

Spot the Differences:

Changes to the Environment

Scientist's Notebook



Scientist: _____

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&
Erie 2 Chautauqua Cattaraugus BOCES

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Belfast Central School
Bolivar-Richburg Central School
Cattaraugus-Little Valley Central School
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Franklinville Central School
Friendship Central School
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East Aurora Union Free School
Forestville Central School
Holland Central School
Jamestown Public School
Lake Shore Central School
Panama Central School
Sherman Central School
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Springville-Griffith Institute Central School

Dear Families,

Learning about our natural world is an exciting part of the elementary school curriculum. As we explore, we will come back time and again to elements of STEM: Science, Technology, Engineering, and Math.

Shortly, we will begin our next topic of study, which will focus on Changes to the Environment, a domain of Earth and Space Sciences.

As we explore this topic, essential understandings will include:

- plants and animals change the environment to meet their needs
- humans can impact the environment

Our final assessment for this unit will consist of students exploring how humans can reduce their impact on the earth, which is an Engineering Design Challenge. Students will be asked to create a product using recycled materials.

To help us prepare for this unit, we are looking to collect the following materials. If you have some at home, and wouldn't mind sharing, please send them to school with your student.

- recyclable items: pop bottles, boxes, magazines, milk jugs, cardboard tubes, tin cans (without sharp edges)

As always, please don't hesitate to contact me with any questions.

Thanks!



Dear Scientist,

We hope you are as excited as we are to begin your journey through the topic of conservation.

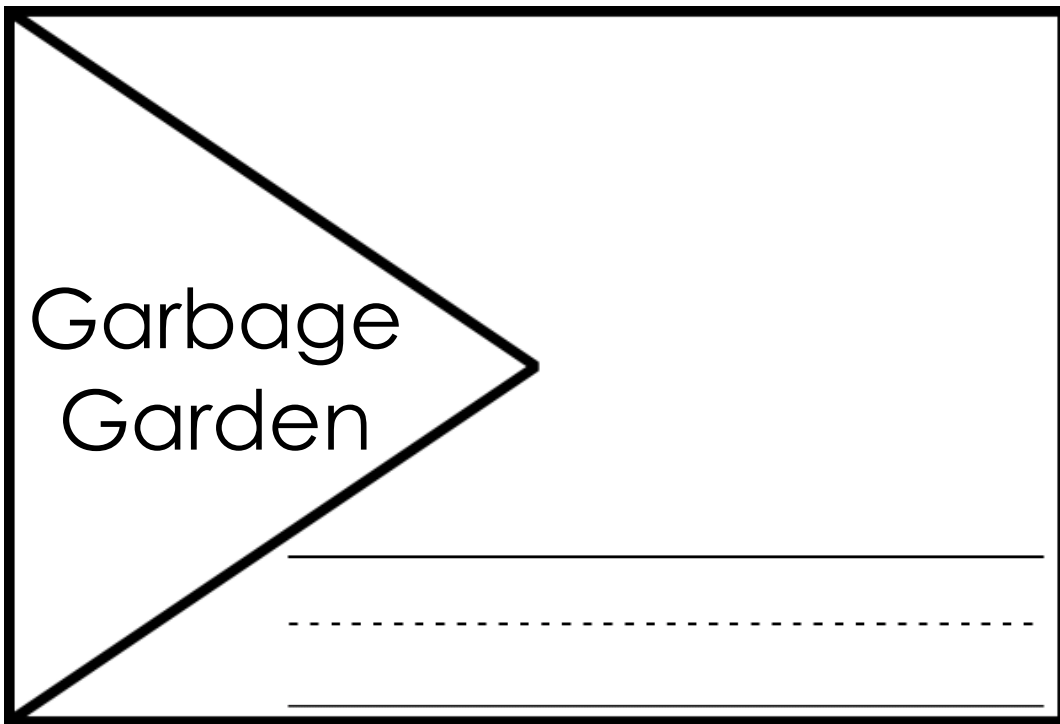
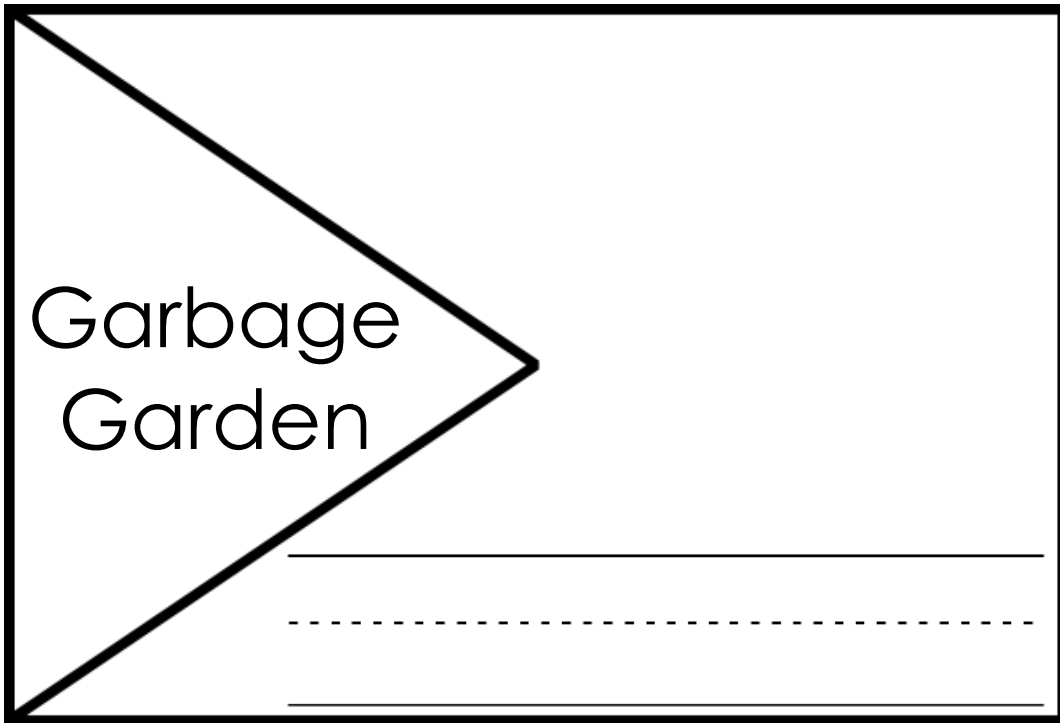
You may have already heard the words reduce, reuse, and recycle, but what do they mean and how can we do them? In this unit you will learn just that and more!

