



CFES STEM Unit Plan

Project Title: The BUNNY Project Link to Bunny Project Ideas	Grade Level: Kindergarten
Driving Question: How can we create a guide for our school community to ensure our CFES bunnies thrive?	Integrated Content Areas: STEM + (ELA/SS) <u>Science:</u> living and non-living things, similarities and differences of living organisms <u>Technology:</u> Create and share a guide to community members and stakeholders on the care of bunnies. <u>Engineering:</u> Design and create a food plot for bunnies that will be located in the CFES Garden. <u>Math:</u> counting, 2d & 3d shapes, attributes, classification of attributes
Standards: <u>Science</u> SKL1. Obtain, evaluate, and communicate information about how organisms (alive and not alive) and non-living objects are grouped. a. Construct an explanation based on observations to recognize the differences between organisms and nonliving objects. b. Develop a model to represent how a set of organisms and nonliving objects are sorted into groups based on their attributes. SKL2. Obtain, evaluate, and communicate information to compare the similarities and differences in groups of organisms. <u>S.S:</u> SSKG2 - Explain that a map is a drawing of a place and a globe is a model of Earth. a. Differentiate land and water features on simple maps and globes.	Learning Targets: ● Science ○ I can describe an object's (our bunnies) physical attributes. ○ I can ask questions about an object's physical attributes. ○ I can compare and contrast living and non-living things. ○ I can help solve problems about living organisms. ● Math ○ I can measure and graph data based on observations. ○ I can count daily the amount of food our bunnies need to remain healthy. ○ I can track and compare the weight of our bunnies through graphical displays. ● Arts & Technology

Math

K.NR.1: Demonstrate and explain the relationship between numbers and quantities up to 20; connect counting to cardinality (the last number counted represents the total quantity in a set).

K.MDR.7: Observe, describe, and compare the physical and measurable attributes of objects and analyze graphical displays of data

ELA

ELAGSEKW6: With guidance and support from adults, use a variety of tools to produce and publish writing, including digital tools in collaboration with peers.

ELAGSEKW7: With guidance and support, participate in shared research and writing projects.

- I can choose a technology tool that I use to communicate our information.
- ELA
 - I can compare and contrast fiction and non-fiction.
 - I can participate in shared research and writing projects.
- Social Studies
 - I can identify locations on maps & globes where bunnies are and are not located.

Key Terms:

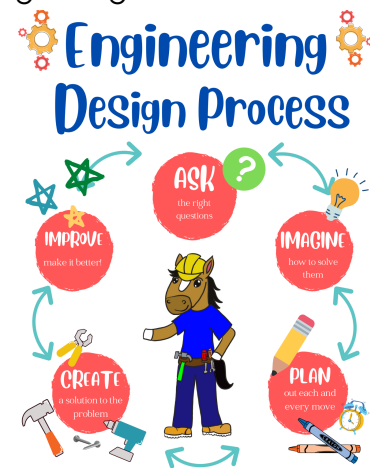
Science - living, non-living, life cycle, physical attributes, compare, describe, classify, species, adaptations

S.S.: maps and globes, location

Math- sort, length, weigh, compare, more, less, classify, attributes, measure, data, graph

ELA - publish

Technology - digital tools

**Process-based Thinking:
Engineering Design Process****21st Century Skills:**

Learning Skills: {Select 2}

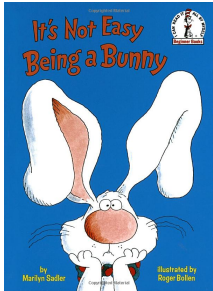
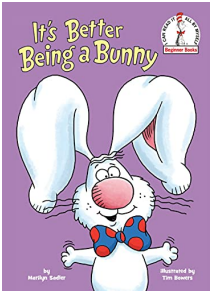
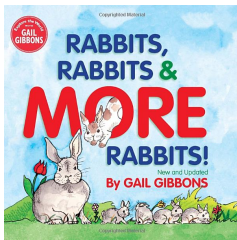
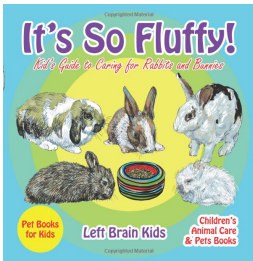
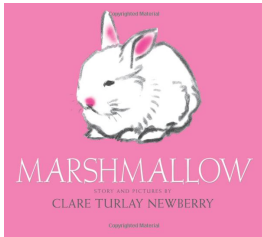
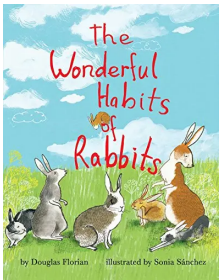
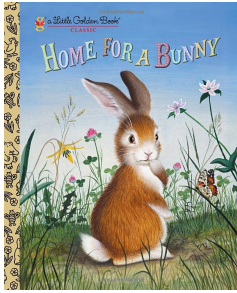
- ☐ Collaboration
Collab w/ Ag. Expl. for food plot and with 3rd grade (habitat)
- ☐ Creativity
- ☒ Communication
- ☐ Critical Thinking
- ☐ Leadership
- ☐ Problem Solving
- ☐ Project Management

