Sample Secret Lives of “Stuff” mini units

Note: Assignment requirements differ from course to course. These may not be the requirements for the class you are enrolled in. In addition, some of the units shown below were team-taught.

Mini Unit
Kindergarten Social Studies

March 11-April 25

My students can:

- Make basic connections that friends and family work together to help create a healthy earth and world.
- Explain that everything comes from the earth, and give examples of natural resources and products made from those resources. Early elementary educators: Students can explain that everything comes from the earth and connect that wool comes from sheep; milk comes from cows; etc.
- Name at least two stages of a product’s life cycle (paper).
- Plan collective action to address environmental challenges. Students will be able to see that when we recycle cereal boxes, we are providing for families in Haiti.

Iowa Core:
SS.K–2.E.6 Essential Concept and/or Skill:
- Understand the universal economic concept of needs and wants. Understand the difference between needs and wants. Understand the concepts of consumers and producers. Understand that people make choices because they cannot have everything they want.

SS.K–2.G.4 Essential Concept and/or Skill:
- Understand how geographic processes and human actions modify the environment and how the environment affects humans.
- Understand ways in which people depend on the physical environment.

SS.K–2.E.2 Essential Concept and/or Skill:
- Understand the role of money in everyday life. Understand that a price is the amount of money people pay for a good or service. Understand that people sell resources to businesses to earn income. Understand that in an exchange people trade goods and services for other goods and services or for money. Understand that money is a good that can be used to buy all other goods and services.

Mini Unit Plan (new to me resources are highlighted)
March 11
- Needs/Wants: print off the paper quiz on Brain Pop Jr. for a pre-assessment.
• List Needs and Wants on a T Chart: the students will be able to see the difference between a need and a want. Students will draw a picture in their home of the things that meet their needs.

• Show Brain pop Jr movie and add to the T Chart list with any new learning. https://jr.brainpop.com/socialstudies/economics/needsandwants/

March 14
• Students will make a flip book called Why We Work. There will be areas in the flip book for students to label and draw needs, wants, money, and jobs/work. On the inside students will draw what they want to be when they grow up and write why they want to do that.

March 15

March 22
• Pre-Assessment: Students will match the natural resource to the product. (from Module 2 plan)

• On chart paper, define natural resource, list natural resources, and discuss things that come from them (products). Natural Resource: something found in nature that people can use.
• Watch the first minute of the Brain Pop Jr. Natural Resource video again to see if anything else can be added to our list.

March 23
• Review what we learned from yesterday.
• Show Agatha’s Feather Bed read aloud. Discuss the meaning of the phrase “everything comes from something”.
• Add items from the story to the natural resource and products list.
• Show students and have them feel pieces of fleece, silk, wool, cotton and discuss where these come from.
• Teach the importance of taking care of the things that we have and the things that we get from the earth.

• Matching game with pictures of the natural resource and product. Half of my students will be given a natural resource picture and the other half will be given a product picture. Without talking, their job is to find the person that has their match and stand by them. After checking, we will put the matches together on the whiteboard for all to see.

March 24
• Post-Assessment: Students will match the natural resource to the product (from Module 2 plan).
• Discuss what it means to reduce, reuse, and recycle.
Reduce: To use less of something. Reuse: To use and item again. Recycle: To make new items from old ones. What can we reduce? What can we reuse? What can we recycle?
• Show Brain Pop Jr. reduce, reuse, recycle video and ask questions from the quiz. https://jr.brainpop.com/science/conservation/reducereuserecycle/
• Ask students to think about what they can do at home to help the environment (use less water, turn off lights, reuse, etc.). Share these things in the weekly newsletter to parents, challenging them to help out with the things that we are learning.

March 30
• Review natural resources and products. Review ways to reduce, reuse and recycle.
• To connect the lessons from module 1 and 2, read The Little Red Hen story with felts. Talk about the lessons we can learn from the Little Red Hen. Students can act out the story as well.

March 31
• Field trip to Gallagher-Bluedorn to see The Little Red Hen play.

April 1
• Day 1 - Play Acting the Recycling Process: Teacher will bring in an empty cereal box. One student pretends to eat cereal. What do we do when we are done with our box of cereal? One student will come with a box (the recycling truck), while wearing a recycling sign. Here comes the recycling truck to pick up the recycling. The recycling truck takes it to the recycling center (a bigger box in our classroom). These things get broken down and new boxes can be made out of it.
• Watch the following video of how a cereal box gets recycled: https://www.youtube.com/watch?v=F29QRMWXwxz8
• Have you ever heard the word orphanage before? What is that? Explain that an orphanage is a place where kids live whose parents are unable to care for them, or whose parents have died. Share with the students that I have friends that adopted two children from Haiti (and are now five and six years old). These children were living in an orphanage, and have been with my friends for three years now. (Show picture of friends). Show students where Haiti is on the globe (and also Iowa). Explain the term ‘culture’- A culture is a way of life of a group of people. Talk about how Haiti is a poor country, the earthquake that hit there 5 years ago, and how that affects the way people live, how they get money so that they can keep their family together, etc.

• How many of you love cereal? What happens when you are done with the cereal box? Well, some ways that the people of Haiti are able to earn money is to use cereal boxes to create beautiful pieces of jewelry! (I will bring in the bracelets that I have purchased made out of cereal boxes). This is a creative way for Haitians to be self-employed, so they can take care of their own children and families can stay together. One cereal box can give them $40 in profit!

• Show the following video from the Apparent Project site to allow the children to see the people of Haiti working to use recycled material to create beautiful things...
  http://www.apparentproject.org/

• Explain to the students that we are going to help the people of Haiti. We are going to collect cereal boxes (no plastic inserts). Over the next 2 weeks the students will bring in colorful regular sized cereal boxes. The students will help cut off the flaps. We will connect this to math, as the students will measure to make sure each box is 10-12 inches.

• A note will be sent home to parents, informing them of our project, and also the option to donate funds for the shipping costs.

April 4

• We will present this to the other kindergarten class, so they can get involved as well. I will show both classes the clip of Finding Nemo, “Keep Swimming”. This will encourage them to work together.
  https://www.youtube.com/watch?v=ulucJnxT7B4

April 1-18

• We will be graphing the boxes that we collect throughout the 2 weeks. Final collection day is April 18. The students will be able to see how much more we accomplished by including the other class in this project.
April 19

- Discuss what it means to reduce, reuse, and recycle. List these terms and definitions on chart paper:
  - Reduce: To use less of something
  - Reuse: To use an item again
  - Recycle: To make new items from old ones

Brainstorm after the following questions... What can we reduce? What can we reuse? What can we recycle?

- Show Brain Pop Jr. Reduce, Reuse, Recycle video and ask questions from the quiz.
- Ask students if they recycle at home or have a recycling bin (like we do in our classroom). What things can we put in there? Do a cutting and matching page for the students to know what gets thrown away and what can be recycled or reused.
- Sing the following song with actions: “Don’t throw it out, Don’t throw it out, Use it again, Use it again!”

Resources:
https://jr.brainpop.com/science/conservation/reducereuserecycle/video
https://jr.brainpop.com/science/conservation/reducereuserecycle/easyquiz/quiz
https://drive.google.com/a/wapsievalleyschools.org/file/d/0B8GD4fp046C8WUR4Zmd6NnlNDJ2NlFoMWhuOW13dw/view matching page

April 21

- Review ways to reduce, reuse, and recycle from yesterday. What happens after something is put into the recycling bin? Where does it go?
- Play Acting Activity: Teacher will bring in a newspaper. Review the fact that paper comes from trees. One student will pretend to read the newspaper. What do we do when we are done with the paper? One student will come with a box (the recycling truck), while wearing a recycling sign. Here comes the recycling truck to pick up the recycling. The recycling truck takes it to the recycling center (a bigger box in our classroom). These things get broken down and new paper can be made out of it.
- Show the following video about a girl recycling newspaper...
  https://www.youtube.com/watch/?v=tTQmCYl8Ap8
- Show chart on document camera of The Recycling Process. Show the students all the steps that are needed to make paper. We talked about how paper comes from trees. We don’t want to use too many trees, because we need trees. What are some ways that we could help the environment by not using so much paper? Sing the song again: “Don’t throw it out, Don’t throw it out, Use it again, Use it again!”

April 22

- A naturalist from Fontana Nature Center will come and provide everything needed to show the children how to make paper. The students will be able to make their own
paper as they go through the last two steps of the above Recycling Process page. Students will be able to experience the hard work of making paper.

April 23

- Review all of the new things that we have been learning about reusing and recycling.
- Watch the following video about a field trip to the recycling center: https://www.youtube.com/watch?v=-jAAux3g17k

- Post Assessment – students will be given The Recycling Process page with the pictures out of order. Their job is to cut out the pictures and glue them in order on a sheet of scrap paper.
- Talk about how it is a lot of work to make paper. Is there a better way to live? (Brainstorm ideas)
- Ask students to think about what they can do at home to help the environment (use less water, turn off lights, bring in a reusable bag for their snow pants and boots, reuse items for art, etc.). Share these things in the weekly newsletter to parents, challenging them to help out with the things that we are learning. Students will complete the following writing page.