One thing you will be exploring is how we can help the environment and keep the Earth safe. In addition, you are going to discover how plants, animals, and humans can change the environment the meet their needs. Can you think of any ways right now?

During this unit, you will get to practice reducing, reusing, and recycling by creating a project with other students using recycled items. We can't wait to see what you design!

As you continue your quest to become a world-class scientist, make sure you ask good questions and seek out experts who can help you strive to understand even more about conservation.

Flag Template



Name: _____

Build a House

Draw a *BEFORE* picture of the bin with the dirt.



Draw an *AFTER* picture of the bin with the dirt and house.


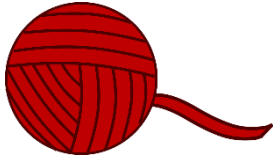








Discuss the differences.

Name: _____

Build a Nest

Circle the items a bird would use from its habitat to build a nest.

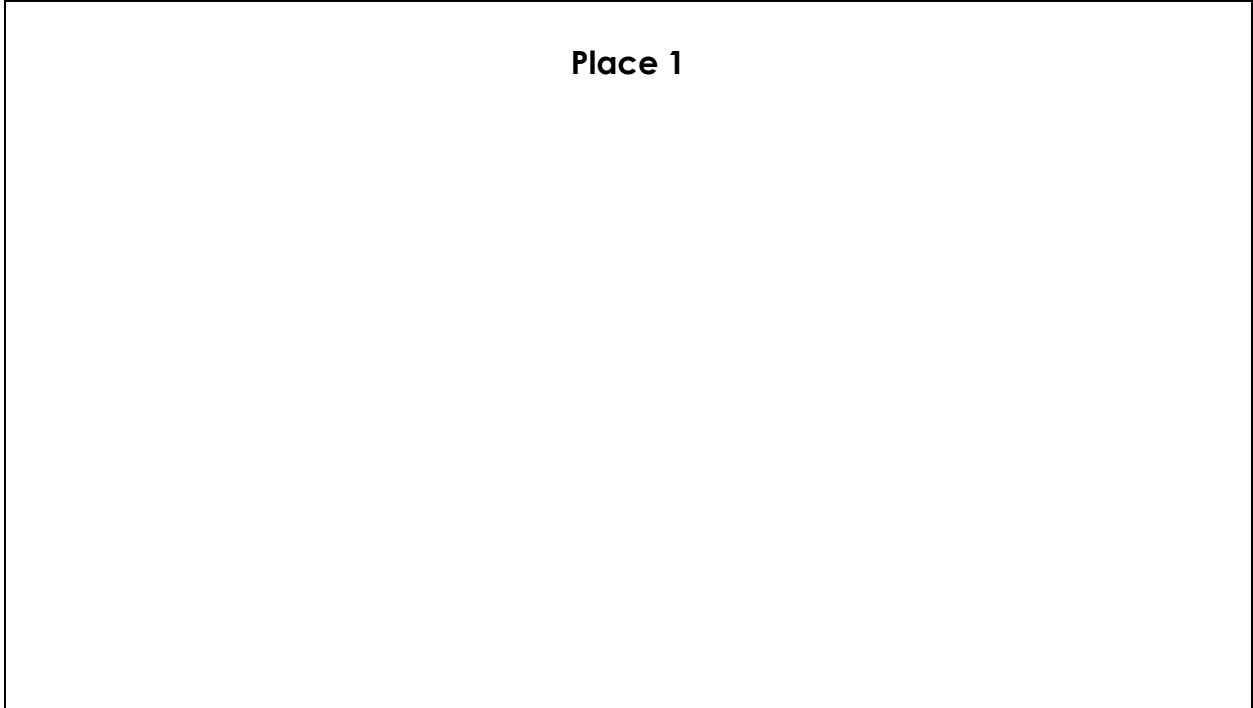
 <p>mud</p>	 <p>yarn</p>	 <p>leaf</p>
 <p>craft sticks</p>	 <p>twig</p>	 <p>shredded paper</p>
 <p>Easter grass</p>	 <p>straw</p>	 <p>grass</p>

Name: _____

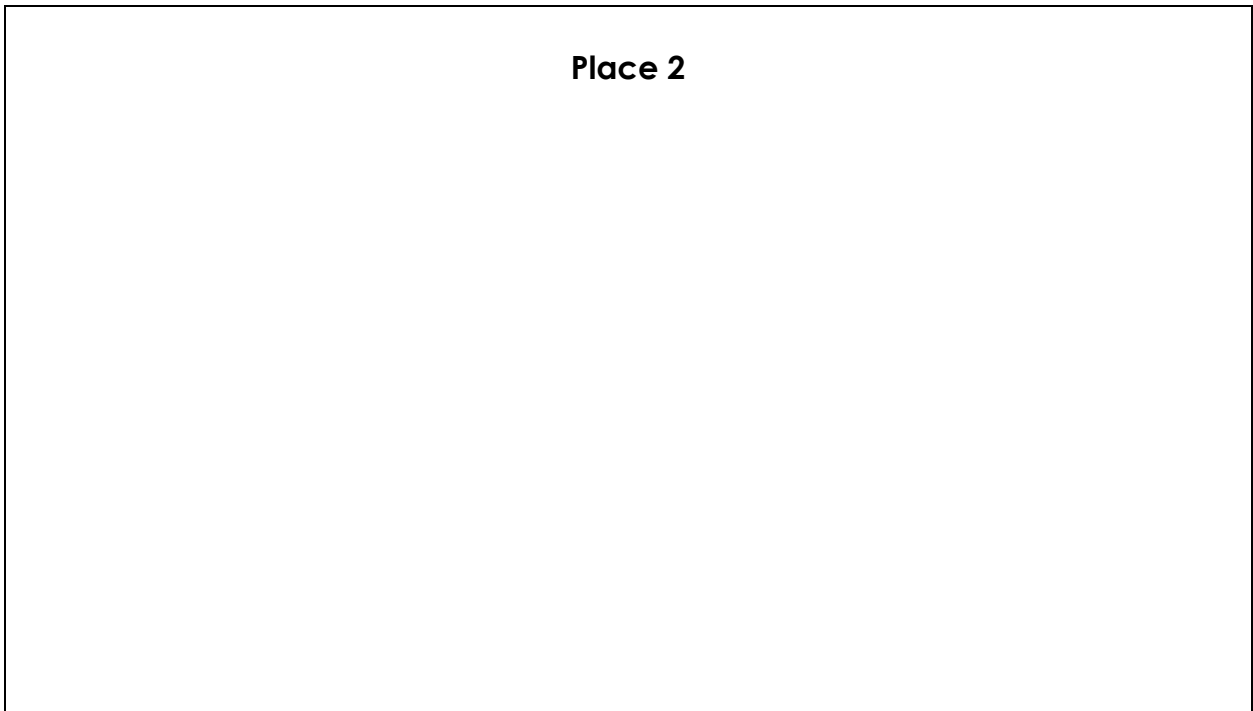
Where Do Plants Grow?

