

## **Lesson Title: Earth Ship**

**Enduring Idea/Big Idea:** Artists Explore: artists have played/play key roles in creating architecture in response to contemporary ecological issues.

**Grade:** 10<sup>th</sup>, 11<sup>th</sup>, 12<sup>th</sup>

**Class:** Ceramics II

**Time Allotment:** (Not Applicable; Varies)

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### **Who are my students?**

#### **Narrative of the class:**

Each section of this course is diverse. Demographically, the students are from a variety of differing backgrounds. Some seem to be financially well off; others, not so much. Their ethnicities are strongly rooted in African American, Syrian, Hispanic, and Caucasian decent. Many of them speak English primarily; however, there are some English Language Learners. After getting to know them thus far, it seems that many of them are culturally rich, and many of them aren't even first generation yet. In other words, they were born in another country and they came here, traveled here, or fled here with their families leisurely or to escape civil war and unrest. The genders are well balanced, and cliques are apparent, as the students sit divided into two large groups. Overall, they are mostly independent; however, they seem to need some more guidance and encouragement, and it is apparent that many of them are lacking attention and support at home. Many of them seem to thrive on attention, love, and friendship, and when teaching, this is shown through my genuine interests in them, their work, and relatable humor.

## Overview

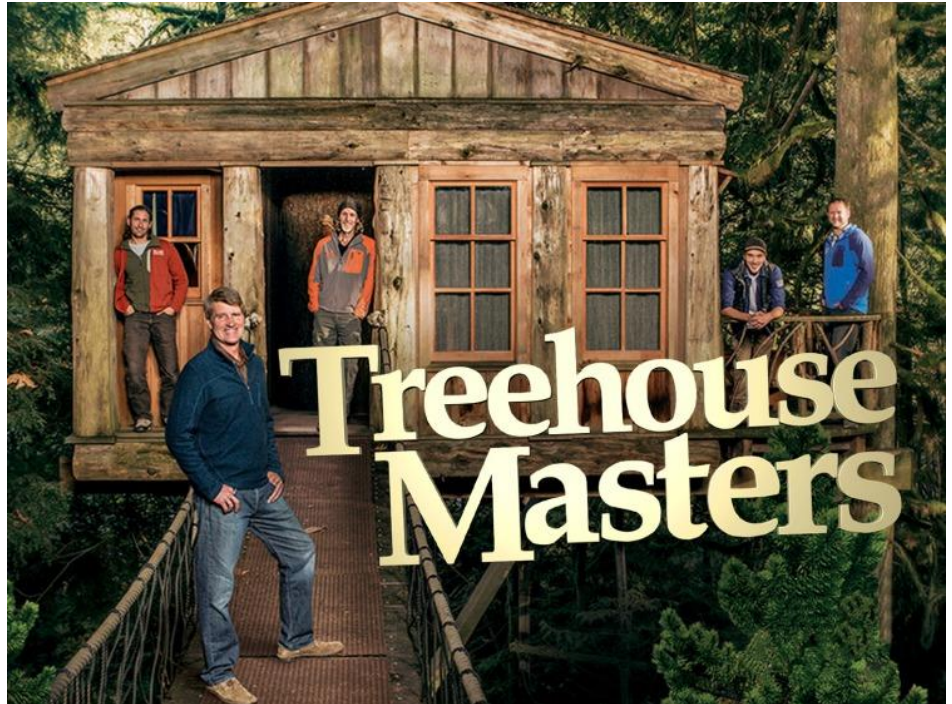
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### Lesson Summary:

