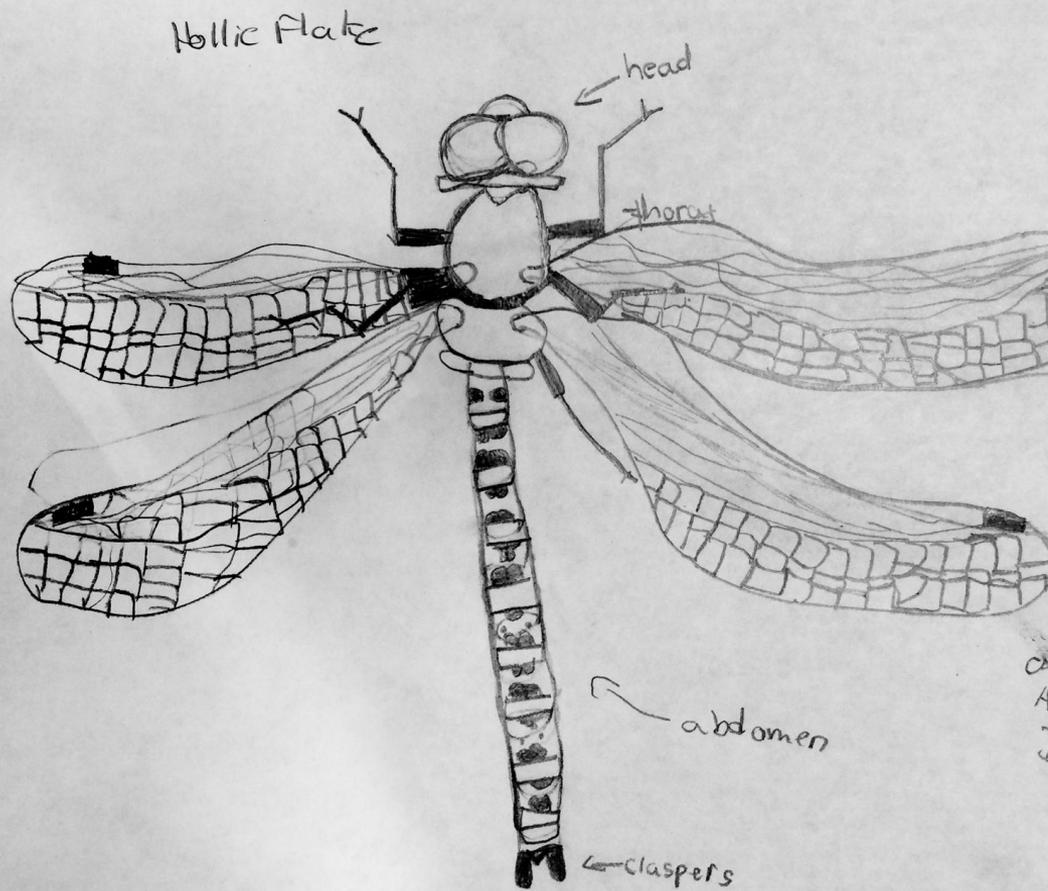


A New Generation of STEAM





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Wonders



Our Story/Background

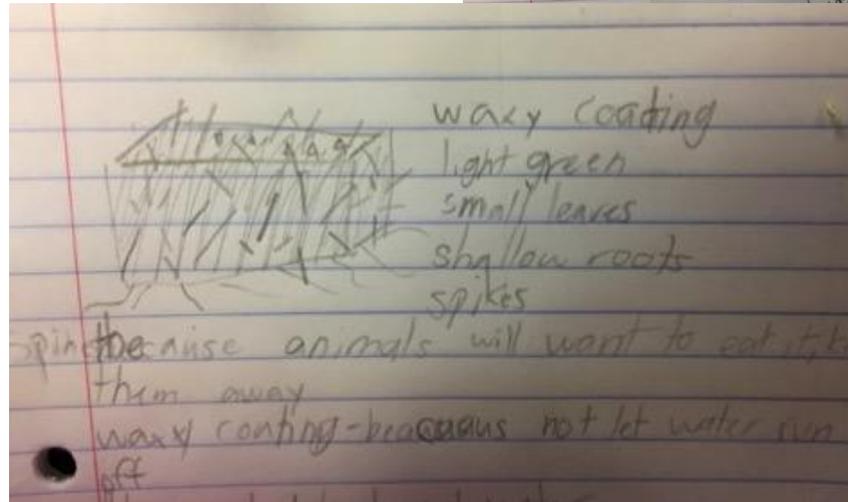
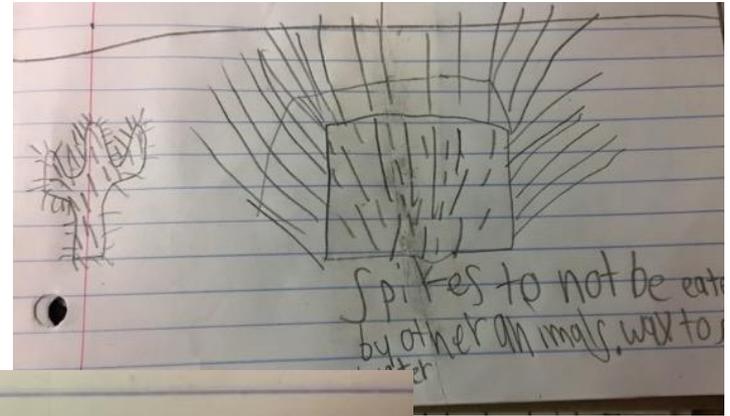
What is Integration?

- **One Subject plus- is Integration**
- **A Natural Connection- between subject areas**
- **Prioritize- not equal parts but determined by the lesson goal**
- **Student Learning- always goes back to the standards**

4th Grade

Desert Plants