Draw one or two pictures of plants growing in unusual places.

Place 1



Place 2



Name: _____

Plant Environmental Change

A plant changes the environment by

This meets the plant's need because

Draw a picture of the plant changing the environment.

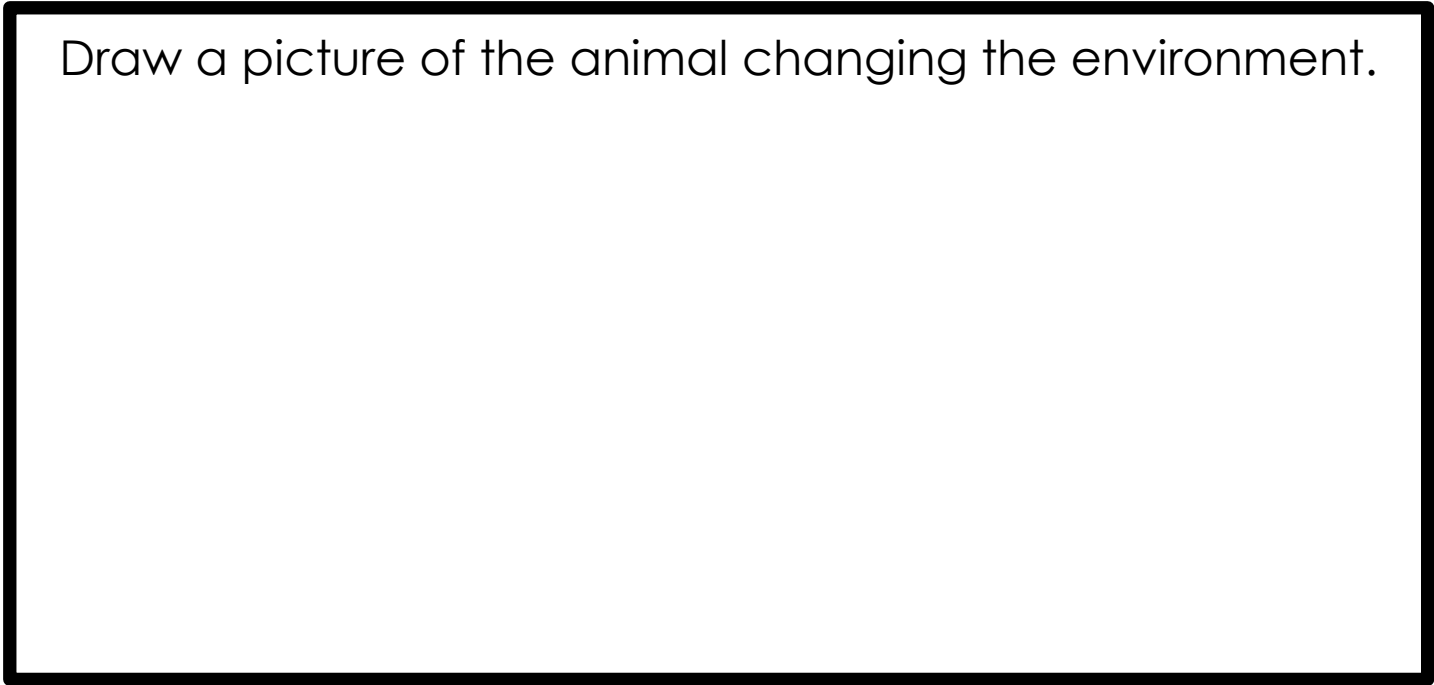
Name: _____

Animal Environmental Change

An animal changes the environment by

This meets the animal's need because

Draw a picture of the animal changing the environment.