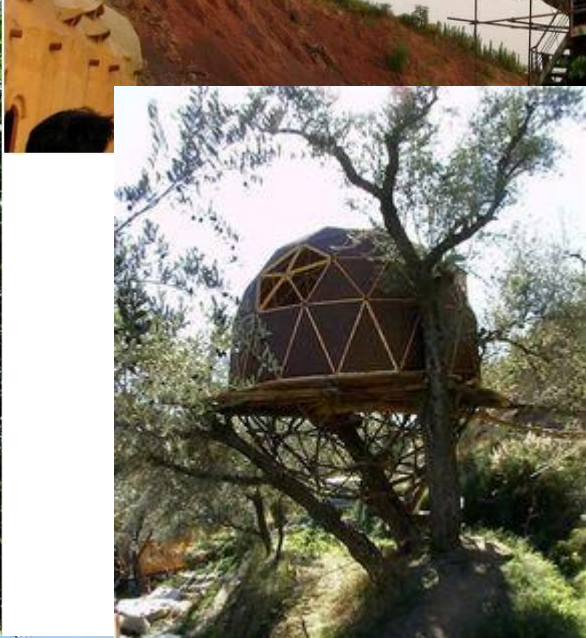
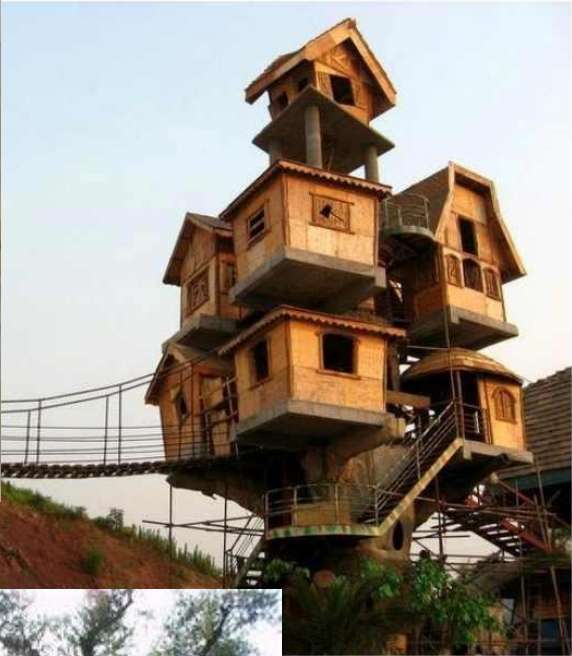
In this contemporary lesson, students will take on the role of an artist and understand that artists explore. These explorers investigate and question contemporary issues and use art as a vessel to brainstorm solutions. With so many ecological issues abundant in today's world, artists have played and are playing some key roles in problem solving and responding— from creating, building, living in, documenting, or adorning earth ships. Specifically, this lesson will be an opportunity for the students to take on the role of an artist architect, and create a whimsical structure via clay slab construction, their own earth ship.

### Artworks/Artists/Artifacts:

Artist Atti Jonker  
(Treehouse Masters)











**Key Concepts:**

Artists explore the world around them.

Artists respond to and problem-solve ecological issues by utilizing design and creation to make ecological statements.

Artists have played a key role in the going green movement and have helped to design and create sustainable architecture as a solution.

**Essential Questions:**

Do you think artists do more than just create? What do they do?

What is sustainability? What does it mean to “go green?”

How can/do artists respond to ecological issues?

What have artists and architects done to help solve numerous contemporary ecological issues?

**Interdisciplinary Connections:**

In this contemporary lesson, students will explore much more than the contemporary and the historical art worlds. They will explore political, ethical, economical, and ecological issues that plague our modern society from a variety of cultural perspectives. While using art to make connections and sort through these humanities, nature science will be prevalent in the learning process. Language arts will also be integrated strongly throughout the reading, writing, discussing, and responding portions of this lesson. Technology will be explored from a hands on perspective as students use their phones to further investigate and become inspired, and from a second hand point of view, as the students learn about modern technology that earth ships use to thrive.

**Standards:**

**PA Standards for the Arts and Humanities:**

9.1.8.A: Know and use the elements and principles of the art form to create works in the arts and humanities.

9.1.8.B: Recognize, know, use, and demonstrate a variety of appropriate arts elements and principles to produce, review, and revise the original works in the arts.

9.1.12: Demonstrate specific styles in combination through the production or performance of a unique work of art.

9.3.8.F: Apply the process of criticism to identify characteristics among works in the arts.

**PA Standards for other Disciplines:**

1.5.12.A: Write with a clear focus, identifying the topic, task, and audience.

1.6.8.A: Listen critically and respond to others appropriately.

## **Objectives**

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**Knowledge:**

Students will define and discuss the following terms: earth ship, tiny house, sustainability, going green, hobbit house, water pod, solar pod, Tinicum CSA, CSA, Farming Community, daub and wattle, earth bag, tree houses, cob homes by analyzing a variety of architectural structures via Power Point presentations and brief educational Youtube videos and pop-culture television shows.

Students will discuss the similarities and differences among the samples of architectural structures that they view through pro and con charts and comparison top hat charts.

Students will discuss and acknowledge that artists have played and are playing a key role in solving our earth's ecological issues by discussing a few specific artists that creatively construct solutions to these eco-problems we face.

