which often flows directly into lakes, rivers, and the ocean.

**14. Drink From a Reusable Bottle**

All those single-serving bottles take water to produce.

**15. Collect Rainwater in a Bucket or Barrel**

Use it to water plants.

**16. Drink Tap Water**

Don't buy bottled water and you'll help keep water free of pollution from delivery trucks.

**17. Water Your Garden or Lawn in the Early Morning**

Water doesn't evaporate as quickly when the air is cool, so you won't need as much.

**18. Recycle**

Keep your trash out of water sources.

**19. Volunteer**

Give your time at a local aquarium.

**20. Scrape Leftovers Into the Trash**

Don't rinse your food off your dishes and into the disposal. (Wash the dishes before food gets stuck on them.)

**21. Keep Your Dog on a Leash**

When you visit the beach or a lake, leash your dog so it won't scare or harm the wildlife.

**22. Team Up With National Geographic**

Read A Cool Drink of Water, by Barbara Kerley, or visit their shop.

**23. Collect Faucet Water**

Don't let the cold water run down the drain as you wait for it to get hot. Fill a water pitcher or use it to soak or rinse dishes.

**24. Don't Feed Water Animals**

They need to find their own food to keep themselves and the environment healthy.

Tips taken from National Geographic Online at  
<http://kidsblogs.nationalgeographic.com/greenscene/2010/09/25-ways-you-can-be-a-water-hero.html>





Did you know that the water we use today is the same water the dinosaurs used? We cannot create new water. For millions of years, the water we have has been used again and again. We have been able to do this because there are natural cycles that clean the water each time we use it.

Water is a necessity of life. People and animals need clean drinking water. Farmers need water to irrigate crops. People enjoy using lakes and rivers for recreation.

Unfortunately, people are polluting our water. Businesses and cities dump chemicals and waste products into our rivers, lakes and oceans. People throw trash—furniture, garbage, old tires, cars, old fencing, anything they can think of—into the water. People also pollute the water by accident, by allowing their cars to leak oil and gas onto the ground. That oil and gas eventually washes into the water during rain storms and when people clean their driveways off with water. This type of pollution can cause long-term health problems for people. Wildlife can also die from exposure.

Information taken from Kids Ecology Corps online at  
<http://www.kidsecologycorps.org/our-environment/natural-cycles/water-pollution>  
and from National Geographic online at  
<http://greenliving.nationalgeographic.com/pollution-affect-living-things-including-humans-2193.html>

# LESSON TWO: HUMANS AFFECT LAND

## INFORMAL FORMATIVE ASSESSMENT: SMALL GROUP DEBATE

**Michigan Content Expectation (GLCE):**

4 – G5.0.1 Assess the positive and negative effects of human activities on the physical environment of the United States.

**Objectives:** This lesson will focus on *land*. After Instruction, TSW support the positive effects of human activity on the land in the United States. TSW justify the negative effects of human activity on the land in the United States.

**Learning Targets:**

I can tell you what some good things that humans do for the land are.  
I can justify some of the bad things that humans do to the land.

**Purpose & Stakeholders:**

This assessment is given so the teacher can assess how well the students understand the material up to this point. It will also benefit the students in helping them to process the information they have learned and gain new insights from their peers.

**Instructional Strategy:**

Strategy 7 – Deleting (See the following page for the excerpt the students will be deleting.)

**The Assessment:**

Students will be placed into 4 different groups and will debate both of the following questions within their groups. 3-5 minutes will be given to each question.

Question 1: The land around a town is covered with trees. A housing company wants to build houses on that land, instead. What should happen? What can residents of the new houses do to help this situation?

Question 2: Every week, the people in a local village go down to their small river to wash their clothes. What will happen to this small river over time? What can the people do differently to prevent that from happening?

**Data:**

The data that is being collected will not be individualized student data. The teacher will merely listen for understanding of key information and gauge where to take learning, using the debate as a hinge-point.

<b>If/Then Action Plan</b>	
<b>Proceed if</b>	<b>Reinforce if</b>
A majority of students are fully engaged in the debate and have clearly articulated unique positive and negative environmental effects they see in the scenarios.	Students appear confused about topics and are unable to offer unique positive and negative environmental effects they see in the scenarios.