I CAN REDUCE!

Make a list of things you can reduce

1. __________________________
2. __________________________
3. __________________________
4. __________________________
5. __________________________
6. __________________________

Name ______________________
1st Grade – Science and Social Studies

Learning Objectives:
My students can:

- Make basic connections that friends and family work together to help create a healthy earth and world.
- Explain that everything comes from the earth, and give examples of natural resources and products made from those resources. Students can explain that everything comes from the earth and connect that wool comes from sheep; milk comes from cows; etc.
- Name at least two stages of a product’s life cycle.
- Plan a collective action to address environmental challenges.

Iowa Core/NGSS/STEM:

SS.K–2.G.4: Understand how geographic processes and human actions modify the environment and how the environment affects humans.


5-ESS3-1. Obtain and combine information about ways individual communities use science ideas to protect the Earth’s resources and environment.

S.3-5.ES.1 Understand and apply knowledge of properties and uses of earth materials.

Day 1:

Student Learning Objective: The students will identify and develop ways to protect our environment through the analysis of what matters most to them and the people around them. The students will evaluate their needs and wants.

Introduce the concept of keeping our earth healthy with a connection of enjoying what you love. Students will take a first grade level “Pick 5” Survey to determine and identify what matters most to them. Next, discuss the Little House on the Prairie book by Laura Ingalls Wilder. Discuss the things that Laura owned, what she needed, and what made her happy. Using a Venn diagram, as a visual aid, and have the students compare what Laura had then, to what we have now. Ask the students if they could live off the land like Laura’s family. Also, ask the students to explain why the area that Laura’s family settled in was so important. The students will then identify what the land/environment offered that kept Laura’s family alive. Next, I will talk about the things I enjoy most about nature and all its amazing components that sustain me and my family. Discuss the things that our land offers so we can survive today. To conclude this lesson view The Gift of Nothing https://www.youtube.com/watch?v=ZAsdivuAA48 Have the students complete the “Needs and Wants” chart and then use their survey and completed chart to write an informational paragraph on “Five Things That Make Me Happy”.

Additional Resources:
The Quiltmaker’s Gift [https://www.youtube.com/watch?v=GkwGKN9JLw](https://www.youtube.com/watch?v=GkwGKN9JLw) Discuss the video and how the Quiltmaker impacted the King’s life. Ask the students if they could give up all their belongings. The students will then draw and write about their most important belongings.

**Day 2:**

Student Learning Objective: The students will identify how natural resources are made into consumer products and will evaluate human impact on the resources from the earth.

Today the student’s will be evaluating how everything comes from the earth. To begin the lesson read *Agatha’s Feather Bed* and discuss the phrase “Everything comes from something, and nothing comes from nothing.” Ask the students why the geese were upset at Agatha, and what she did to resolve the problem. Next, explain what a natural resource is and create a list on the whiteboard. Using the “Everything Comes from Something” Kit create a game. Label, and cut the pictures apart. Instruct the students to find a match to the resource with the product. Divide the students into two groups: natural resources and products. Next, the students will find a person that has a matching card. Conclude the lesson by discussing the different matching pairs and reflect on how products are produced from natural resources. Talk about local natural resources; include ... Anderson’s Bee Colony Farm. Have the students taste honey with a cracker. Together as a class examine what bees need to make honey. Watch the video Brainpop Jr. Natural Resources [https://jr.brainpop.com/science/conservation/reducereuserecycle/](https://jr.brainpop.com/science/conservation/reducereuserecycle/). To finish this lesson, brainstorm solutions on what we can do to have a positive impact on things or places we love. (Log in required.)

Additional Resources: [Honey – How it’s Made](http://www.youtube.com/watch?v=GkwGKN9JLw)

**Day 3:**

Student Learning Objective: The student will examine that everything we purchase has an environmental impact. The student will identify basic stages in a product’s life cycle. The student will develop a plan to reduce, reuse or recycle their clothing products.

Begin this lesson with viewing the Loop Scoops Garbage Video [http://iptv.pbslearningmedia.org/resource/lpsc10.sci.life.garbage/garbage/](http://iptv.pbslearningmedia.org/resource/lpsc10.sci.life.garbage/garbage/) Discuss the basic stages a product goes through during its life cycle. As a class, discuss the difference between recycling, reducing, and reusing. Write the definitions of the three R’s on the whiteboard. Ask the students which one would make the most difference in how we treat our earth. Tell the students that we will be looking into the life cycle of our clothing. Create a game using the “Graphics from a Life of a Product” page to show the students the life cycle a piece of clothing. Ask them how the worn clothing could take different directions for its life cycle. Together, have the students pair-up and work through gluing the pictures in the order they think the life cycle should be done. Wrap up the lesson by brainstorming ideas about how we could make the biggest impact with our used clothing items by using one of the three R elements.

Additional Resources: [Brainpop Jr. Reduce, Reuse, Recycle](https://jr.brainpop.com/science/conservation/reducereuserecycle/)

PBS Kids “Cyberchase Reduce the Rubbish” [http://pbskids.org/video/?guid=4b70c766-c063-42de-aca3-366aac7e6038](http://pbskids.org/video/?guid=4b70c766-c063-42de-aca3-366aac7e6038)
Day 4:

Student Learning Objective: The student will develop a Community Engagement Project to protect our environment through the analysis of reduction, reuse or recycling of a clothing product.

View the read aloud book "Joseph Had a Little Overcoat"

https://www.youtube.com/watch?v=lsJ0GtNzd2o.

Ask the students to think of ways they could dispose of an item of clothing they are wearing today. Next, review yesterday’s lesson; make a chart on the whiteboard to help students determine what will happen to a piece of clothing when it becomes worn out. Talk about the different ways a piece of clothing can be recycled, reused and how we can reduce buying clothes. Ask the students which option is the best for the environment. Tell the students about Community Engagement Projects that we could participate in for our used clothing. Develop a plan and set a date to begin the project. Some ideas would be to collect t-shirts for a group of ladies that make diapers for third world countries and also making sock snowmen for patients at a retirement home in our area, Send home a letter to the parents to provide information about our class Community Engagement Project and ask for their involvement.

Extra Resources:

Reading Rainbow: How Trash Is Recycled with LeVar Burton
https://www.youtube.com/watch?v=w1l8HXa3HLk.

MACHINES: Planet Money Makes a T-Shirt
https://www.youtube.com/watch?v=QYa4zneKbeY

Day 5:

Student Learning Objective: The students will assemble or put the Community Engagement Project items together to be shipped. The students will complete a unit assessment.

The students will assemble and/or organize the items for the Community Engagement Project so they are ready to be dispersed or shipped. As a review, discuss each of the last four days lessons, writing answers and definitions on the whiteboard as a visual aid for the students. Ask the students to think about how needs and wants are different. Have the students think about five things that make them really happy and how these things are connected to our environment. On the board write five things that come from the earth and the connecting products that are produced. Next, the students will list as many stages of a product’s life cycle as possible. Discuss what it means to reduce, reuse, and recycle and which one of those is the best for the earth. In final analysis, ask the students to recall how they feel about the Community Engagement Project and have them list their two favorite components. The students will complete a paper/pencil unit assessment.
3rd Grade, Science/Social Studies

Student Learning Objectives:

- Reflect on what you love through writing, photographs, drawings, quotes, poems and/or collages and why this matters in terms of environmental health.
- Explain that everything comes from the earth, and give examples of natural resources and products made from those resources.
- Understand that everything we buy has a long chain of environmental impacts and name at least two stages of a product’s life cycle.
- Plan individual and/or collective action to address environmental challenges.

Iowa Core/NGSS/STEM skill:

Political Science: SS.3–5.PSCL.1 Essential Concept and/or Skill: Understand the rights and responsibilities of each citizen and demonstrate the value of lifelong civic action.

Behavioral Science: SS.3–5.BS.4 Essential Concept and/or Skill: Understand the process of how humans develop, learn, adapt to their environment, and internalize their culture.

Life Science: 3–LS4–4 Make a claim about the merit of a solution to a problem caused when the environment changes and the types of plants and animals that live there may change.

Plan:

April 4 - 22

Day 1: Students will complete a Pick 5 Survey - recording their answers on paper to refer back to. In science, we will discuss the difference between needs and wants. The students will learn how the environment provides the basics needs for plants and animals to survive. If the environment changes and the basic needs for life aren’t being met, plants and animals must change or adapt to survive. We will discuss the role that humans have played in changing the environment. We will brainstorm ideas that the students can be involved in to improve these environments and the Earth.

Day 2: Read The Quiltmaker’s Gift to the class by Jeff Brambeau
Share the word benevolent with students: http://www.merriam-webster.com/dictionary/benevolent
“Turn to Your Partner” and discuss how the Quiltmaker teaches the king to be benevolent. In social studies, the students are learning about citizenship, and what it means to be a part of a community.