Service Learning:

Science and Engineering Practices:

Highlight just the ones using for the project

- ☒ Asking Questions and Defining Problems
- ☒ Developing and Using Models
- ☒ Planning and Carrying Out Investigations
- ☒ Analyzing and Interpreting Data
- ☐ Using Mathematical and Computational Thinking
- ☐ Constructing Explanations and Designing Solutions (Use Claim, Evidence, Reasoning framework.)
- ☐ Engaging in Argument from Evidence

creating a guide and video to teach others about how to care for bunnies	(Use Claim, Evidence, Reasoning framework.) ❑ Obtain, Evaluate, and Communicate Information
Community Connections and Partners: <i>{Who in your community might you partner with? Is there a real-world connection? During which parts of the unit will the community partners be supportive to the learning?}</i> <i>{Is there an opportunity for service learning as part of this unit? If so, describe the school or community partners here.}</i> • Rabbit expert (Dr. Brown & her neighbor) • Veterinarian	Materials and Resources: <i>{What materials are needed? What websites or other resources will you use?}</i> Books:   •     

Other Resources:

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- iPads for students to take pictures of the bunnies
- Chromebooks for students to record videos and flip grids

Formative Assessment(s):

{What strategies will be used to measure student understanding? What open-ended questions will you ask to assess student mastery of content? Are assessment strategies present for all content areas? Do assessments clearly reflect the learning objectives? Formative assessments can be listed and linked here. You should also include any journal entries or explanations that may serve as a formative assessment.}

Teacher observation (student participation, listening in on conversations, journal entries)

During the TEST phase, students will provide feedback on the bunny guide of other classmates.. Students will use this to REFLECT on their bunny guide prior to creating the final product.

Summative Assessment:

{What are the criteria for success in the summative assessment task? This could be a rubric linked here and/or task instructions. Is there a summative assessment for each content area?}

GKIDS

Math - Comparing/Measuring, Data (Graphing)

Final Product: Community Guide/Brochure on Bunny Care

Lesson Procedures**Real-world Hook/Introduction/Entry Event:**

{How will you engage the students? What will intrigue their interests? How does it connect to the real-world? This is when you will present the driving question that guides the work of the unit.}

1. We will take a tour through the CFES gardens where we will see which pets we currently host and brainstorm other pets we could host. We will generate questions about specific animals that would be best for our school pets.

2. Read-aloud, ["The Perfect Pet"](#) by Margie Palatini and discuss various pets throughout the story and which one would be best for our school.



{Could your community partner help in some way?}

Student Engagement through Process-based Thinking:

This section is where you will organize each lesson/work session for the STEM unit. This is where the "day to day" lessons, activities, etc. are listed. It is appropriate to give approximate time for each step and sometimes that may be observations over a period of time. It is also appropriate to link a powerpoint presentation you may be using with your students that will outline what they are doing and recording in their STEM journals.

ASK *{What will students be asked to do in this step of the Engineering Design Process? What will students write and/or draw in their STEM journals for this step?}*

See, Think, Wonder walk in the CFES Garden in the Animal Space. Record in Journal

How do we take care of our CFES bunnies?

What Do Bunnies Eat?

What Do Bunnies Need In Their Habitats?

How Can We Keep Our Bunnies Healthy

How can we design and create a bunny habitat for our CFES bunny pets?

How do we care for our bunnies daily at CFES?

IMAGINE *{What will students be asked to do in this step of the Engineering Design Process? What will students write and/or draw in their STEM journals for this step?}*

IMAGINE (Imagine and Brainstorm)

Now that students have investigated their environments and identified a problem, they will Imagine ways to communicate the problem so that the environment will be improved.

Journal: How can we create an animal habitat for the CFES Bunnies? What materials do we need?

Students worked to imagine solutions for problems found in our school and recorded in STEM Journals.

PLAN *{What will students be asked to do in this step of the Engineering Design Process? What will students write and/or draw in their STEM journals for this step?}*

Students will use their STEM journals and think like veterinarians and record how to care for the bunnies.

Journal: How can I think like a veterinarian and record how to care for the bunnies.