Name: _____

Human Environmental Change

A human changes the environment by

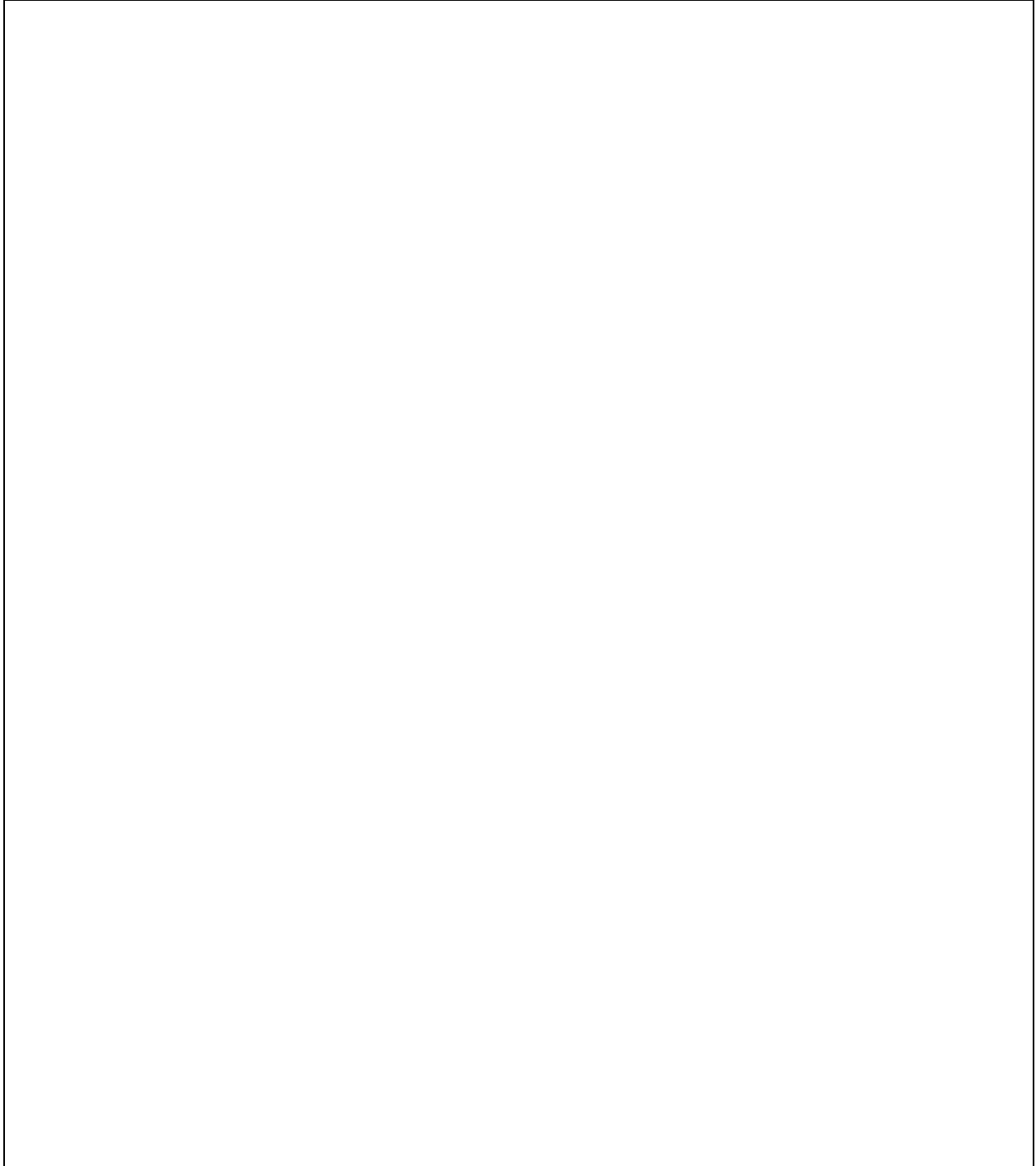
This meets the human's need because

Draw a picture of a human changing the environment.