**Skills:**

Students will create a slab construction of their own whimsical earth ship home after viewing a demo on slab construction or having an informal review of slab construction techniques.

Students will explore various architectural earth ship structures and through the construction of an earth ship and a description (final artist statement) of their house.

Students will investigate sustainability and eco-friendly homes through post Bell Ringer questions, discussions, charts, and through preliminary thumbnail sketches.

### **Dispositions:**

Students will use appropriate language and behaviors to show respect for their fellow classmates, their differing ideas, and all created artworks in the classroom by participating in class discussions and collaborative table group work to answer bell ringers and chart prompts.

Students will understand that artists and architects are problem solvers who utilize creation design to understand, sort through, respond to, or solve contemporary societal issues.

Students will become empowered, well rounded, global citizens and active members of society as well as our community through enlightenment and awareness of ecological issues and how to begin to solve them on a personal level.

### **Student Learning Objective (SLO)**

Craftsmanship

## **Assessment**

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### **Pre-Assessment**

Verbal Questioning: What is sustainability? What do you think it means? What does it mean to go green?

Bell Ringer: What is an earth ship? A tiny house? A hobbit house? A daub and wattle? A water pod? A tree house? A solar pod? A farming community? A CSA? What does CSA stand for? The Tinicum CSA? Earth bag? Cob homes?

Post Bell Ringer Poll: Would you live in an earth ship? Then discuss the answers...Why? Why not? Which one would you live in?

Verbal Questioning: Informally ask what role artists and architects play in the world? Discuss that they do more than just create art; they are playing a huge role in this eco-crisis and going green movement.

→You are all artists and creative thinkers! It starts with each of us every day! Happiness, sustainability, living, making the right decisions that are best for us starts with each of us every day! Who knows, maybe one of you will invent the next eco-friendly solution to a problem? A water bottle? A reusable mug? Something bigger and better? A more successful earth ship?

Bell Ringer: Show and discuss what the top ten celebrities that they would know/that are relevant to their lives are doing to go green and respond to our ecological crisis. Prompt them to think about what they can do. (It starts with you!)

### **Formative Assessment**

Verbal checking for understanding via questioning, Bell Ringers, and walking around the classroom

The actual slab building process

The process of creating their earth ships

The actual craftsmanship honing process

The earth ship brainstorming and thumbnail making stages

### **Summative Assessment**

Gallery walk/Museum discussion

Brief paragraph write up: How is your architectural structure sustainable? How is it eco-friendly? On the inside and the outside? Is it an earth ship? Or would you call it something else? If so, what would you name it? Where would you build it? In the woods? On the water? Etc. Would you live there? Why? Or why not?

## **Instructional Procedures**

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### **Day One**

#### **Hook:**

-Bell Ringer: What is an earth ship?

-Introduce the project to the students

#### **Motivation:**



- they can use their technology to look up examples of earth ships and whimsical houses/architecture

- sketch out 4 thumbnail ideas and briefly describe each one

**Culmination:**

- Clean up and put papers into binders

## **Day Two**

**Hook:**

- Recap and ask them what earth ships are

- Have them take out their cell phones and answer the poll question: Would you live in an earth ship? Discuss the results (Why? Why not? Which kind?)

**Motivation:**

- They have time to finish their sketches

- A short demo will be done if need be on slab construction

- They will begin using slab construction to build their earth ships

**Culmination:**

- Clean up time

- Be sure to put binders away

- Be sure to go over proper clean up as a reminder: clothes pin on bag on shelf

- Types of Earth Ships as closure questions to exit

## **Day Three**

**Hook:**

- Green celebrities Bell Ringer

  - What do I do discussion?

**Motivation:**

- Work time

- Students will continue to work on their slab construction earth ships

  - The more whimsical the better (design)

**Culmination:**

- Clean up time

- Proper clean up techniques

- Exit slip (on scrap of paper; informal; recycling): What is one thing you can do today to help promote recycling/repurposing/good stewardship?

## **Day Four**

### **Hook:**

- Bell Ringer: Can you name other sources of energy?
- Get them thinking
- Go over what we are doing today

### **Motivation:**

- They will work on constructing their earth ships

### **Culmination:**

- Clean up
- Practice proper clean up techniques

## **Day Five**

### **Hook:**

- Bell Ringer: What if we put solar panels on the roads?
  - Artists think creatively and problem solve
  - Maybe this could be you in the future inventing something like this!