- Student why? Survive in sun and heat
- Describe and draw how “plants” will survive using adaptations that they have learned about. Must use three of the following: color, roots, leaves, spines, stems, seasons, waxy, limb, seeds, and stomata
- Each group made their models after they planned it out in their journals.
- Present to class. Ask for their feedback and improve your plant. (Living things change over time.)



Bird Adaptations

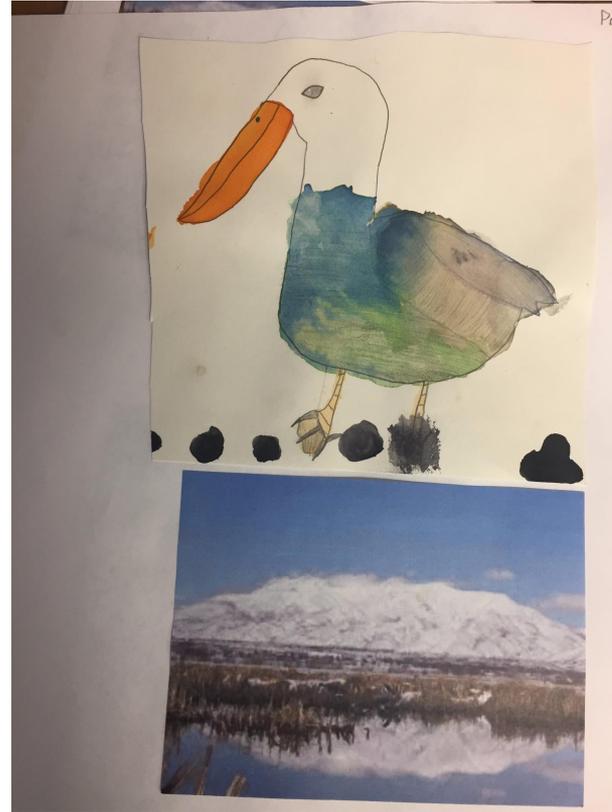
Student Why? Create a bird with the best adaptations