Watch the short video combining all of the “pay it forward” moments shown in the Liberty Mutual commercials - this is not an advertisement! (4:23)
https://www.youtube.com/watch?v=qZMEIPCVgXY (Remind the class of their new word: benevolent and that in the video people were showing benevolence to others.) Point out that in the video the people focused their kind gestures on other people. Have pairs discuss why it is important to be benevolent toward animals, plants, or any part of the earth and not just people.
Assign students to be in charge of or help take the garbage and recycling to the curb each week. This way they can see how much waste they produce. (This will be revisited later in the unit.)

Day 3: We will review the difference between needs and wants. Have the students journal about their basic needs and have them explain why those are necessary. The students will then journal about their current wants and explain why they believe these are important to them. Show students
the “Happiness Store” video [http://iptv.pbslearningmedia.org/resource/lpsc10.sci.life.happy/happiness/]

We will discuss the meaning of the video and if their view of needs vs. wants has changed.

Have students journal about what they might shop for if they had such an opportunity and why.

Day 4 - “Everything Comes from Something” Kit - Matching activity with pictures of natural resource and product. Students will work in partners to match each of three different pairs. Pairs will rotate around the room deciding if they agree with the matches and why or why not. Students will create their own matches on their iPads using the Notability app instead of paper, thus being more mindful of the resources we use, see Day 6 plan.

Have students make a list of all the things they used in the morning from the time they woke up until just before they leave their house. The class will discuss items on lists and where they originated. (ie. toilet paper coming from trees) Students will have iPads available to research items they are unsure of. Students will think about ways to reduce their list in the future. We’ll talk about if they turned lights on what kind of bulb they use.

Day 5 - Waverly Utilities will come talk about where electricity comes from and how families can make good choices to conserve energy in their daily lives and in their purchases.

Day 6 - Class will discuss how we can be more mindful of the resources we use in the classroom: lights, turning off projectors and chargers, paper towels, and paper. This will lead to a partner project to brainstorm ways our students can use less paper in the classroom. (We are one-to-one with iPads so they should have a lot of ideas!) Pairs will share their ideas and the class will choose 2 of these conservation projects.


Day 7 - Quick Write - if something breaks or a new model has been released, what do you do? (Review from Electronic Gadgets video and discussion on Day 3 of Module #2)

Bill Nye - “Garbage” After viewing the video, students will complete a Video Information Organization. Students will discuss what they learned from the video and from their homework assignment in Module #1 of taking out the garbage and recycling for their family. Ask which their family had more of - garbage or recycling? Review the 3 R’s - Reduce, Reuse, Recycle. Have a class discussion about which of the R’s is the most important and why. (If time, have a small group debate.)

Day 8 - ISU Ag Extension will come to do a presentation called “Pizza Planet”. There are 2 parts to the presentation: one part talks about how all the parts of a pizza come from plants/animals; the other talks about “From Farm to Table”. Students make their own personal pizzas to eat and culminate the learning.

Day 9 - Show the video “Keep Swimming” [https://www.youtube.com/watch?v=ulucJnxT7B4]

Discuss how the group worked together to save themselves.

Take a tour of our school’s Learning Garden and talk about the positive features, things that need improvement, and what we could add to make it better and more of a learning environment keeping in mind the units we have studied throughout the year and that future 3rd graders will use this garden as well.
<table>
<thead>
<tr>
<th>Positives</th>
<th>Things that Need to be Improved</th>
<th>Ideas for What We Could Add</th>
</tr>
</thead>
</table>

Day 10 - Hopefully some child remembered that we studied monarchs at the beginning of the year and how their habitat has been diminishing due to weed control.
Guest Speaker - Pam Wolter will talk to the classes about preserving pollinator habitats. She will also guide the class in planting seeds in our biodegradable pots to start our Pollinator Habitat in our Learning Garden.

Day 11 - Revisit the “Pick 5 Survey”. Have students do the survey again and discuss how their choices changed throughout the unit.

Day 12-14:
*Community Engagement: - Using Pam’s advice, we will begin cleaning up our current space and plan where seedlings will be planted.

*When seedlings are ready, we will have students plant them and take pictures of the initial phase of the creation of our REAL Learning Garden. Helpers will be assigned to maintain the space through the end of the school year. (Depending on whether and seedling growth, this may be completed at a later date.)

In addition to planting butterfly and caterpillar friendly plants, we will also beautify the space by having each child decorate a 4x8 cement paver that will line the paths of the garden. Students will work in small groups to create a “story”, show the life cycle of the butterfly, draw diagrams of different species of butterflies and their caterpillars, depict how we can help save the earth, etc... This will be determined once we have begun the unit and by what they students are interested in.

End of Unit Wrap-up On Earth Day April 22 - Gratitude Letter: Have students write a thank you to one of our guest speakers thanking them for coming and sharing with us. Students will email their letters or use recycled paper to conserve.
Students may choose to promote our Learning Garden and the things we have learned by creating something for the school website or a poster to display in classrooms.

Jhspr16
4th Grade Science
(This teacher reflected later that activities took more time than she anticipated.)

Projected dates: August 25th - September 8th (around 10 days)
My final family engagement project would take place closer to November because it is a Toys for Tots drive that we would be doing for Christmas!

Learning Objectives:
- Reflect on what they love through writing, photographs, drawings, quotes, poems and/or collages and why this matters in terms of environmental health. Early elementary educators: Students can make basic connections that friends and family (or others—such as teachers—who care about them) are likely more important to them than material objects.
- Explain that everything comes from the earth, and give examples of natural resources and products made from those resources. Early elementary educators: Students can make basic connections such as that wool comes from sheep, milk comes from cows, etc.
- Analyze and interpret data about product life cycles and communicate information and ideas about the stages of products.
- Plan individual and/or collective action to address environmental challenges.
- Conduct research through different resources to understand that everything comes from the earth.
- Work individually and as a team to discuss in-depth topics, and create ideas to help increase environmental health.

Iowa Core:
- Communicate solutions that will reduce the impact of humans on the land, water, air and/or other living things in the local environment (Life Science KESS3-3). Example: Students will learn about recycling, reusing and reducing. They will also learn about production changes that decrease waste and conserve resources. They will then be able to explain why they are important strategies to reducing humans’ impact.
- 5-ESS3-1 Earth and Human Activity: Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.
- Obtain and combine information about ways individual communities use science ideas to protect the earth’s resources and environment (NGSS 5-ESS3-1). Example: Students will learn how a landfill works and why certain designs are used to protect the environment.

Mini Unit:
Day 1:
First I would ask students to think about two or three things that are most important to them in their life and why? After a few minutes to think about this question, students would then turn and share with a partner.

First Activity:
Next, I would pose the question teachers have used before “What would you want if you were stranded on an island and had all the basic survival needs met? Students would get time to first work on this question independently (they would have to explain why they chose what they did). I would provide an example after giving them time to discuss. I would provide maybe pictures or objects of what I would take and then allow the students to reevaluate their items. Students would then have the opportunity to share with the class, students who are shy or do not want to share will turn in their work at the end with the class.

Second Activity:
Students will then listen and watch the story The Gift of Nothing, after watching this students will reflect on this story, and can make any changes at this time to what they would take with them to the island- students must explain what they chose to change if they do so.
**Day 2:**
Recap of what students find important in their life and the Gift of Nothing. Students would then watch the short Happiness Store clip and discuss the similarities and differences of the lesson from the day before.

**First Activity:**
Students would then listen to the story of the Quilt Maker’s Gift. As they listen students will create a Venn diagram of the King and the Quilt Maker. After the story students would reflect in groups on how the story made them feel and any thoughts they have. I would then pose the question to just think about “Where does fleece come from?” We would come back to this in the second part of our unit when students learn about how everything comes from the Earth.

**Second Activity:**
As a private school we do what is called a Missions Day where each grade gets the chance to pick an organization they would like to donate to, and on that day students may dress in jeans if they donate a dollar or sometimes canned food, it depends on the organization, we then collect all the money or items and donate to the cause. Based on the Quilt Maker’s Gift students would discuss what types of change are promoted because of our monthly mission and what types of change they could promote in our environment. After students would then be introduced to their mission that connects with our story, students will make fleece blankets to take to the nursing home to connect to the Quilt Maker making quilts for the poor. Students will then get to deliver those to the nursing home on a set date.

**Day 3:**
Students will first be posed with the question “Why is the environment important and how do you use the environment on a daily basis?” Students will then have the chance to brainstorm ways to in which people can help the environment with a partner or a group.

**Activity:**
Students will create a KWL chart on Recycling - before the video they will fill out the K and W part, students will then watch the video and after fill in the L on their charts. Students will discuss their charts as a class, the teacher will put the KWL chart on the board and students will get the chance to come up and add to the chart before and after the video before discussion.

**Video:** Students will watch a video on How Trash is Recycled (Reduce, Reuse, Recycle) - [https://www.youtube.com/watch?v=w1l8HXa3HLk](https://www.youtube.com/watch?v=w1l8HXa3HLk)

**Final Activity:**
Students will get the chance to research other ways besides recycling that we can help the environment and how this has a positive impact on the environment.

**Day 4:**
Students will be using the resources from the “Everything Comes From Something” Kit. Students will be divided into 2 groups –members of one group will receive a laminated resource picture, and members of the second group will receive a laminated picture of a product. The students are then challenged to find their match.