## Strategy 7 – Deleting

Time: 10 minutes

Room Arrangement: No adjustment necessary

Materials: This sheet for each student

Instructions for Students: While “deleting” this passage, look out for ways in which humans and trees interact in positive and negative ways.

### The Passage

Trees improve the air for humans and other animals. They take in carbon dioxide which is bad for humans to breath. Trees let out oxygen for humans to breath. Trees also help with rainfall and help fix the atmosphere. When it rains, the water creates clouds that block out the sun and lower the temperature. Trees also help stop the land from sliding and running into houses or the water. Trees also help the soil so it is good for farming.

People chop down trees and burn them to make land for farming. This leads to bad soil that is no longer good for farming. They burn the trees and land to get rid of unwanted bugs. The trees help the soil be good for farming, but by cutting down the trees and burning the land, the soil is not good anymore. The Farmers then have to cut down more trees and burn the land to find good soil.

Trees are often cut down in order to create land for cows to live and eat. The need for more land for cows is because of fast food restaurants that need cows for their burgers. The cows often eat all of the grass on the land. When the land no longer has enough grass, farmers have to cut down more trees to make room for more grassy land for the cows to eat and live.

If the trees are all cut down, flooding can happen. This is because the water goes straight to the ground instead of being caught by the trees and other plants. Flooding can wash away the soil and can be a danger to human life. The dirt can run into houses and peoples yards or into the water.

Trees act as windbreakers. People living in windy areas might experience even greater problems with wind. The Wind could hurt peoples' houses.

# LESSON THREE: HUMANS AFFECT AIR

## SUMMATIVE ASSESSMENT: ACTION PLAN

**Michigan Content Expectation (GLCE):**

4 – G5.0.1 Assess the positive and negative effects of human activities on the physical environment of the United States.

**Objectives:** This lesson will focus on *air*. After instruction, TSW explain a negative effect of human activity on the environment. TSW explain a way that they can positively affect the environment in which they live. TSW describe two ways in which they can combat the issue of negative effects of human activity on the environment. I will consider mastery of these objectives to be at least ¾ points on the rubric.

**Learning Targets:**

I can write down one bad effect that people have on the land, water, and/or air.  
 I can write down one way that people can have a good effect on the same thing.  
 I can write down two things that I can do to have a good effect on the same thing.

**Purpose & Stakeholders:**

This assessment is given to determine if the students have individually met the objectives, and to what extent the objectives are mastered. The student, parent, and PLC will be involved in using the results of this assessment. The student and parent will use it to determine if the student is on the ‘right track’ or not. The PLC will use it to assess each teacher’s effectiveness in the different areas of the unit, and collaborate on how to increase effectiveness in the future.

**Instructional Strategy:**

Strategy 15 – Visual Image, Strategy 25 – Heads Together (See following pages.)

**The Assessment:**

Students will be filling out the sheet labeled “Earth: Quality Control Plan.” For directions, they can refer to the learning targets.

<b>Rubric</b>			
<b>4 points</b>	<b>3 points ★</b>	<b>2 points</b>	<b>1 point</b>
Student has created a thorough plan that clearly describes a problem, solution, and at least 2 action steps that a person can take to combat the issue of negative effects of human activity on the environment.	Student has created a plan that clearly describes the problem, solution, and at least 1 action step that a person can take to combat the issue of negative effects of human activity on the environment.	Student has created a plan which partially describes two components of the required aspects to the plan.	Student has listed ideas and thoughts on the environment, but has not formulated a structured plan to combat the issue of negative effects of human activity on the environment.

## Strategy 15 – Visual Image Representations

Time: 15-20 minutes

Room arrangement: No adjustment necessary

Materials: Paper and crayons for each student

Instructions for Students: Listen to this story, and color a picture to go along with what's happening in the story in each box. I will let you know when it's time to move on to the next box. Start at box number one.

{Box 1} A bird is flying in the bright blue sky and enjoying himself. There might be a sun or a few bird friends in the picture also, but there should not be any ground.