### **Motivation:**

- Briefly talk about painting their fired earth ship houses
- Encourage whimsicality! Think about design and color and modernity...

### **Culmination:**

- Clean up
- Students will have to put their projects in a special location to dry
- Closure activity: Craftsmanship poster review to leave

## **Day Six**

### **Hook:**

- Pollution Fact Sheet...Boys and Girls Mixer???
- Then each group shares some of their facts that they found (2/group)

### **Motivation:**

- They will finish painting their earth ship homes today

### **Culmination:**

- Clean up should be a breeze by now
- They will fill out a final sheet today and place it in their binders
  - fill out even though not done with house

- use imagination
- think of the function of the earth ship homes we discussed
- how does your house function in an eco-friendly way? What does it do?  
Where would it be located? What type of terrain? In a hillside? In a tree? On a mountain? Etc. Would you live in it? Why would you live there? Why wouldn't you live there?

\*Another day might be added to this lesson depending on where the students are right now in their work progress...this would be at the teacher's discretion  
\*The rest of the class might move on as a whole to the next project; however, whoever needs more time may take it.

## **Necessities**

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### **Preparation**

- Bell Ringer: Earth Ships
- Bell Ringer: Would you live in an Earth Ship? Poll
- Bell Ringer: Green Celebrities
- Bell Ringer: Solar Panel Roadways
- Bell Ringer: Alternate Energy Sources
- Brief Instructional Slab Construction Discussion and Demo (if needed)
- Brief Instructional Craftsmanship Discussion (if needed)
- Tell Me About Your Earth Ship Sheet
- Earth Ship Thumbnail Sketch Sheet
- Group Pollution Brainstorming Fact Sheet
- Rubric

### **Instructional Resources**

- (Idea/suggestion/discussion provided by) Mr. Lynn
- Google Image Searches
- "Tiny" Documentary courtesy of Netflix
- Would you live in an earth ship cell phone poll?  
<https://www.polleverywhere.com/my/polls>
- Pinterest Earth Ship Search



<https://www.pinterest.com/osheather/earthship/>

Earth Ship Interiors

<http://earthship.com/interior-images>

Most Amazing Houses In America

<http://www.moneyunder30.com/amazing-houses-in-america>

Hobbit Homes: Real Life Houses That Look Like They Belong in the Shire

<http://io9.com/real-life-houses-that-look-like-they-belong-in-the-shir-475830122>

Celebs With Green Homes

[http://www.huffingtonpost.com/2013/06/27/celebrities-green-homes\\_n\\_3507241.html](http://www.huffingtonpost.com/2013/06/27/celebrities-green-homes_n_3507241.html)

The Hobbit Home I built (and live in) For Our Family In Whales

<http://www.simondale.net/hobbit.htm> i built for our family in whales

40 Tree Houses So Awesome You'd Trade Your Home For

<http://www.explosion.com/65952/40-tree-houses-so-awesome-you-d-trade-your-home-for-one/>

Garbage Warrior Michael Reynolds

<https://anatomylesson.wordpress.com/2009/02/18/garbage-warrior-michael-reynolds-directed-by-oliver-hodge/>

My Notes After Definition Searches Courtesy of Google and Wiki

Fossil Fuels

<http://needtoknow.nas.edu/energy/energy-sources/fossil-fuels/>

Vimeo

Vimeo Free Downloader

Solar Roadways

<https://vimeo.com/40095422>

Giant's Plastic bags to benches project

## **Student Supplies**

Pencils/Pens

Colored pencils/markers/crayons

Paper/Handouts

Phones/Technology

Clay

Various clay tools  
(Optional) Wheel  
Bat/Board  
Plastic Bags  
Sprayer/Water

## Adaptations

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### Learning Styles

#### Written:

- Written Bell Ringer Option
- Brainstorming Sheet (lines and boxes)
- Final Earth Ship Sheet
- Poll

#### Visual:

- Options on the sheets to respond visually
- Thumbnail Sketches
- Images compiled and discussed are shown on large scale TV; earth ships
- Poll
- Images of Celebs going green

#### Kinesthetic:

-Students are allowed to stand, move, socialize, and work in locations around the room that are clay friendly and different from the traditional seated desk; there are no desks- long, open tables that allow for lots of working room and movement

- Slab construction calls for lots of motion, standing, etc.; very hands on

#### Verbal:

-Bell Ringers are all discussed orally and in writing on the projection  
-Class discussions and demos on the slab method and the craftsmanship honing review

#### Multiple Strength Intelligences:

##### Mathematical/Logical:

-Slab construction and thumbnail sketches allow for measuring while constructing the whimsical earth ship house

**Naturalistic:**

- The concept of working with clay and creating from the earth
- Integration of the humanities
- Integration of nature science and ecology/environmental sciences
- Sustainability
- Going Green
- How can you go green? How do you? It starts with you!