Students will then be challenged to think about this question “Why is it important to know where our resources come from?”
Day 5:
Students will work in pairs and they will choose a product they are interested in and then work back to find the resources used to create the product. They will be asked to answer the following questions in their research:

1. What product did you choose? Why?
2. What resources are used to create your product?
3. How does this resource impact our environment?
4. Why is this resource important to the environment?
5. How are we (people) trying to protect this resource? Or how are humans impacting this environment by using this resource? For example: How much of this resource are we using, is it having a negative effect on the environment? Is it affecting plants, animals, water, land, etc.?
6. What are some solutions that would reduce this impact we have when using this resource?

Each pair of students will share in front of the class (presentation practice).
Closing: Once everyone has shared students will reflect in their notebooks on their research, their peers research, and the question that was posed before “Why is it important to know where our resources come from?”

Family and Community Engagement:
I would send a parent letter home before starting this lesson asking parents to take about 15 minutes to engage with their child by reading Agatha’s Feather Bed together or watching the video read-aloud (I would provide them the link). Before reading or watching the video I would have the parent/guardian review and discuss with their child what a product and natural resource is. After reading or watching the video, just as we did I would ask them to identify two products and natural resources used to make these. This would be great for family engagement and would help lead the child into this lesson!

Day 6-7:
Students will listen to the story of The Lorax. (For an extension or for early finishers, this would also be great to tie into Live What you Love, and Everything Comes from Earth- students could try and connect with reflection on past lessons)

Next, students will get into groups of 2-4 to discuss the story and come up with 3 reasons why taking care of the environment is important. Groups will turn and talk with other groups to discuss similar ideas and differences. Afterwards students will discuss 2-3 ways we can help take care of the environment.

The teacher will then introduce the 3 R’s and ask if anyone had this as one of the ways to help the environment. I would then take what I learned from the Why “Stuff” Matters Part 1 video and teach/discuss with my students.

Activity: Students will be provided a STEM challenge that I found on Teacherspayteachers that I did last year, and the students absolutely loved it! Students are challenged to create a futuristic city of only recycled materials that they will bring in the following day to create their city (an e-mail would be sent to parents a few days in advance to give them time to collect recyclables.

Students will then place their cities around the room, and classmates will get the chance to walk around and view their peers cities, as well as discuss and see how they used their recyclables.

Day 8:
First I would start off by asking the students “How many of you wear t-shirts?” (Hand raising), next “How many of you know how your t-shirts are made or how they get to you?” List the ideas on the board as a class. “How many of you can tell me what resource your t-shirts are made from?” –Turn and share
Next students will watch the video of the Life of a T-shirt, once done students will reflect on what they watched and heard. Students will complete a Venn Diagram comparing The Lorax to Life of a T-shirt.

Activity: After reflection, using the Life of a t-shirt activity resource I would give students a graphic picture of the t-shirt cycle that has been cut up into element pieces and placed into a plastic baggie. Students will work in groups to put the elements into the correct order.

Once the cycle is completed, students will then receive a blank sheet of paper and will be asked to think of ways to reduce environmental impact along the production chain of a product with any product they want (they are even encouraged to research different product cycles). Students can be as creative as they want.

Family/Community Engagement: Students and parents are challenged to pick a product they use quite frequently and take a pledge to not use this product for 7 days. Students will then interview their parents/guardians about their 7 days without this product.

Day 9-10: In case needed these are buffer days

November: Final Family Engagement Project
This is a Collect and Give engagement project where students will donate toys to the Toys for Tots foundation. We would receive a Toy drop box for our entire school to partake in hopefully around the middle of September/early October and we would help prepare toys for Christmas. My students would choose a toy with the help of their mom and/or dad (guardian) for the drop box, but the students and their guardian have to write a short research paper on the toy. What resources is the toy made from, and some information on the product cycle of the toy that was chosen?

…mmSum2017
5th Grade--Science and Math

Dates: September --November

Learning Objectives:
- Reflect on what they love through writing, photographs, drawings, quotes, poems and/or collages and why this matters in terms of environmental health.
- Explain that everything comes from the earth, and give examples of natural resources and products made from those resources.
- Analyze and interpret data about product life cycles and communicate information and ideas about the stages of products.
- Plan individual and/or collective action to address environmental challenges.

Iowa Core:

5--ESS3--1
Obtain and combine information about ways individual communities use science ideas to protect the Earth’s resources and environment.

RI.5.9
Integrate information from several texts on the same topic in order to write or speak about the subject knowledgeably.

RI.5.7
Draw on information from multiple print or digital sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently.

W.5.9
Draw evidence from literary or informational texts to support analysis, reflection, and research.

Day 1
- Use the (this is new to me) lesson plan, Know What Matters to You. Students reflect on what their values are. I would ask the questions on paper (pre-test): What are their values? What matters most to them? Why? I will collect this information and read it to see what they are thinking.
- Students listen to (this is new to me) The Quiltmaker’s Gift online using headphones and their iPADS.
- Students reflect on the book they just listened to by writing in their journal. They answer questions such as: What is the main idea of the book? Is it a mentor book? What makes it a mentor book? What is the author trying to tell us?
- Discuss in large group

Day 2
- I read the (this is new to me) The Gift of Nothing.
- Discuss this in large group. We will draw connections from the story.
- Make coupon books (this is new to me) from the website https://www.newdream.org/blog/printable-coupon-favor-book. Stress to students that giving your time is more valuable than buying more “stuff” and is better for the environment.

Day 3
- Read (this is new to me) Agatha’s Feather Bed.
Students write for 20 minutes. They identify genre, author’s purpose, and summarize.
Share ideas with table partner
Discuss in large group
Play the matching game from the teacher kit (this is new to me). **Everything Comes from Something.**

Days 4-6
- Together in large group, brainstorm a list of products to research where they come from
- With partners, students research something they would like to know where something comes from.
- Students use google safe search and trustworthy websites to conduct research on product
- Students find pictures and take notes about product
- Students use imovie or app to create video or commercial
- Use the lesson plan (this is new to me), **Agatha’s Feather Bed – A “Fowl” Experience!**

Day 7
- Define “Life Cycle”- ask students for ideas in large group- write them down
- Show (this is new to me) **This is Your Life Cycle video**
  [https://www.youtube.com/watch?v=01tF21O2iso](https://www.youtube.com/watch?v=01tF21O2iso) - stopping to discuss frequently throughout the video, since it goes fairly fast. (5 min).
- Ask again to define “Life Cycle”- Write definition on anchor chart and hang in the room

Day 8
- Show picture of tree/paper (on my phone)
- Ask for ideas on how paper is made from trees- share ideas in large group
- Show video of how paper is made (this is new to me):
  [https://www.youtube.com/watch?v=7IP0Ch1Va44](https://www.youtube.com/watch?v=7IP0Ch1Va44) - 5-minute animation
- Record in steps the life cycle of paper-discuss the recycle option of paper being used vs. wood chips.

Day 9
- Follow the (this is new to me) **Just Look at our Shoes** lesson plan:
  - Make prediction what will happen in the life cycle of a shoe
  - Do the shoe activity- sort shoes under proper category of what students will do when they are finished with shoes
  - Graph results- take pictures of shoes
  - Use garbage bag to put all shoes into – take pictures! Place in hallway for school to see.
- Send copy of shoe handout with student to interview someone at home on their shoes. Student and parent fill out the chart together.

Days 10-11
- Students write about what they found out about shoes in their family.
- They answer questions about what surprised them the most? What they do with shoes when they are done?
- They figure average shoe number for persons living in the house.
• Show (this is new to me) PowerPoint of “Life Cycle” Recycling, Reusing, & Reducing: What’s the Difference? What would be the benefits of Reduction vs. recycling or reusing? 
(I MAY Get RID OF THE READER’S THEATER) BECAUSE OF TIME
• Divide students into groups of 4 for Reader’s Theater
  o Give students world maps and pins (cardboard underneath)
  o Students read and use world maps to act out the Reader’s Theater of Nike Shoes
  o Discuss and give options to students if they would like to do this for another grade level.

Days 12-14
• Students pick an item from their stuff they would like to research.
• Students put their “item” or “stuff” into a life cycle showing: (this is new to me)
  Product Lifecycle Chart:
    o Where was this item "born"?
    o What materials is it made from?
    o Where did those materials come from?
    o What will happen with this object now that you are done with it?
    o Students choose an app on the IPAD to put their information into and share with the class. They create a life cycle for their “stuff”
    o Students work on this section with the technology teacher. Some ideas could be: IMOVIE, Keynote, Showbie, Picolage, etc.
    o Students share with class.

Day 15-?
• Show video that introduces Soles4Souls https://soles4souls.org/our-impact/
• Discuss video and explore the website and answer the question if we would like to do a community drive collecting unneeded shoes.
• Brainstorm ideas of how we can get our community involved informing them about Soles4Souls.
• Brainstorm ideas of how we can stress the reduce even before we need to recycle.
• Teaming up with tech teacher to create our own Imovie or video
• Show the videos at parent teacher conference in the fall or November. Show them or build on them for the Science Fair in February.