{Box 2} The bird flies around and finds a building that is putting off lots of black smoke. After coughing and sputtering, he gets to a place where he can see in the window. He sees a factory that is making clothes/toys/food. The bird is confused and a little flustered, and it flies away because it just can't take the smoke any longer.

{Box 3} Then, the bird flies next to a busy street and sees several cars. All the cars are giving off this gross black smoke towards the back. The bird feels so sad when he sees all of this ugly smoke. Then, out of the corner of his eye, he sees another bird in the distance. He gets excited and begins to fly toward it.

At this point, the students can offer up ideas of their own. They will become the authors of the story from this point on, if they wish. If they are not up for the challenge, the teacher can use the remaining ideas to guide students. But, if they seem ready, the teacher can ask students to raise their hands and create the next few parts of the story together.

{Box 4} The bird gets closer to the other bird, but then realizes that his friend is not a bird at all – it's a plane! And this plane leaves some of the same gross smoke behind it, just like the building and the car did. The bird flies away as quickly as he can.

{Box 5} The bird flies into a tree, lands on a branch, and cries because he is so sad that his precious, beautiful air is getting dirty by the smoke. Just then, he looks in front of him, and sees a little child riding his bike. The boy doesn't have any smoke around him, and seems to be as happy as can be. This makes the bird happy, and he flies all around the block until he sees the same building he saw at the beginning.

{Box 6} This time, the bird notices that the building isn't giving off nearly as much smoke as it was before. The bird wonders why. He sees someone working at an office inside the building, and looks through the window to see what's going on inside. He's able to read a letter that someone is holding that says that the government has limited the dirty air that can come out of buildings – from now on, the air must be cleaner when it leaves. The bird rejoices and flies away with a smile on his face and clean, fresh air in his lungs.

## Strategy 25 – Heads Together

Time: 15-20 minutes

Room adjustment: Groups necessary

Materials: none required

Instructions to students: I will ask a question aloud. Then, I will announce "heads together," at which point you should get into your groups and discuss the answer. After a few minutes, I will say "heads apart," at which point you should return to your seats for whole-class discussion on the question.

### Questions

What do we use machines for?

What would happen if we didn't use them?

Is some smoke okay?

Does smoke do anything else other than make the air dirty?

(Ask students if there are any questions that they would like to discuss.)

# Earth: Quality Control Plan

## Student Plan

Name: \_\_\_\_\_

Evaluator: \_\_\_\_\_

Problem:

Solution:

Action Step 1:

Action Step 2:

Action Step 3:

**STOP**  
Once you are finished, you may sit quietly and read.

# Assessment Blueprint

Name	Standards	Objectives	Verb	Method	Information
<p style="text-align: center;">Quality Control Plan</p> <p>Students will each create a thorough plan that clearly describes a problem, solution, and at least 2 action steps that a person can take to combat the issue of negative effects of human activity on the environment.</p>	<p>4 – G5.0.1 Assess the positive and negative effects of human activities on the physical environment of the United States.</p>	<p>1. TSW explain a negative effect of human activity on the environment.</p> <p>2. TSW explain a way that they can positively affect the environment in which they live.</p> <p>3. TSW describe two ways in which they can combat the issue of negative effects of human activity on the environment.</p>	<p>Assess</p>	<p>Product</p>	<p>Information regarding if students have or have not mastered the aspects of the standard will be collected using the attached sheet.</p> <p>I will use that information to determine if certain students need additional reinforcements of the objectives.</p> <p>Students will use that information to either celebrate mastery of the objectives or to determine the types of questions to ask the teacher during their personal meeting with the teacher.</p>



# Earth: Quality Control Plan

## Student Plan

Name: High

Problem: Water is full of bad things, like trash and garbage. *Yes, it is!*

Solution: Make sure trash and garbage don't end up in the water.  
*Yes, and how can we make sure of that?*

### Action Step 1:

I will always throw the trash in my house into the trashcan, and close the garbage bag tight so that it will never get out.