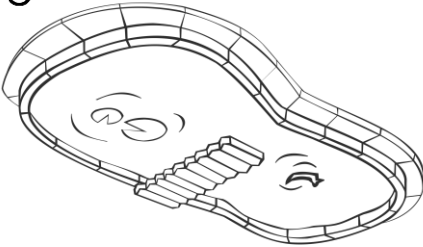


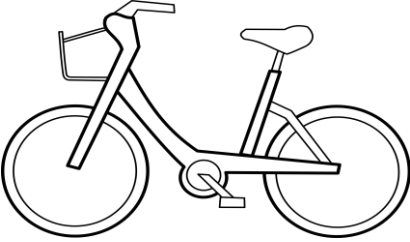


Name: _____

Frances the Fish Solution

Draw a solution to one of the problems Frances faced in the story.



One Page Mini-Book

<p>4</p>  <p>Plant trees.</p>	<p>3</p>  <p>Do not pollute the water.</p>	<p>2</p>  <p>Save electricity.</p>	<p>1</p>  <p>Recycle.</p>
<p>Walk, bike, or carpool.</p>  <p>5</p>	<p>Reuse things.</p>  <p>6</p>	<p>This little book was made by:</p> <p>Back Cover</p>	<p>Take Care of Our Earth</p> 

Name: _____

Engineering Design Process: Ask & Imagine

Ask

How can I reuse items to reduce my impact on the environment?

Imagine

Circle the item below you would like to reimagine.