I would like to fit this in: I ordered through Keystone both copies of Material World: A Global Family Portrait. I have one copy. Love the handout that comes with this.
…bbSum2017
6th Grade Science

Iowa Core/NGSS/STEM Skill

Iowa Core Essential Concept and/or Skill: Understand and apply knowledge of properties and uses of earth materials. (S.3-5.E.S.1) The different physical and chemical properties of earth materials make them useful in different ways, for example, as building materials, as sources of fuel, or for growing the plants we use as foods.

Iowa Core SS.3–5.G.2 Essential Concept and/or Skill: Understand how geographic and human characteristics create culture and define regions.

Iowa Core SS.3–5.G.3 Essential Concept and/or Skill: Understand how human factors and the distribution of resources affect the development of society and the movement of populations.

Iowa Core SS.3–5.G.4 Essential Concept and/or Skill: Understand how physical processes and human actions modify the environment and how the environment affects humans.

NGSS Earth and Human Activity

5-ESS3-1. Obtain and combine information about ways individual communities use science ideas to protect the Earth’s resources and environment.

21st Century Skill 21.6–8.FL.6

Essential Concept and/or Skill: Demonstrate ethical financial decision making skills and assess how these decisions might impact the broader community.

Recognize the local, state, national, and international impact of personal financial habits and actions.

- Realize that financial habits and actions have broad impact beyond the local community.
- Identify the factors that impact the production of goods and services beyond the local area.

Demonstrate responsible financial behaviors, at the personal, local, state, national, and international levels.

- Identify the importance of legal and ethical actions in financial behaviors.
- Explain how unethical behavior negatively impacts the broader community.
- Explain the importance of ethical behavior in building trust.

Day 1

Pull out and discuss what saved classroom trash (from the previous day) could have been recycled, reused, reduced, or still had useable life.

Read The Quiltmaker’s Gift and pose the following questions throughout the reading.

- What inspired her colors and why do you suppose those were the inspirations?
- Why do you think she wouldn’t sell the quilts?
- How do you think the people that woke up wrapped in quilts felt about their gift?
- The King wants everything. What words would you use to describe that type of behavior?
• Why do you think he wants everything from all the people?
• What do you think about him taking things from people and requesting gifts?
• Do material items make you happy? If you had all the things you could ever want would you be assured of happiness?
• Why do you think the quilter told the King she would only give him a quilt if he gave away all his things?
• Why do you suppose all of the King’s nasty revenges always work out okay for the quilter?
• Why did the King suddenly enjoy giving all of his things away? What caused him to change his mind?
• What was he “getting” in return for his things? How did that inspire him?
• In the end the King had a beautiful quilt made just from him but he also gained something else. What else did he get?

Day 2
• Send students an invitation to the Pick 5 survey (6th grade).
• Have the students put their top five choices in their science journal before submitting the survey. They should also put a star next to their top choice.
• Display all 15 choices on the board and have a class discussion about which choices require resources from the environment. Have students record any environmental impacts next to their top five choices as each item is discussed.
• Students will go to their stations (groups) and each share their top pick and why that is the most important to them.
• Read The Gift of Nothing and discuss the following:
  • Mooch originally thought you get everybody who has everything nothing. Do agree? What would you give somebody who had everything?

Day 3
• Show the Service Happiness Store video from this link http://iptv.pbslearningmedia.org/resource/lpsc10.sci.life.happy/happiness/
• As a formative assessment have students journal at least five nonmaterial gifts they could give someone, then have them go to their groups and share. If they hear ideas they like, but didn’t think of, encourage them to add those ideas to their own list.
• Read Agatha’s Feather Bed (read without questioning; that will be done in the following activities).
• Do the skit for Agatha’s Feather Bed.
• After reading the book divide the class in half. Give half laminated pictures of resources from the earth and the other half products made from those resources. Have the resources and products match up. Explain that some of the resources have more than one product they create so their will be some groups of three when everyone is matched.
• Once students think they are matched up right, have each group share their product and what they produce. Move students that don’t match that resource as needed.
• Give each group one of the following items and have them research what natural resources are needed to make their item.
- A wood pencil
- A large eraser
- A piece of paper
- A baggy of staples
- A paperclip
- A glass beaker

- Have each group share their findings.
- Discuss how people buying and wasting things impacts the environment. Brainstorm disposable consumables and ways to reduce our reliance on them.
- Have students pick an item that they use frequently (ie., hair accessories, jewelry, etc.) and assign them to come to class tomorrow ready to tell about their product and the resources needed to make that product.

Day 4

- Review the three R’s
- Use the adaptation that gives each group a trash item that they will research and answer the four questions. Where was this item "born"? What materials is it made from? Where did those materials come from? What will happen with this object now that we are done with it?

- Empty potato chip bag
- Disposable water bottle
- Old cell phone
- A worn out sock
- An empty cottage cheese container
- An empty glass jar

- Instead of a worksheet, students will record their answers in their science journals.

- Collect a library book from each student to be placed in a box. Weigh the box and discuss how little trash that really is when you consider how much trash is actually thrown away around the world and sent to the landfill everyday. Use this discussion to talk about resources and land that is wasted. Prompt students to brainstorm how this waste could impact future generations.
- Have students make a plan to extend the life of one product they currently own.
- A possible extension could include making a product life cycle poster.

Day 5

- Read the book Hey, Little Ant by Phillip and Hannah Hoose
- Discuss the following from the lesson To Squish or Not: Everyday Decisions that Make a Difference:
Discuss the decision making process...do you squish the ant or not? The answer depends on the situation, if the ant is on the kitchen counter you squish it, if it’s outside you let it go free. We all make decisions each day. Many decisions we make are small. Ask students, “How many of you pick out your own clothes today?” Discuss why they picked those clothes. Explain that as you get older some decisions may become more important..what college you will attend, whom you will marry, how many kids you will have, what job offer you will accept. Larger decisions can be life changing but small choices add up and can have a large impact on your life and society.

Define waste generation and consumerism: Everyone is a waste generator—we all make waste/garbage; everyone is a consumer and as a consumer we all use “things” to survive. Discuss these concepts using examples familiar to students. Then discuss: How much do you throw away? How much do you consume? Can we change our behavior and reduce the amount we consume or throw away?

Discuss sample materials: Stress that students must make a decision, or choice, to change their behavior.

Plastic bag vs. cloth bag: Over 600 billion plastic bags are produced worldwide annually. Each American family receives on average 6 bags per day. We can throw bags away, recycle them (costs 5x times more to recycle than to make), or reuse them several times before tossing or recycling. A cloth bag can be used over and over, washed and used again.

Paper towels vs. cloth: Paper towels are used once and thrown away—they are disposable. Using reusable sponges/cloths reduces the amount of material going into the landfill and saves money (buying them adds up).

Bottled water vs. water bottle: In the U.S. over 600 billion bottles of water are consumed annually. Studies have shown that tap water tastes the same and is as clean as bottled water. Bottled water costs $0.25-1.29, while filling a reusable bottle costs less than $.01 to fill each time.


Pose the question, “What are you going to do about it?”

Show the Finding Nemo clip: https://www.youtube.com/watch?v=ulucJnxT7B4

Show the following ideas and discuss that we as a group can do things to get other community members thinking about protecting and conserving resources (encourage students to add ideas and make some of the provided ideas specific):

**Project Ideas**

1. Make posters encouraging reusing items like cloth grocery bags, water bottles, or other items that can replace disposable items.
2. Collect and donate unwanted items to a nonprofit organization instead of throwing them away.
3. Research how to stop junk mail and make posters letting others know the information.
4. Research and make environmentally friendly cleaners for your home or school.
5. Make posters showing the life cycle of a particular product and encourage reducing.
6. Organize and advertise a drive for the local animal shelter or make posters asking for specific necessary donations and offer to walk animals one night a week.
7. Research and make posters on how to make products last longer (cell phone, sponges, nail polish, etc.)- experiment to test it out. Websites to consider:
   http://www.buzzfeed.com/peggy/ways-to-make-your-stuff-last-as-long-as-possible#.oen3BoXEM

he_jdspr16
6th Grade Health Exploratory
Projected Dates: During Quarter 1 of 2017-2018 school year, this would be my first rotation of health kids a I get a new group each quarter

Mini Unit “Secret Lives of Stuff”

Objectives
- Reflect on what they love through writing, photographs, drawings, quotes, poems and/or collages and why this matters in terms of environmental health.
- Explain that everything comes from the earth, and give examples of natural resources and products made from those resources.
- Analyze and interpret data about product life cycles and communicate information and ideas about the stages of products.
- Plan individual and/or collective action to address environmental challenges.

Iowa Core Standards
21.6–8.HL.1 Essential Concept and/or Skill: Demonstrate functional health literacy skills to obtain, interpret, understand and use basic health concepts to enhance personal, family and community health.
21.6–8.HL.3 Essential Concept and/or Skill: Apply critical literacy/thinking skills related to personal, family and community wellness.