*Very good thinking. Your solution is personal and easy, but important.*

### Action Step 2:

When I see trash around when I go outside, I will pick it up and put it into a waste basket.

*Good! That's a good way to influence others. Maybe when other people see you do that, they'll do it, too!*

### Action Step 3:

I will ask my parents to recycle more things.

*Great application of knowledge! When we recycle, our trash ends up in the right place.*

**STOP**  
Once you are finished, you may sit quietly and read.

# Earth: Quality Control Plan

## Student Plan

Name: Medium

**Problem:** The air is being polluted with poisonous gases and chemicals. *Yes, it is!*

**Solution:** Make sure there aren't as many poisonous gases going into the air.  
*Yes, and HOW can we do that?*

**Action Step 1:**  
Carpool with friends, walk and ride my bike as much as I can so that my car doesn't add very much poisonous gas to the air.  
*Very good solution! It is personal and realistic.*

**Action Step 2:**

**Action Step 3:**

**STOP**  
Once you are finished, you may sit quietly and read.

# Earth: Quality Control Plan

## Student Plan

Name: Low

Problem: People should plant more trees.

*Yes, they should. But is that a problem? That's a solution to a problem. So what's the problem that planting trees solves?*

*Why is planting trees important? Why do we need trees?*

Solution: More trees will be planted.

*You have the right idea here.*

Action Step 1:

I will plant a tree in my backyard.

*Great action step!*

Action Step 2:

I will water the tree every day that I live.

*Yes, trees need water to live.*

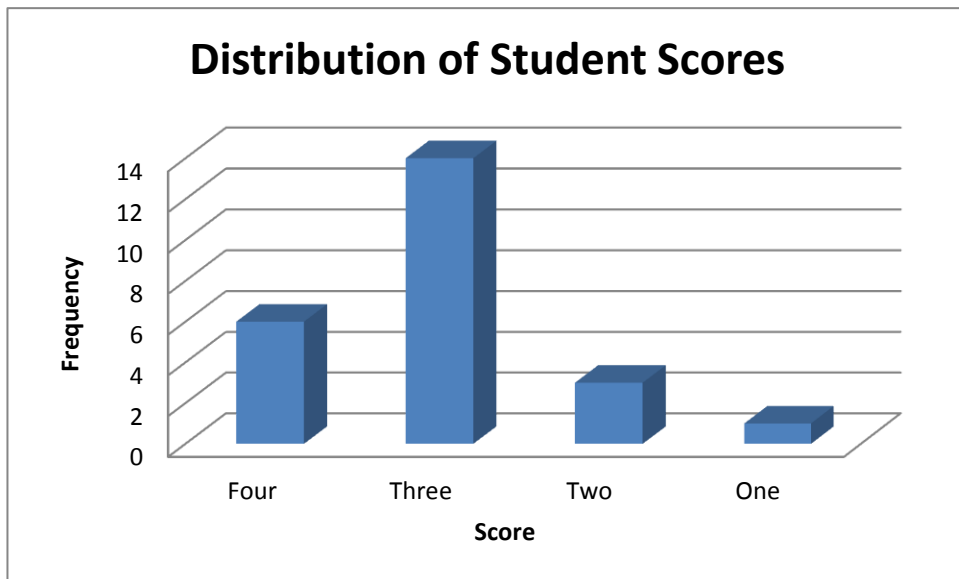
Action Step 3:

**STOP**  
Once you are finished, you may sit quietly and read.

**Data:** Each student will earn a score based on their work on their quality control plan.

An example of student scores is below.

Student	Score	Student	Score
Riley	4	Stephen	3
Hannah	4	Grace K	3
Jake	4	Katie	3
Tae Jung	4	Jana	3
Alice	4	Mark	3
Mamitiana	4	Jamie	3
Eun Lee	3	JT	3
Sophia	3	Soren	3
Grace L	3	Eung Ho	2
Karole	3	Bryan	2
Maartje	3	Yoon Chan	2
Sam	3	Jessica	1



## **Data Analysis**

As evidenced by these facts, most students scored very well on this assessment. Only 4/24 students did not meet mastery of the objectives, and 3 of those 4 were very close. This unit seemed to work well for students. They really understood the content and were able to internalize the information (as they created such wonderful action steps).