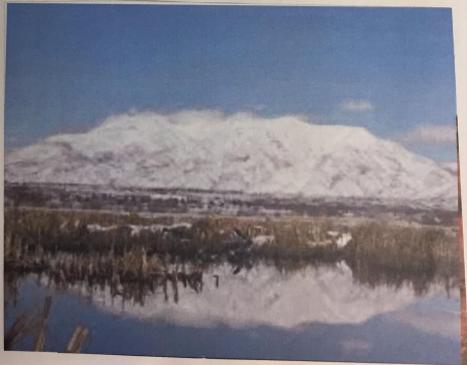
- Pick a habitat- wetland, forest, desert, grassland, etc.
- Beak type- cracking, chisel, spear, hooked, tubular, flat, multi-purpose
- Feet type- climbing, catching prey, swimming, walking, grasping branches, etc.

Science- better understand physical adaptations help animals survive by creating their own bird

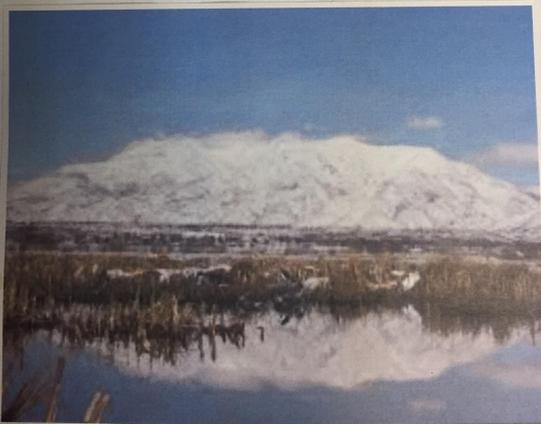
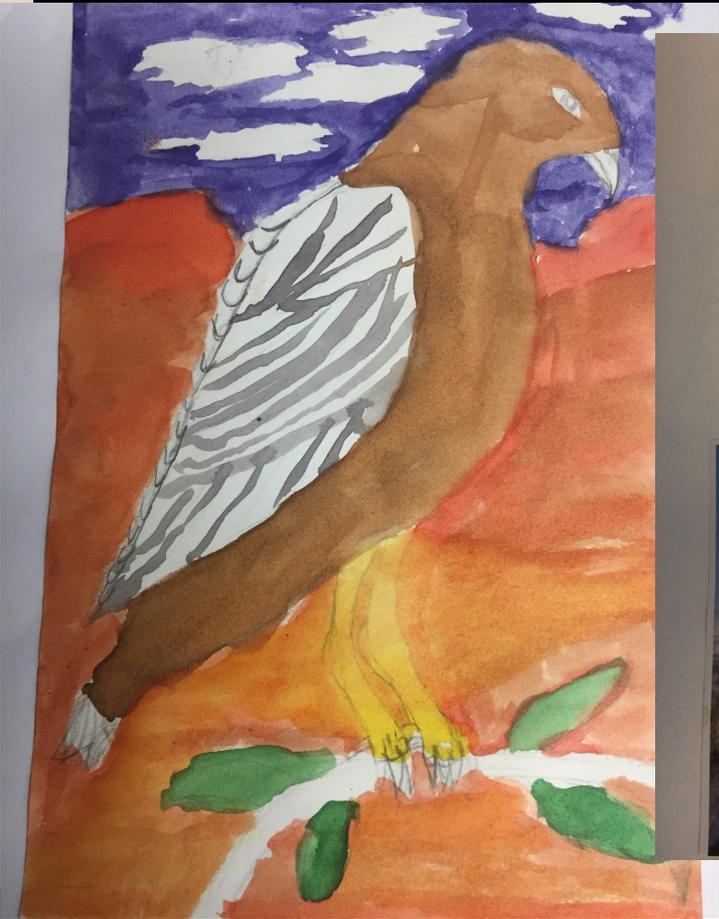
Art- observational drawing, color matching with watercolor paint

Share- describe why adaptations were chosen and take suggestions from a group and modify