Time Frame
- Five class periods (215 minutes)

Media Resources
- Agatha’s Feather Bed (Video)--new to me resource
- Plastic Bag Debate (Website)--new to me resource
- Carton Council: Cartons are recyclable--new to me resource

Materials
- Pictures of common products that middle school students use on a daily basis: water bottles, shoes, t-shirt, blue jeans, backpack, etc.
- Poster Board
- Possible donation from business for reusable grocery bags

Journal/Bellringer
“Everything comes from something, nothing comes from nothing”....What does this mean to you in terms of environmental health?
**View**

Reading of Agatha’s Feather Bed

**Discuss**

Now what do you think the quote on board might have to do with environmental health?

**Step 1:** (Estimated time: 10-15 minutes) Seat students in a circle. Spread pictures of common products.
Choosing one item (juice box), tell students they have a challenge: to tell this product’s life story. Ask students to brainstorm answers to these questions:

a. Where was this item "born"?

b. What materials is it made from? Juice boxes are typically made up of six layers of paper (24%), polyethylene (70%), and aluminum foil (6%). The paper provides stiffness and strength and gives the package its brick shape. (And comes from trees) Polyethylene serves two purposes. On the inner most layer, it forms the seal that makes the package liquid tight. On the exterior, it provides a protective coating that keeps the package dry and provides a printing surface for nutritional and marketing information. (And comes from Naphtha which is extracted from crude oil.) The aluminum foil forms a barrier against light and oxygen, eliminating the need for refrigeration or preservatives to prevent spoilage. (Processed from the element Aluminum) The straws are made of plastic and wrapped in cellophone. (Made from cellulose fibers, which usually come from wood or cotton.)

c. Where did those materials come from? See red information above….

d. What will happen with this object now that we are done with it? Throw it out, after all isn’t that the convenience of it??? But wait, they are recyclable even though many people think they are not: http://www.recyclecartons.com/learn/#how (walk through information on this website together as a class)

**Step 2:** (Estimated time, 15 minutes) Divide the class into groups (same group they’ll perform skit in), explaining to students that they will choose a different product and research to answer the same questions:

a. Where was this item "born"?

b. What materials is it made from?
c. Where did those materials come from?
d. What will happen with this object now that we are done with it?

**Journal/Bellringer:** What surprised you the most about what you learned yesterday?

**Step 3:** (Estimated time: 10 minutes) Two minute talk.....each group will be given two minutes to explain what they learned about their product.

**Step 4.** (Estimated time: 5 minutes) Present the following science.
Optional: To make this section more interactive, have students prepare oversize vocabulary cards with the words life cycle, raw materials, biotic, abiotic, and decompose.)

a. The items we use each day have a hidden life story; this is called a "product life cycle."

b. The main stages in the **life cycle** of a product include getting the raw materials, making the item, getting it to the store or user, using the item, and disposing of it.

c. **Biotic materials** were once alive; they include wood, paper, cotton, and wool. These materials can biodegrade (decompose). Insects and other decomposing organisms can turn these materials back into basic elements (carbon, nitrogen) that other living things can use as food and nutrients.

d. **Abiotic materials** were never alive; they include metals, glass, minerals, and plastics. These materials cannot biodegrade. They can break into very small pieces, but they cannot be used as food by living organisms.

e. Explain that biotic and abiotic materials are neither "good" nor "bad," but each can cause problems if not disposed of properly. Abiotic materials will not decompose. If toxic, they can contaminate water and soil. In large quantities, biotic materials can also cause pollution. For instance, chicken waste or cow manure from factory farms can leach excessive nitrogen into rivers and lakes, damaging ecosystems and endangering human health.

**Step 5:** (Estimated time: 5-10 minutes) In groups, students will brainstorm things that we use on a daily basis that are bad for the environment? What things do we have excess of in our lives? What are some alternatives to these things? How could we limit them?

**Step 6:** (Debate) Assign kids to be either a plastic or a paper bag. The plastic bag group will get together and brainstorm why they possibly are the best type of bag to use at the grocery
store. The paper bag group will do the same. Tell kids they can get as creative as they think they need to.

**Step 7:** (Estimated time 20 minutes) Jigsaw read and share out with the following website: [http://www.besmartbegreen.com/bagdebate.html](http://www.besmartbegreen.com/bagdebate.html)

1) Read **Introduction** together
2) Group 1: The Origin of Paper Bags
3) Group 2: Where does a paper bag end its useful life? & Other uses for paper bags:
4) Group 3: Where does that plastic bag come from? & Where does plastic go when thrown away?
5) Group 4: Plastics impact
6) Group 5: Conclusion

**Step 8:** (Estimated time) Students will make a campaign posters or pamphlets to include in the bags to encourage people to use reusable grocery bags when shopping. Maybe some kids could write Public Service Announcements that could be read each quarter. We will hopefully be able post these at the local grocery store, Kwik Star and Casey’s.

**Journal:** Writing prompts:
1) Is it important to know the story of an object's life before you throw it away?
2) Is it important to know if the materials from which it is made are biotic or abiotic? Why or why not?
3) Is it a good decision to keep something rather than throwing it away? If something is broken and can no longer be used, how can we dispose of it?

**Community and Family Engagement**
I could have students practice the Agatha’s Feather Bed skit in 2-3 groups. If possible we could set up and area during a home football game for students to present the skit in between quarters to the younger kids or community members.

If we can get reusable grocery bags donated, we could also set up a booth to present our information on plastic and paper grocery bags and the importance of using reusable shopping bags.
<table>
<thead>
<tr>
<th>Biotic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abiotic</td>
</tr>
<tr>
<td>Decompose</td>
</tr>
<tr>
<td>Life Cycle</td>
</tr>
<tr>
<td>Raw Materials</td>
</tr>
</tbody>
</table>
MINI UNIT : 8th Grade Exploratory Family & Consumer Science

Projected dates to teach mini-unit lessons: early October

Learning Objectives. My students can:
- Reflect on what they love through writing, photographs, drawings, quotes, poems and/or collages and why this matters in terms of environmental health.
- Explain that everything comes from the earth, and give examples of natural resources and products made from those resources.
- Analyze and interpret data about product life cycles and communicate information and ideas about the stages of products.
- Plan individual and/or collective action to address environmental challenges.

Iowa Core standard EE.8.SP.A.4
Construct a graph or table from given categorical data, and compare data categorized in the graph or table.

Iowa Family & Consumer Science standards:
2.2 Analyze the relationship between the global environment and family and consumer resources.
- 2.2.1 Analyze individual and family responsibility in relation to the environmental trends and issues.
- 2.2.2 Summarize environmental trends and issues affecting families and future generations.
- 2.2.3 Demonstrate behaviors that conserve, reuse, and recycle resources to maintain the environment.

Lesson 1: Super Simple Hero

Hook: Show Youtube clip of a new business that uses vinyl billboard tarps recycling them into bags & backpacks. These Super Simple Heroes are making money keeping tarps out of the dump.
https://www.youtube.com/watch?v=9Q-Lx06Q1gQ

Brainstorm Activity: List other products that have a short life before being disposed of. Could any of them have another life? Display this number to the class- 340,000. Inform that in Iowa, about 340,000 of these are used & disposed of about 180 days a year = over 61 million just in our state! Have students guess what this number represents. If no one guesses, put blanks on the board ‘hangman’ style so letters can be guessed to spell MILK CARTONS.
360,000 K-12 Iowa students x 90% = 340,000. This statistic does not take into account breakfast & after school programs.

Group activity: Give each group a bag of empty clean milk cartons from the school cafeteria. Challenge each group to come up with ways to reuse this product, instead of disposing a
million of them about every 3 school days. We found a need, so how can we take care of it? Can be extended into developing a business idea, too.

Individual Activity: Give VALUES survey. Afterwards, have students talk about their top choices & how that can frame who they are & what they find important. Have them think of Super Simple hero ideas

Video Activity: Watch the 13-minute read-aloud of The Quiltmaker's Gift, by Jeff Brambeau at https://www.youtube.com/watch?v=GkwGKN9JILw
Discuss this Quiltmaker Super Simple hero.

Exit Activity: List half a dozen other items that we buy that have a very short life, being used just once. Write an alternative to buying these items beside 6 of them.

Values Survey:

Name: ____________________

Choices and Values: What’s Important to Me?

Take a few minutes to think about the meaning of the items listed below. Indicate with a check mark the items that are important to you.

- ___ winning an award or honor
- ___ looking good
- ___ feeling good about myself
- ___ having good grades
- ___ being smart enough to go to college
- ___ being an honest person
- ___ being respected by most people
- ___ having lots of friends
- ___ having a best friend
- ___ being healthy
- ___ being richer than most people
- ___ having a relationship with God
- ___ getting along with my parents
- ___ being kind and caring of others
- ___ being good at my favorite sport
- ___ playing an instruments well
- ___ singing well
- ___ living in America
- ___ having the stuff I want
- ___ Other ____________________

Pick your top 5 choices from above and write the numbers below:
A.____ B.____ C.____ D.____ E.____
Lesson 2: Living with Natural Resources


Pair up students and give a Natural Resource page. After a few minutes have pairs share out to make a giant Natural Resource list poster with no duplicates. Have students come up and highlight items that are disposed of when folks are done with them. Cut up giant list & glue onto a new poster of “Happy endings?” Have groups make predictions of which category will have more items. Use the following topic headings for posters.