CREATE *{What will students be asked to do in this step of the Engineering Design Process? What will students write and/or draw in their STEM journals for this step?}*

Create a "Bunny Care Sign" for the bunny area and/or video to teach our CFES community how to care for rabbits.

TEST *{What will students be asked to do in this step of the Engineering Design Process? What will students write and/or draw in their STEM journals for this step?}*

Bunny Survival with habitat and diet.

Habitat: Does the Bunny Hutch keep away predators, provide a comfortable space for the bunnies to allow the bunnies to move and grow.,

Diet: Healthy foods that allow bunnies to grow at an appropriate rate. Do the foods promote growth and health of the bunnies?

IMPROVE <i>{What will students be asked to do in this step of the Engineering Design Process? What will students write and/or draw in their STEM journals for this step?}</i> 2024-25 Ideas:: - Continue Food Plot in Ag Exploration - Track the weight of the bunnies and create a hallway kindergarten graph; Weigh the food amounts given to the bunnies. Record in journals - Bunny Olympics in STEM: Designing and creating mazes, etc. for bunny exercise opportunities	
Student Presentation: <i>{How will students share their findings? What form of presentation will they use? Which community partners might provide feedback? It is fine to list here that students will be given options among a list of presentation styles.}</i> Bunny Care Sign and/or Video to teach our CFES community how to care for rabbits. Have 3rd graders edit and give feedback on the products.	Student Reflection: <i>{How will you help students summarize their efforts in this unit and pose questions that will lead to the next one (if applicable)? When will students be asked to reflect during the unit and what will be the reflection question? Be sure to also include reflection related to the service portion, if applicable.}</i> Bunny Care Sign/Video - What are the dietary needs of bunnies? - What does a bunny habitat look like? - What are the daily needs of bunnies? - How can we meet those needs of bunnies at CFES? Final Reflection: - Does my sign/video show that I understand how to care for a pet bunny? - Did I share my knowledge with my team and my community?

Project Calendar *{Overview calendar for the project. (Entry event, going public, assessments, speakers, etc.)}*

Quarter 1:

Big Question: What do we know about bunnies?

- We will take a tour through the CFES gardens where we will see which pets we currently host and brainstorm other pets we could host. We will generate questions about specific animals that would be best for our school pets.
- Read-aloud, ["The Perfect Pet"](#) by Margie Palatini and discuss various pets throughout the story and which one would be best for our school.
- Implement Farm Animal Unit & Pet Unit
- Research Funding idea for rabbit hutch habitat (Grants, PTO STEM Funds, etc.) Oconee River Grant
- Rabbit Read-Alouds and classroom discussions about rabbit knowledge

6. Email UGA Vet school and reach out to a rabbit expert

Quarter 2::

Big Question: How do we take care of bunnies?

Begin researching rabbits and how to care for rabbits. Use STEM journals to record information.

Investigation One: What Do Bunnies Eat?

1. Visit by an expert guest to learn about animal diets.
2. Students will engage in a hands-on tasting party to try a bunny diet.
3. Students will create a venn diagram showing similarities and differences between bunny food and people food.
4. Collaborate with Ag Exploration to design a food plot for the CFES Garden and begin to grow needed foods for the growth of the bunny.

Investigation Two: What Do Bunnies Need In Their Habitats?

1. Students research to learn what bunnies need in their homes.
2. Students brainstorm and create a checklist with these items.
3. To represent learning, students will design a small, 3-dimensional model of a bunny home that includes items from the checklist.
(Possible collaboration with STEM using TinkerCad)

Investigation Three: How Can We Keep Our Bunnies Healthy?

1. Students research bunny care including a visit from a veterinarian, reading books, and hands-on exploration with vet tools.
2. Students will represent learning by creating a "bunny sign" and/or video about the bunny home that would teach others at CFES how to care for our school bunnies.

Quarter 3:

Big Question: How can we create a home for our CFES bunnies?

1. Rabbit Hutch Creation (Collaborate with CFES Parents to build, etc.)

Quarter 4:

Big Question: How will we teach CFES to care for the bunnies?

1. 2 female young rabbits will be brought in for CFES. Students begin to interact and care for the rabbits.
2. Students observe bunny habits and behaviors and record in journals.
3. Share the video created in Quarter 2 on the morning announcements for the entire school on how to take care of the bunnies when visiting the CFES garden.
4. Create a Summer Care Plan for the bunnies (food, water, cleaning the hutch, etc.)

2024-25 Ideas::

1. Continue Food Plot in Ag Exploration
3. Track the weight of the bunnies and create a hallway kindergarten graph; Weigh the food amounts given to the bunnies. Record in journals

4. Bunny Olympics in STEM: Designing and creating mazes, etc. for bunny exercise opportunities