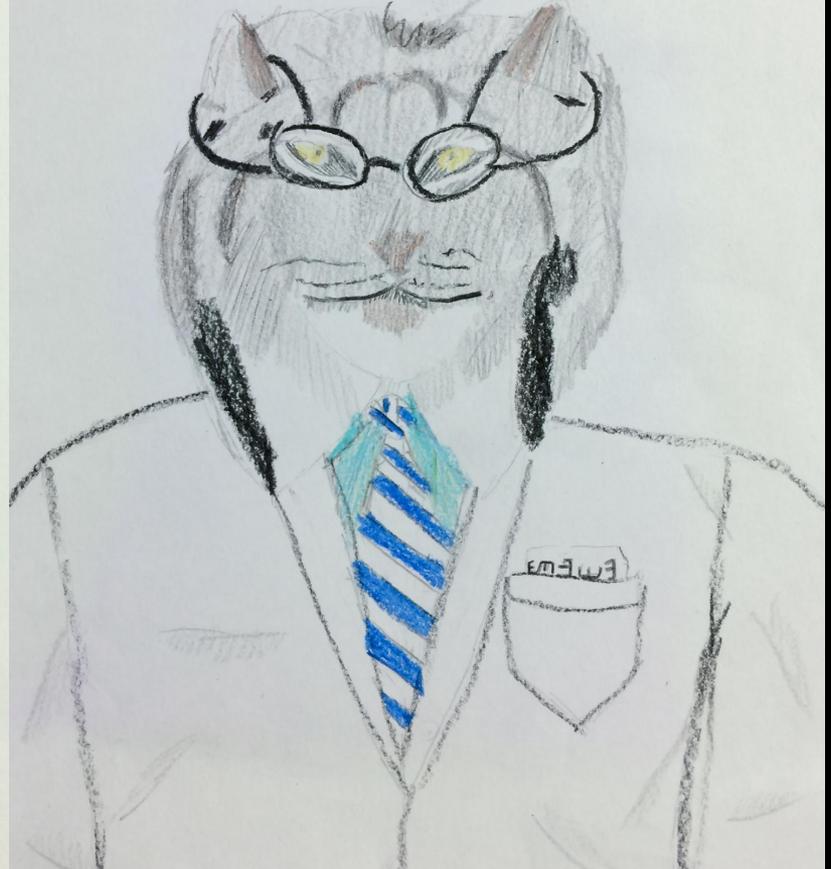




Swan 2-11











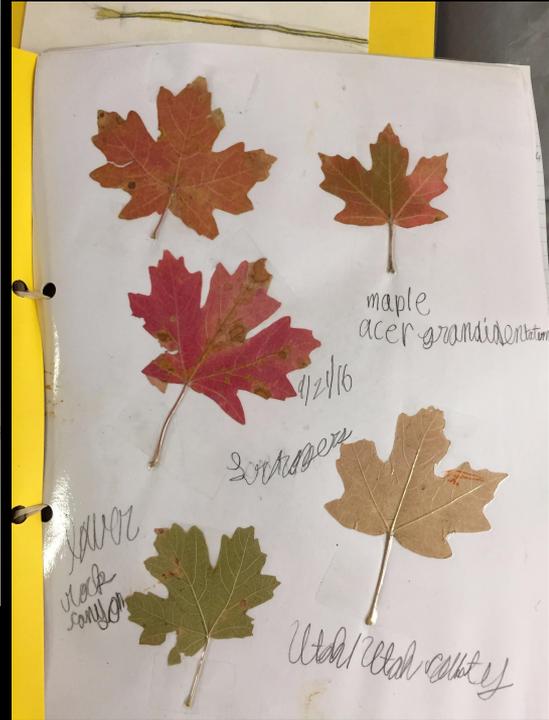
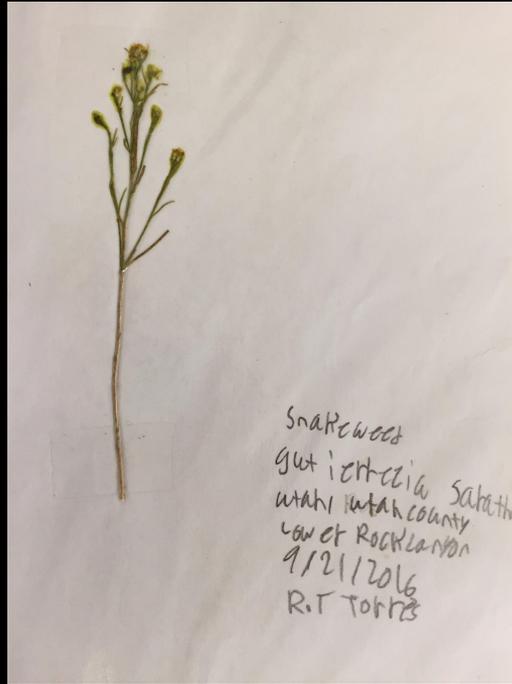