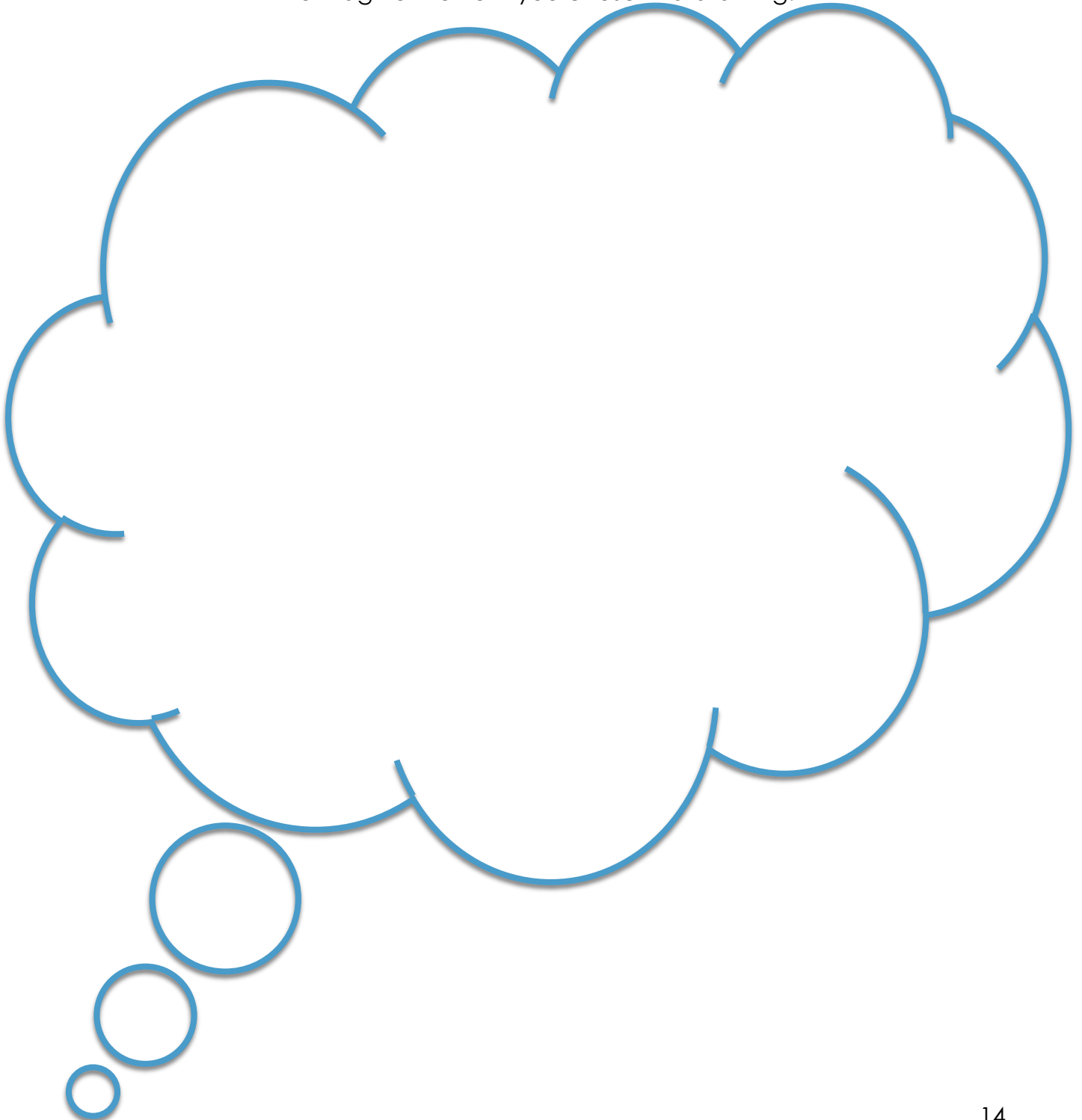


Name: _____

Engineering Design Process: Imagine

Imagine

Reimagine the item you chose in a drawing.



Name: _____

Engineering Design Process: Plan 1

Plan

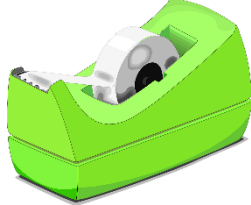



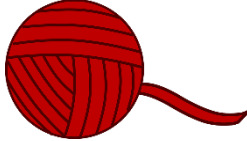


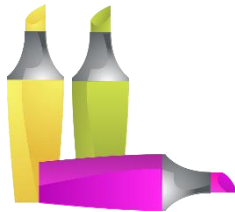

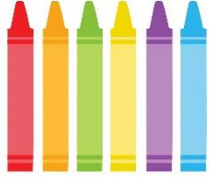
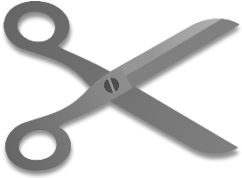

Draw your final design idea.

Name: _____

Engineering Design Process: Plan 2

Plan

What other materials will you need to create your final design idea?
Circle materials you think you will need.

 tape	 pipe cleaners	 glue
 rubber bands	 yarn	 construction paper
 craft sticks	 markers	 pencil
 crayons	 scissors	 other supplies

Name: _____

Engineering Design Process: Create

Create

Create a drawing of the final design.

Engineering Design Challenge Rubric: Student Friendly

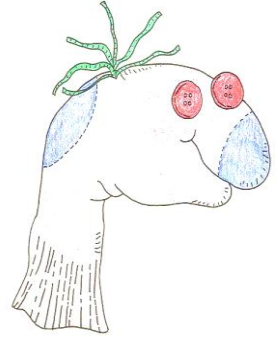
Student will be able to...	Novice 1	Apprentice 2	Proficient 3	Distinguished 4
Engineering Design Process	Engineering Design Process (Ask, Imagine, Plan, Create, Improve) was not followed.	Some of the Engineering Design Process was followed.	All five steps of the Engineering Design Process were followed.	The Engineering Design Process was used many times and was flexible.
Session Knowledge	Knowledge from sessions was not used to create the design.	Little knowledge from sessions was used or was incorrect to create the design.	Knowledge from sessions was used correctly to create the design.	Knowledge from sessions was used correctly and further research was done to create the design.
Criteria and Improvements	Design does not follow criteria or a form of improvement.	Design does not follow all of the criteria, or the improvements are very small.	Design follows all criteria and shows improvement.	Design follows all criteria and shows many forms of improvement.
Collaboration	Team members did not work well together. The presentation is missing some of the information.	Team members needed reminded to stay on task. Most of the information is included with the presentation.	Team members shared working together. Little reminding was needed to stay on task. Presentation is complete.	Team members shared working together without teacher reminders. Presentation is complete with added material.

Reduce, Reuse, and Recycle Student Cards

Recycle



Reuse



Reduce



Glossary

environment	things around where you live
habitat	place where an animal or plant lives
impact	have a good or bad effect on something
landfill	place to bury garbage in the ground
recycle	use materials from old items to make new items
reduce	cut down or make something smaller
reuse	use again and again