Part of the success of this unit is probably attributed to the instructional strategies that I used to teach the students. They were fun and engaging, and the students thoroughly enjoyed them. The students also worked very hard this unit and encouraged each other to try their best. Good attitudes took them far!

## **If/Then Action Plan**

If students reached mastery or above, no reinforcement is necessary.

If students did not reach mastery, the teacher may choose to further reinforce the material or to simply take note of the student's score and keep it in mind for further learning.

If the teacher wishes to use additional reinforcements for this lesson, he/she can explain cause and effect to the student using day-to-day occurrences that the student will be familiar with. This will vary from student to student, but an example of what that could look like is given here: If one student lives in the country and has an animal that feeds on grass (like a cow), a teacher could use that animal in an example. The teacher could ask the student what might happen if humans decided to build a swimming pool in the field, and the cow didn't have any more grass to eat. The student may say something like "The cow would die." That scenario would be used as a lead-in to further discussion about the effects that human actions can have on the environment. The teacher would continue to supply the student with multiple scenarios of ways in which humans have affected different environments, and the student would comment and ask questions about these scenarios. At the end of the "teacher talk time," when the student feels confident in his/her understanding of the material, the student would be asked to give a verbal example of a way in which humans have negatively changed the environment, but could positively change the environment by altering their techniques. If the student is able to give a logical answer, he/she has mastered the objectives.

If the teacher does not wish to reinforce the objectives after the summative assessment, he/she can simply write down the students who did not achieve mastery and keep a closer eye on them during the next unit, encouraging them and assisting them when beneficial.

## **Explanation of Identified Instructional Strategies and Tools**

### **Strategy 14 –Using Kinesthetics (adaptation)**

I selected this strategy because I think it will help students understand key information in an exciting way. By experimenting, students are seeing the effects of pollution, rather than just hearing about the effects of pollution. It does almost as much good as a field trip would, but it's a lot easier to do this experiment than it would be to take the class on a trip. This strategy falls in the perfect balance between hands-on action (field trips) and lecture/note-taking information.

A possible downfall to using this strategy may be that the information isn't as extensive as it could be. This strategy only allows for one example of a pollution scenario. If more depth or expansion on this topic was necessary, an additional strategy would need to be used.

### **Strategy 7 – Deleting**

I selected this strategy because it will serve as a foundational building block for students in years to come. Learning how to “delete” your way through a piece of text is a valuable skill that all students need to have. If they don't acquire that skill by high school or college, they start to flounder in their work and they end up feeling overwhelmed. This strategy will help students to understand how to skim through a textbook and pick out important information.

This strategy, although useful, is not exciting for students. They would classify this as a “boring” strategy and would be less inclined to work hard while using this “boring” strategy. However, the rest of the unit is packed full with fun, invigorating lessons, so this strategy fits nicely amongst them all.

### **Strategy 15 – Visual Image Representations**

This strategy is great because it captures what kids are seeing/thinking in their minds on paper. Sometimes, their thoughts get lost through words and through a lack of motivation. With this strategy, students are free to express themselves artistically. Through using 6 squares as pacing guide, it also helps students to stay on track with each other, and it guides them in knowing how detailed to make their drawings.

If a student does not feel confident in his/her artistic abilities, this strategy might present a downfall for that student. Students may feel shy and neglect participating in the activity. Another barrier to this strategy is that, like the kinesthetic strategy, it limits the information that can be addressed during the strategy. However, when paired with another strategy, it can maintain effectiveness.

### **Strategy 25 – Heads Together**

This is a wonderful supplemental strategy to the previous one. It can cover basically any information that the teacher wants to cover by asking the right kinds of questions. It's great for filling in gaps in instruction, or can be used to review previously learned information. Because of its flexibility, it fits great in this unit where many of the other activities are not as flexible.

One con to this strategy, though, is that it's not as easy to monitor or assess as some others are. The teacher must be moving constantly, listening to all of the different groups. Because of that amount of transition, it's difficult for a teacher to assess how well students understand the information.