Populus
Utah, Utah county
Lower Rock Canyon
9/21/2016
E. Allen



Sumac
Rhus glabra
Utah, Utah County





First Grade

Collaboration

This is where the magic starts!

- Meet as grade level team to brainstorm ideas about core subjects.
- Team joined by Art Specialist the lessons go through several iterations.
- Shadow Puppet example- Prior lesson with found sound move to found objects. For example: fabric for water or a red dish for the sun instead of a traditional puppet.

The 4 Levels of Inquiry Instruction

Open Inquiry

No predetermined questions: students propose and pursue their own questions.

Guided Inquiry

No predetermined method: students must determine how to investigate the problem.

Structured Inquiry

No predetermined answer : conclusion based solely on student investigation and a prescribed process.

Confirmation Inquiry

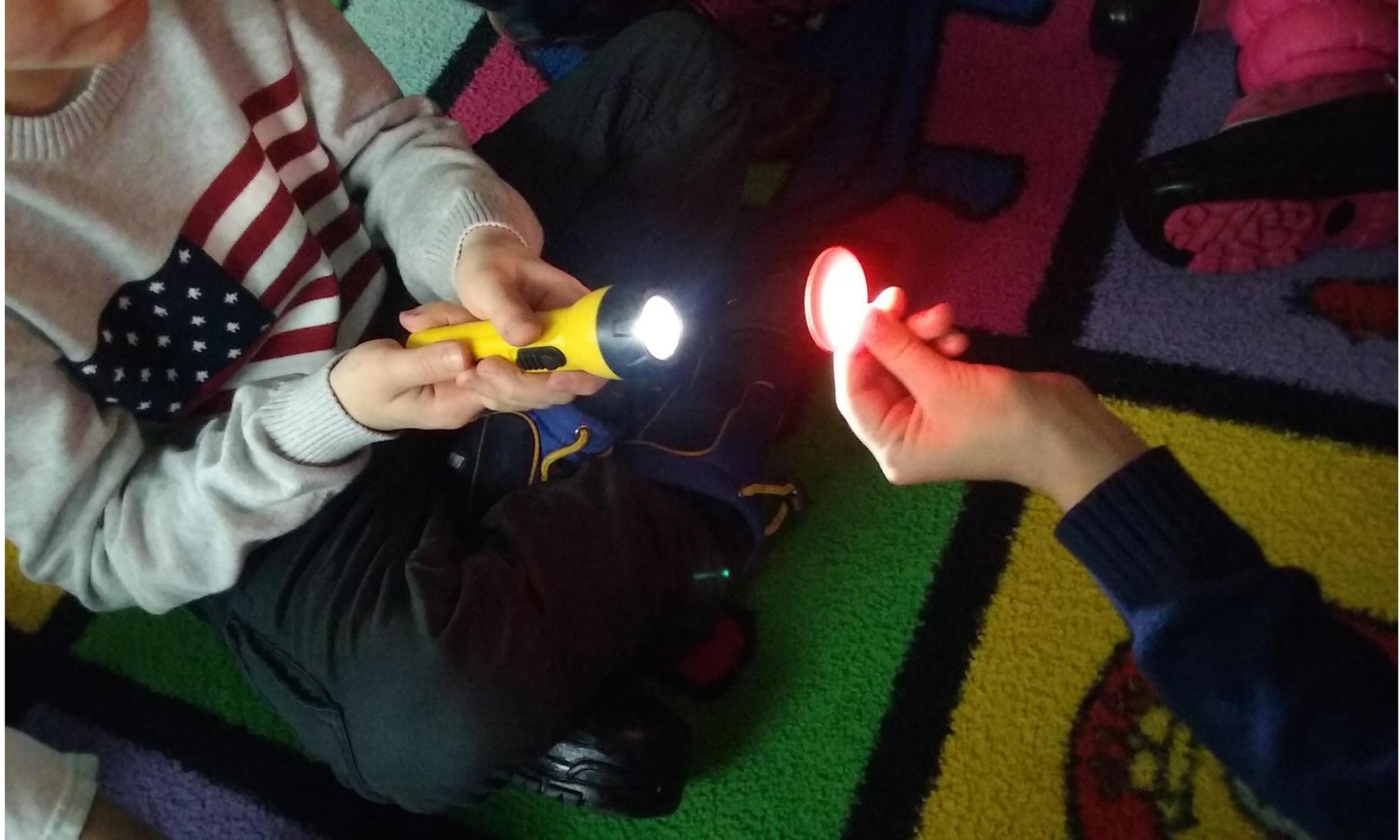
Predetermined questions and answers: students follow the directions for expected results.