**Visual/Spatial:**

- presentation of bell ringers will be visual and verbal, and on the big screen TV (No whiteboard projection in the room)
- creation of an earth ship in the round; 3D
- poll projection

**Kinesthetic/Bodily:**

- clay is generally a very hands-on, physical medium to work with
- lots of room for moving, standing, and active hands-on learning while working with the clay

**Interpersonal:**

- talking and socializing and group work is allowed
- group collaboration and problem solving is allowed and encouraged
- optional group work to find some facts and fill out the Pollution Facts Sheet; optional!

**Intrapersonal:**

- technological devices are allowed
- personal research is allowed and encouraged to look up more images and information; phones and internet allowed to compile a plethora of images from which to base their structures on
- Group work for the Pollution Facts Sheet will be encouraged but will ultimately be optional

**Linguistic/Verbal:**

- Bell Ringers/Poll have/has images and text
- Bell Ringers are always discussed out loud
- Craftsmanship/Slab discussion topics written on the board
- Objectives of each day are written on the board

**Note on Differentiating Instruction:**



The wheel can be used upon request or upon suggestion for students who may want to or who may need to create the base of their vessel via wheel throwing. This will be helpful for anyone who is texturally inclined or who needs some extra support when it comes to motor skills.

## My Notes

cob home– natural building material made from sand, clay, water, some kind of fibrous or organic material (straw) and earth. Cob is fireproof, resistant to seismic activity,[1] and inexpensive. It can be used to create artistic, sculptural forms

hobbit home–house built into the earth or into the hillside; generally has moss like coverings and references the hobbit houses from lord of the rings

earth ship– passive solar house that is made of both natural and recycled materials (such as earth-filled tires), designed and marketed by Earthship Biotecture of Taos, New Mexico. passive solar home made of natural and recycled materials 2. thermal mass construction for temperature stabilization. 3. renewable energy & integrated water systems make the Earthship an off-grid home with little to no utility bills.

Michael Reynolds



<https://anatomylesson.wordpress.com/2009/02/18/garbage-warrior-michael-reynolds-directed-by-oliver-hodge/>

tree houses– tree forts are platforms or buildings constructed around, next to or among the trunk or branches of one or more mature trees while above ground level. Tree houses can be used for recreation, work space, habitation, observation or as temporary retreats.



tiny houses– is a popular description for the architectural and social movement that advocates living simply in small homes.

solar pod–mobile livable pod that runs on solar energy and utilizes solar paneling

daub and wattle– wooden stakes, or wattles, are woven with horizontal twigs and branches, and then daubed with clay or mud. This method is one of the oldest known for making a weatherproof structure.

earth bag–bunker building inspired construction in which bags are literally filled with earth

water pod–mobile livable pod that runs on water energy; currently an experiment; many mattingly; five month voyage around nyc; raise chickens, composted, solar energy, water energy, used rain water, etc.; community

farming community–a community where farming is the main industry; often times there will be many different homes that make up this community and help to keep it running

tinicum csa– <http://www.tinicumcsa.com/> Community Supported Agriculture; pledge and volunteer hours and then you get some profit food; community

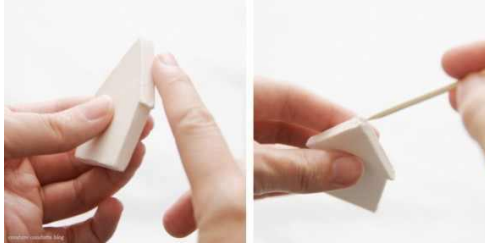
fossil fuels– a natural fuel such as coal or gas, formed in the geological past from the remains of living organisms

# Brief Instructional Craftsmanship Discussion

(Reference poster on board; cover and quiz)

## SLO: Craftsmanship

Smoothing → finger



Sponging → sponge + water



Scraping → rib tool, popsicle stick,  
fettling knife side, wooden picks,  
straight edge

