Recycling project

Sustainability & Ecology Essential Standard: EEn.2.7 Explain how the lithosphere, hydrosphere, and atmosphere individually and collectively affect the biosphere. EEn.2.8 Evaluate human behaviors in terms of how likely they are to ensure the ability to live sustainably on Earth. Clarifying objective: EEn.2.7.1 Explain how abiotic and biotic factors interact to create the various biomes in North Carolina. EEn.2.7.2 Explain why biodiversity is important to the biosphere. EEn.2.7.3 Explain how human activities impact the biosphere.

Day 1:

Starting of recycling project

stage 1 AWARENESS

(20 minutes)
Who has the biggest "stained" foot?
Pre activity question discussion

Earth Day Carbon Footprint Questions

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Brainstorm the meaning of carbon footprint
· video which will lead students to lead Carbon Footprinting

· Read "Recycling Reflex" (protocol in an activity to read and comprehend the article) annotate as they read, pull 5 open ended questions, Gallery Walk (25 minutes)

Students will be asked questions on the carbon footprint and they will start with who has the biggest "stained foot?

Each 'Yes' is a point. You are scored out of 10. For example if you get a 5/10, you are responsible for increasing your Carbon Footprint 50% time.

1. Are most of the things you buy disposable, recyclable, or reusable? (Yes or No)
2. Do you use paper, plastic or cloth grocery bags? (Yes or No)
3. Do you dispose of hazardous materials properly? (Yes or No)
4. Do you turn off your computer, video games or other electronics when you're not using them? (Yes or No)
5. Do you turn the lights off when not needed? (Yes or No)
6. Does your car leak? (Yes or No)
7. Do you save rain water in secured rain water barrels? (Yes or No)

8. Is your main vehicle fuel efficient? (Yes or No)
9. Do you plant native plants around your house? (Yes or No)
10. Do you carpool when possible? (Yes or No)

Score: /10

We will have a piece of large chart paper with a footprint drawn on it in the middle of the classroom. Students will stand around the footprint
Teacher will ask questions. Each time they can answer "yes" to the question they step on the footprint & trace their foot.
Homework:
1-Use the following carbon calculator website to determine your household carbon emissions. (You may wish to investigate additional websites for comparison

purposes.)

www.myfootprint.org

2 Comment on your calculated carbon footprint estimate. How does your carbon

footprint compare with the United States average?)

Day 2;
Students will look at punch cards with interesting/strange/disgusting facts relating to recycling.
Teacher will come up with an idea to pass out the cards & connect them to the big idea to explain the project.

Students will work on the projects about

· What is expected 3 STAGES (AWARENESS, ADVOCACY, ACTION).

1. Recycling air
2. Recycling water
3. Plastic

4. Economics (job growth, sustainability)
5. Wildlife
6. Recycling process
7. Conserving resources
8. Franklin County recycling
9. NC recycling
10. Recycling Across America
11. Global recycling
12. Reducing use
13. Recyclable products
14. Going Green
15. Green companies
16. Landfills
17. Dirties companies
18. Styrofoam

AWARENESS

· What is the problem we are trying to solve in relationship to carbon footprint? How can recycling affect our carbon footprint?

· Entire group collaborative brainstorms questions about their cadre topic (include copy of question stems) for example: cadre PLASTIC- Is all plastic recyclable?

Questions:

For the final product, the students must have a written piece, a visual, and a "Did You Know" fact:

3- WP: At least ½ page of written material (double-spaced) that answers the question completely; V: must relate to question and is eye-catching; DYK: relates to question and is attention-grabbing; all areas include cited sources

2- WP: question is answered; V: Relates to question; DYK: relates to question; all areas include cited sources

1-WP: Wrote something; V: Have a visual; DYK: Tried to include a fact; attempted to cite sources

	4 POINTS	3 POINTS	2 POINTS	1 POINT
INFORMATION	PRESENTATION INCLUDES MANY FACTS, STATISTICS, AND WAYS TO RECYCLE ASSIGNED MATERIAL (5-6 GOOD SENTENCES)	PRESENTATION INCLUDES SOME FACTS, STATISTICS, AND WAYS TO RECYCLE ASSIGNED MATERIAL (3-4 GOOD SENTENCES)	PRESENTATION INCLUDES FEW FACTS, STATISTICS, AND WAYS TO RECYCLE ASSIGNED MATERIAL (1-2 SENTENCES)	PRESENTATION CONTAINS NO INFORMATION
EXAMPLES	PRESENTATION HAS 4 EXAMPLES OF THE ASSIGNMED MATERIAL (AT LEAST TWO PHYSICAL EXAMPLES PRESENT)	PRESENTATION HAS 4 EXAMPLES OF THE ASSIGNMED MATERIAL (NO PHYSICAL EXAMPLES PRESENT)	PRESENTATION HAS 2 EXAMPLES OF THE ASSIGNED MATERIAL (NO PHYSICAL EXAMPLES PRESENT)	PRESENTATION HAS NO EXAMPLES OF THE ASSIGNED MATERIAL
CREATIVITY AND NEATNESS	INFORMATION IS PRESENTED ON A COLORFUL, NEAT POSTERBOARD	INFORMATION IS PRESENTED ON A POSTERBOARD, BUT IS NOT NEAT	INFORMATION IS PRESENTED ON A POSTERBOARD THAT IS NEITHER COLORFUL NOR NEAT	INFORMATION IS NOT ON A POSTERBOARD
PRESENTATION	STUDENTS SHOW STRONG GRASP OF INFORMATION AND ASK FOR QUESTIONS	STUDENTS SHOW BASIC GRASP OF INFORMATION, BUT DOESN'T ASK FOR QUESTIONS	STUDENTS SHOW LITTLE GRASP OF INFORMATION AND DO NOT ASK FOR QUESTIONS	STUDENTS SHOW NO GRASP OF INFORMATION AND DO NOT ASK FOR QUESTIONS

Electronic Waste Composting How much is recycled? Recycling electronics Plastic Waste Plastic Recycling – the triangles Excessive packaging Glass recycling Aluminum recycling The length of

time needed for items take to breakdown? Landfills

1, Plastics

2.Glass

3.Aluminum Cans

4. Paper

5: Styrofoam

6: Biofuels

7.LED

8: Batteries

9.Landfills

3-

Day 3 :Global Climate Change

—Lesson Plan

Student Objectives Journal :

Define global climate change and identify its features. followed by chalk talk.

Explain the "greenhouse effect" and the role of carbon dioxide and other greenhouse gases in changing the Earth's ecosystems. Followed by class room talk.

Core of the lesson

Decide, individually and as a group, whether the government should adopt a cap-and-trade system to limit greenhouse gas emissions; support decisions based on evidence and sound reasoning.

Visit the website and answer the questions mentioned below.http://www.windows2universe.org/earth/climate/greenhouse_gases_scott_denning_movie.html

1. What is the purpose of carbon sequestration

2. What are the three pillars of the Global Climate Change Initiative?

3. What is CCS?

4. What is CCS being used for today?

5. What type of stone is carbon dioxide pumped into? Why?

6. What are cap rocks? Why are they important?

Review

1. Why would a carbon tax be effective at reducing greenhouse gas emissions?

2. How does a carbon tax not penalize people who can't afford to pay more for fuel and other items?

3. What are the advantages and disadvantages of using geoengineering solutions to reduce climate change rather than things like cap-and-trade or a carbon tax ?

Writing Prompts · How do humans impact climate change? After researching data tables, graphs and articles related to climate change, write an editorial to the local newspaper r that addresses whether the American public is adequately informed about climate change. Support your position with evidence from your research on the causes and effects of climate change.