Shadow Puppets

Student why? Create a puppet show using light and shadow.

- **Visual Arts: transparent or translucent features of various objects and sketch the puppet**
- **Science: light and shadows- Standard 2 Objective 2**
- **ELA: oral language/writing: students wrote the a simple story stemming from their exploration with the materials.**
- **The students explored materials that were transparent, translucent, and and opaque. Through inquiry, and the design process they designed a story with a beginning, middle, and ending, then shared that story through a shadow puppet play.**

(insert photos? Journal photo)









Engineering Design Process with Shadow Puppets

This is what it looks like:

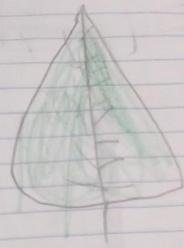
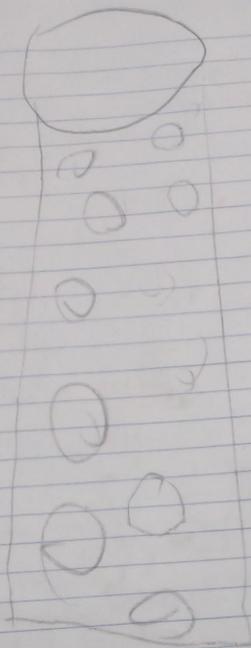
ASK- Students-How can you design puppets using found objects that make a shadow or translucent image on the screen? What are my ideas?

IMAGINE- Students explore materials with flashlight and box. Watch video example of shadow puppet.

PLAN- students asked what do I need? Found objects, characters, a story.

CREATE- Students follow their plan and test their ideas.

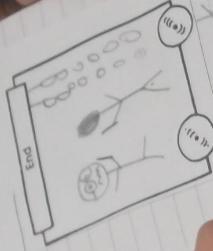
IMPROVE- Work with team to go through steps again, most teams do several iterations.



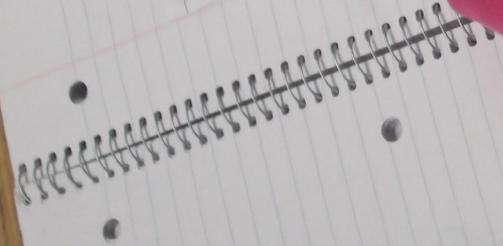
feathers
for trees.



End
Mid



End
Mid



Collaboration





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