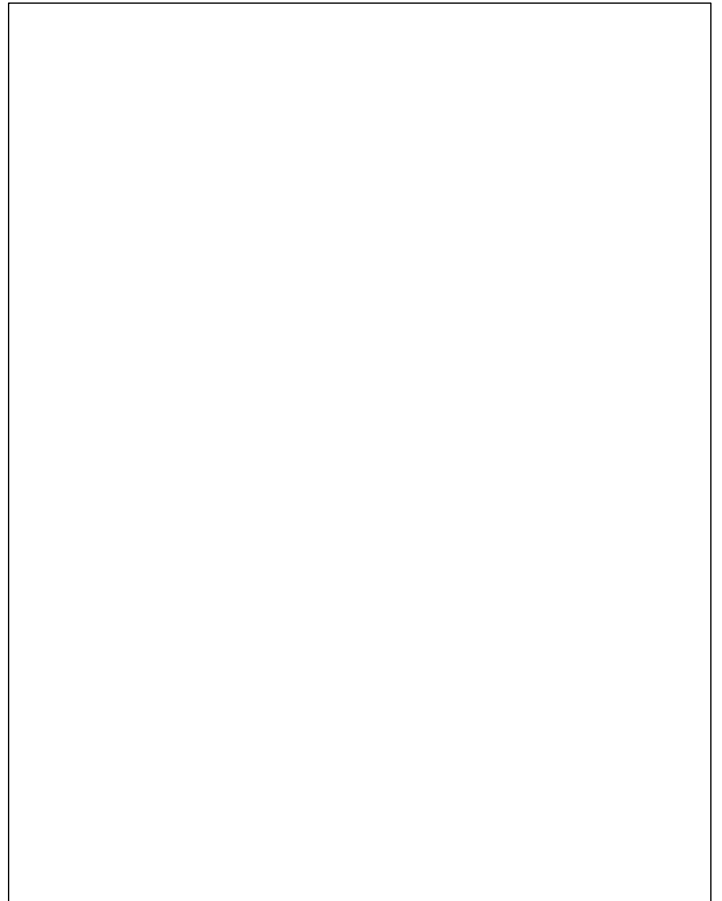
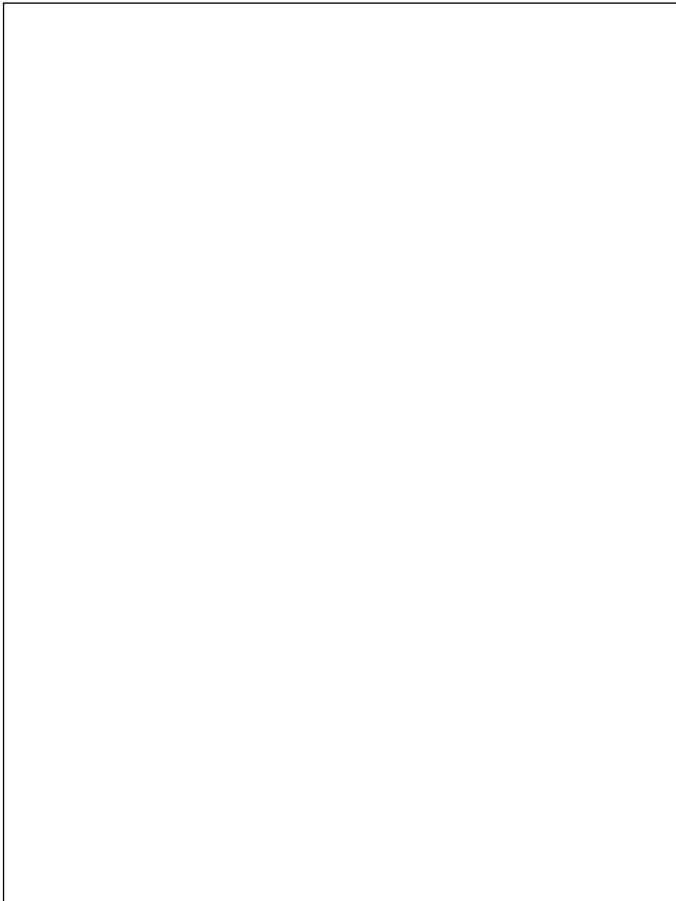
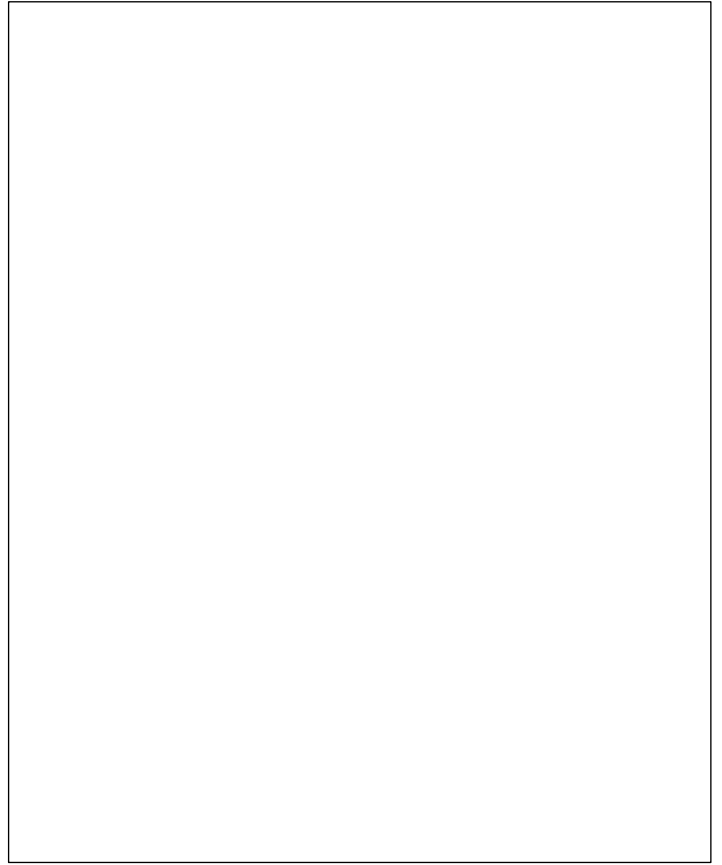
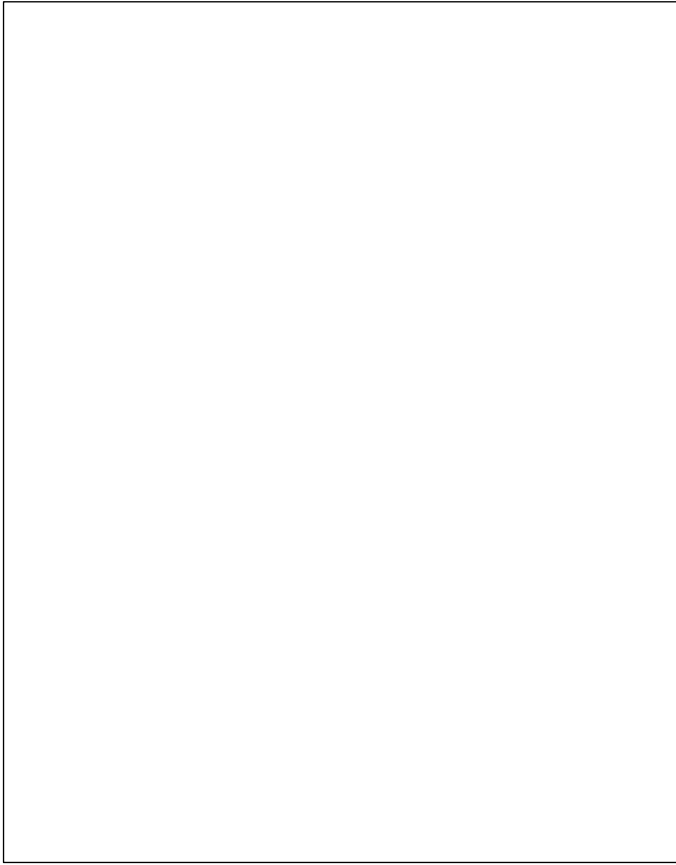


Burnishing → spoon,  
smack it with a ruler!





# Earth Ship Thumbnail Sketch Sheet



# Pollution Fact Sheet

1. Break up into groups– they may be your table groups or you may travel around the room and join another group
2. Using your phones (or whatever technology you have today) look up some interesting facts/statistics about pollution
3. DO NOT just type in the top ten facts; try to find a variety of facts about a couple different topics so you have something to share if your fact is taken
4. Write them down and be ready to share your most interesting 2...GO! 😊

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1.

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2.

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3.

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4.

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5.

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6

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