<table>
<thead>
<tr>
<th>Recycled</th>
<th>Reused</th>
<th>Composted</th>
<th>Donated</th>
<th>Trashed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burned</td>
<td>Sold</td>
<td>Other</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Exit Activity: What changes could you make this week to reduce waste in your life? You have the power to make changes about the resources or end results, what would they be?

**NATURAL RESOURCES:** Name: _____________________  
Name: _____________________

Natural Resources can be grouped different ways. We are putting them into 8 categories for simplicity. Of course, we all use AIR to exist. Brainstorm & write a product(s) or item(s) that at least one of you used this past week, for each category.

<table>
<thead>
<tr>
<th>AIR:</th>
<th>SOIL:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>WATER:</th>
<th>ENERGY:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PLANTS:</th>
<th>ANIMALS:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Lesson 3: Cooking with Natural Resources

Intro: Have a jar of salsa sitting at the front of the class. Ask for students to list the ingredients. Next, demonstrate how to make salsa by mixing cut up onions, tomatoes, garlic, cilantro & a jalapeno. Lastly, squeezing juice from a lime & sprinkling in some salt & stirring. Pass out a little cup with salsa & chips & propose that question of what ingredients are from natural resources. Hopefully, the students will list the ingredients I used. Explaining further, I would define natural resources as naturally occurring materials (can’t be made by man) that have a beneficial use to humans.

Distribute a recipe page for each pair of students. Pairs will be instructed to look at the Chili recipe only. They should underline any of the ingredients that are from natural resources & then write what natural resource it is from. (Of course, every ingredient is from some natural resource). Pairs should share out after a few minutes.

Next, refer to the recipe on the bottom of the page. Call on students to ID any ingredients that might not be natural resources. Take guesses about what the ingredients would make (sadly, it’s marshmallows). Talk about the fact that any ingredients that are not easily found in a grocery market are probably factory made ingredients, using lots of natural resources. Ask if anyone knows why a vegetarian can’t eat this product. It is because of the gelatin that is made from collagen of animal bones & skin.

Many dieticians suggest how we should shop the grocery store to help us make better choices. Watch and see where you should start. Show this video: https://www.youtube.com/watch?v=Oy9lc51PC78
Why is shopping the perimeter a healthy suggestion? What foods are commonly found in these areas? Turn your recipe page over and work in pairs to list a dozen of great natural resources found in the perimeter of the grocery story.

Home Engagement Extra Credit: Have students bring in a dessert recipe their family make to share that could have been made 100 years ago. Considering that baking powder, peanut butter & jello have all been commercially available for less than 100 years.
Share that Mr. Kellogg holds the original patent for peanut butter. He actually marketed it for a protein source for toothless folks. Have students guess how many peanuts it takes to make just 12 oz. of peanut butter (135).

**BEEF CHILI**

<table>
<thead>
<tr>
<th></th>
<th>Natural Resource?</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>lb. ground beef, cooked &amp; drained</td>
</tr>
<tr>
<td>2</td>
<td>16 oz. cans of kidney or chili beans</td>
</tr>
<tr>
<td>1</td>
<td>16 oz. can of corn</td>
</tr>
<tr>
<td>1</td>
<td>28 oz. can of diced tomatoes</td>
</tr>
<tr>
<td>1</td>
<td>16 oz. can of beef broth</td>
</tr>
<tr>
<td>1</td>
<td>tsp. cumin</td>
</tr>
<tr>
<td>2</td>
<td>tsp. chili powder</td>
</tr>
<tr>
<td>1</td>
<td>tsp. garlic powder</td>
</tr>
<tr>
<td>2</td>
<td>tsp. salt</td>
</tr>
<tr>
<td>½</td>
<td>tsp. pepper</td>
</tr>
</tbody>
</table>

1. Mix ingredients together in pot.
2. Warm on stovetop stirring frequently.

**Mystery Kraft Heinz Recipe:**

<table>
<thead>
<tr>
<th>Corn syrup</th>
<th>Gelatin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sugar</td>
<td>Tetrasodium pyrophosphate</td>
</tr>
<tr>
<td>Modified cornstarch</td>
<td>Artificial flavor</td>
</tr>
<tr>
<td>Dextrose</td>
<td>Blue 1 &amp; Water</td>
</tr>
</tbody>
</table>

**Lesson 4: Paper**

Before showing the Secret life of Paper, I want my students to understand what little changes we can make to save trees, water & reduce greenhouse gas emissions with paper recycling.

1. I would pass around a 100% recycled toilet paper roll (not telling students what it is). Students are to tear off the # of sheets of TP that they might use in a day. Hopefully, the roll makes it around the class.

2. I would show the toilet paper sample from Peru. I would ask student to tell me what it is or was. Then I would explain that It is what I had to use for the year I taught there. A bright pink dye is used to try to disguise the print of the newspaper, which is what this TP was made of. Many public restrooms even required that users have to buy sheets before entering the “way too gross hole in the ground” which was labeled as a toilet.

https://www.youtube.com/watch?v=OU8WY8va5h8&feature=channel (The Secret Life of Paper)
3. After showing the video, I would explain to my students that the TP they tore from today was 100% recycled. Asking students who have used this before with a raised hand, I doubt there is many. Then I would repeat the statistic from the video:

*If every US household replaced just 1 roll of virgin fiber TP with 100% recycled paper, we could save 330,000 trees, 106 million gallons of waste water & reduce 25 million pounds of greenhouses gases.*

So how much is that? I would then give the # of households in our little mile-wide city of Denver, Iowa. That is just a tiny percentage. However, there are over 330,000 trees in this little town, imagine all of those being gone. That is just to make TP for Americans for a year. Also, your family uses an average of 40 gallons of water per shower per person everyday. The average shower uses about 4 gallons per minute. If everyone in Denver, about 1800 people took a 10 min. shower daily, that would equal over 26 million gallons of water a year so how many years would it take to equal over 106 million gallons. Just 4 years. How many showers do you want to go without? Is that the only water we use? Is it worth wasting that much water just to make more virgin TP? (Put shaving cream on table tops for students to do math figures in with their finger. Have them clean off the surfaces afterwards with the recycled TP)

4. List ways our school is being responsible about paper use? Having 1:1 laptops, have we reduced paperwork? What could we do better? Locate the paper recycling bin in the room. Ask how many other classrooms have them. Does it make a difference?

5. Call in the school custodian to talk. He hauls cases of paper to the copies at least weekly. Each case has 10 reams of paper with 500 sheets in each totaling 5000 sheets of paper. Share that our generous administrators have set no limit on the number of copies a teacher or student can make. Isn’t that kind or what? Have the custodian tell how many cases of paper he delivers a week to the various copiers in the school (2 offices, 2 libraries & admin office). Have students calculate how much paper that is. Good thing most work is done on computers, or is it? Also, ask the custodian about how the school recycles paper? If TP requires all those resources, imagine how many more minerals, chemicals, trees, water & processing this beautiful copy paper takes. Also, ask the lunch custodian to come talk about the garbage collected just at lunch.

6. Make a class list of other papers we use in our homes & school. Have students research how other household papers are made. Discuss the environmental impacts that those papers have. With just 60% of paper being recycled, how could we increase that number? Does it matter? What is preventing folks from doing it? Text or tweet 5 friends and ask them why they recycle or not. Bring responses to class tomorrow to tally the results.

7. Talk through the Life Cycle Assessment using the following graphic covering up the “Product Recycling” stage. Ask students to explain what happens with this cycle after “product use”. What does it affect? Have groups brainstorm ways to reduce costs or waste at each stage. Share out ideas.
Lesson 5: Plan Family/Community Engagement?

According to The Wall Street Journal, Americans spend $1.2 trillion annually on nonessential goods—in other words, items they do not need. (Number of the Week: Americans Buy More Stuff They Don’t Need, By Mark Whitehouse Apr 23, 2011)

Show the pics from Material World book. Discuss with students what countries have the most stuff pictured & why? How many have garages?

Talk through the HOME SURVEY and project that needs finished by the end of October. Call on students to read through suggested ideas. Have students brainstorm other ideas. Look at my pics of my garage at the beginning of the summer & now. I will explain where the stuff went that use to live where my hubby’s Jeep belongs.

Have students guess what % of American’s can’t use their garage for cars. It is 25 % and 10% of Americans have an additional storage unit too.

Share that on average, Americans have over 300,000 items in their home, not counting any food items or stuff in garages.

The average 10 year old has 238 toys and only plays with 12 a week.

HOME SURVEY: Student________________________________

This week, your 8th grader has been learning about how everything comes from the earth. We will continue exploring the use of Natural Resources and how it is the responsibility of all of us to reduce, reuse, & recycle them. Your 8th grader has an assignment to do at home before the end of October. Please look at the ideas I sent home & help them pick one that would best serve your family. If you all come up with your own idea that helps to reduce, reuse or recycle Natural Resources for your family – I would love to hear about it. Please return this by next Friday. 

Thanks, XXXXX

Project: ________________________________________________

Parent/Guardian Signature:_________________________________

Community Engagement: 8th graders (with their parents or guardians) should decide on a family project. Here are a few ideas or come up with their own:

1. Collect nonessentials from your home & or garage to sell at a school “garage sale” to sell to fund essentials for new athletic facility. Help to organize a time & place & market the sale.

2. Clean out your garage so that it can house a vehicle or two. Take pics before and after. Tell what you did with the “stuff” that was crowding out your automobile.
3. Begin & photograph a home recycling project with a designated spot for recyclables & schedule/plan for getting them to the recyclers. Observe the difference in your dumpster volume.

4. Commit to taking shorter or fewer showers to save water. Use timers to reduce the amount of time/water used. Make a graph of minutes of showers from one day to the next.

5. Grocery shop one week only with reusable grocery bags, documenting trips with pics. Donate reusable bags to other shoppers that you get from your teacher.

6. Make a menu for your family meals for one week & a shopping list. Help shop for that food. This should decrease cost of food, gas use, convenience food purchases & stress. Bring in your menu & shopping list & family survey of the results.

7. Collect old t-shirts to make reusable shopping bags. Check out youtube or pinterest to find out how to make them. Bring in a sample you make.

8. Make a list of a dozen gifts you could give to someone that would not add to “stuff” in their house. Ask family members if they can list what they got for Christmas last year. Brainstorm ideas for experiences that could be gifted this year, instead of more “stuff”.

9. Have each family member collect unwanted/unused items from their room to donate to another organization. Take a picture of the pile or trunk when done.

cg (ch)...Sum17
**10th Grade Biology**

**Dates:** 8/25-9/7

**Learning Objectives**

Students can...

- Reflect on what they love through writing, photographs, drawings, quotes, poems and/or collages and why this matters in terms of environmental health.
- Explain that everything comes from the earth, and give examples of natural resources and products made from those resources.
- Analyze and interpret data about product life cycles and communicate information and ideas about the stages of products.
- Plan individual and/or collective action to address environmental challenges.
- Understand that sustainability encompasses social, environmental, and economic factors.
- Acknowledge that sustainability challenges differ across the world’s regions.

**NGSS Standards**

- All forms of energy production and other resource extraction have associated economic, social, environmental, and geopolitical costs and risks as well as benefits. New technologies and social regulations can change the balance of these factors. (HS-ESS3-2)
- The sustainability of human societies and the biodiversity that supports them requires responsible management of natural resources. (HS-ESS3-3)
- Scientists and engineers can make major contributions by developing technologies that produce less pollution and waste and that preclude ecosystem degradation. (HS-ESS3-4)

**Mini Unit Plan**

**Day 1: Our Global Community**

**Introduction**

Students will learn how to set up their science notebooks. They should put the activity title, date and challenge question at the start of the page. During this activity, students will be looking at indicator data for different regions of the world. Discuss with the class what the word indicator means. (See book pages below). Use world population as an example of an indicator. Explain what regions we will be using for our activity and ask them which of those regions has the highest population. Go through the population pie chart with the class discussing things that surprise them along the way. For the activity, students will be split into groups and circulate around the room looking at pie graphs of different indicators split up by regions. The indicators are as follows: CO₂ emissions, energy consumption, GDP, HIV deaths, Internet users, malnutrition, protected areas, threatened species.

**Activity**
Scattered around the room will be pie charts of each indicator. At each station, groups should discuss and record what they learned about each indicator. What is surprising/not surprising? How does this relate to human population percentages? Groups will rotate around to each indicator. After they are finished they should discuss and classify each indicator as either social, economic, or environmental.

Wrap-Up

Discuss with the class how they classified the indicators. Help lead the class through calculating GDP per capita and CO\textsubscript{2} per capita for each of the regions (see page 6 of textbook). Why does this help us interpret the data better?

Homework
- Analysis Questions # 1-4 p. 7

Day 2: Ecological Footprint Calculator

Introduction: Remind the class that last time we learned about different indicators of sustainability and today we are going to look at how our use of some indicators impact the earth. Ask the class, what are things you use daily/weekly/yearly that have an impact on the environment? Have students brainstorm a class list and write it up on the board. Then ask the following: “Which of these things/resources are essential to you having a happy life?”

Activity: Have student go to the Ecological Footprint calculator (http://www.footprintnetwork.org/resources/footprint-calculator/) to calculate how much CO\textsubscript{2} they release into the atmosphere as well as how many planets it would take to sustain their lifestyle. Students can spend time playing with the calculator to see what raises/lowers the footprint the most. I would like students to discuss with a partner (and record in their notebook) how their lifestyle is helping/harming the planet. What are things you “love” that you couldn’t give up? What things are required for a happy life? Students should also take on the role of a teenager in a third world country and go through the calculator. In their notebook they can compare and contrast their footprint to that of the teenager’s.

Discussion: With the whole class discuss what they learned from the calculator. What surprised them? What didn’t surprise them? Make a list on the board about the things that students could absolutely not live without. Is there a theme? Hopefully they will get to the idea that without caring for the planet their lives would not look the way they want. This would be a good point to step back from resources and bring up relationships, hobbies, sports, etc. discussing how they fit in. I would like to end with putting the statement up on the board “live what you love” and have students explain what that means and how it relates to loving our planet as an end of class reflection. Also show the Green Ninja Video to get students thinking about what they could do at home to reduce their footprint. (new to me resources) (http://www.grinningplanet.com/embed-2/funny-carbon-footprint-video/green-ninja-footprint-renovation.htm).

Homework
Community Engagement Project Part 1: Students and families will be asked to see how many natural resources and products they can find in their own home and take a picture of each set. In order to have your picture count the student or one of their family members needs to be photographed with the resource/product. The student who submits the most photos would receive some kind of prize. The pictures will be posted in our classroom to make an Everything Comes From the Earth collage.

Day 3: Products and Resources

Introduction

Several activities in our Sustainability unit deal with the product life cycle. In order to introduce this topic, I would like to first focus on natural resources turning into products. I would begin by having students brainstorm as many matches as they can think of as a class. They can refer to the pictures they should have brought to class. I would then explain to students that we are going to try to figure out which product are most costly to the environment.

Activity

From the Everything Comes from Something kit I would like students to pick a product and research the steps and resources that go into making that product (new to me resource). Students should be thinking of a way to quantify how many resources go into that product as well as how costly it is. Then in a small group, students should discuss what they found and try to decide which of their products is most costly to make. Why is it the costliest? Are there similarities in how the products were made? Is there a defined “equation” to determine how costly a product is? Answers to these questions should be recorded in their science notebook.

Homework

Community Engagement Project Part 2: To continue on with the photo challenge, I would like students to pick one of the resources and products and create a photo collage that show the life cycle of that product. They should be able to label all the parts of the product life cycle on their collage. I will have students work with a partner to complete this portion of the project. Students will be asked to repurpose items from their homes such as newspapers, magazines, etc. to create their collage. I will also have materials available to them. Collages will be put on display in the hallways of the high school.

Day 4: BedZED Reading

Introduction

Several activities in our Sustainability unit deal with the product life cycle. In order to continue our discussion about the product life cycle I would like students to participate in a
group reading about a city in England (BedZED) that is try to reduce their use of costly products. To begin class, I would like students to discuss with a partner what they found to be the costliest product in their home. What made it the costliest? Is there anything in common between your two products? Explain that today we are going to learn in more detail about the product life cycle, by reading about a city that is reduce their use of costly materials.

**Activity**

Have students open their books to the BedZED reading. Begin by showing a video with an overview of the BedZED community. ([http://www.bioregional.com/bedzed/](http://www.bioregional.com/bedzed/)). After watching the video have a class read-a-loud of the BedZED Case Study (shown below). Be sure to stop particularly at the product life cycle section, identifying all the parts. Take a break from the reading to show the students the life cycle of a hotdog video. ([https://www.youtube.com/watch?v=2NzUm7UEEIY](https://www.youtube.com/watch?v=2NzUm7UEEIY)). Finish the reading with the class and at the end ask them what kinds of things we could easily implement here in Iowa to reduce the product life cycle of our products.

**Homework**

- Analysis Questions #1, 2 p. 20-21
- I would also like students to research Abundance Eco Village in Fairfield Iowa as a part of the homework. They should compare and contrast things Eco Village is doing in comparison to BedZED ([New to me resource](http://www.bioregional.com/bedzed/)).

- **Community Engagement Project Part 3**: Students should write out a pledge of what they are going to give up/reduce for the next two weeks and have their parents and themselves sign the pledge. This could be using less energy, walking/biking to school, donating items to a local shelter. Students can pledge to do whatever they think would make an impact.

**Day 5-10**

**Community Engagement Project Part 4**: Outside of class students will continue to work with their families/communities with whatever they decided to give up/reduce. On the day of our sustainability test, students will need to submit some kind of “proof” that they completed their project. This could be a video, short essay, pictures, certificate, etc.