CORDOVA GARDENS
ACADEMY OF ARTS & SCIENCES

WHY ARE WE THE ACADEMY OF ARTS AND SCIENCES?

STEAM ENRICHMENT THROUGH
PROJECT BASED LEARNING (PBL)

WHAT IS PBL?

A systematic teaching method where students learn by actively engaging in real-world and personally meaningful projects. Students explore a topic deeply through hands-on tasks, collaboration, and problem-solving. PBL encourages critical thinking, creativity, and practical application of knowledge, leading to a final product or presentation that showcases what students have learned.

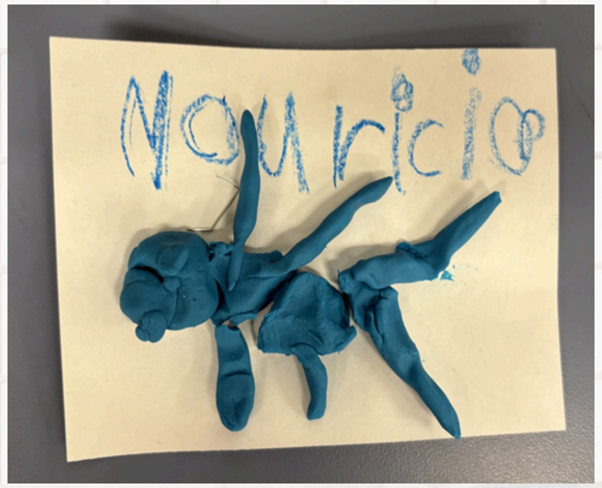
STEAM PBL AT CORDOVA GARDENS

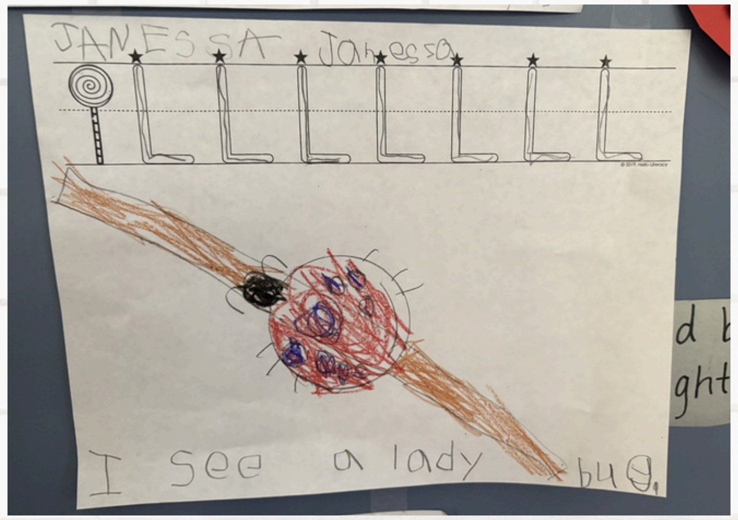
- Rigorous & relevant
- Builds a sense of community
- Collaboration
- Creative expression
- Increases engagement
- Voice and choice
- Boosts STEAM learning at CGA

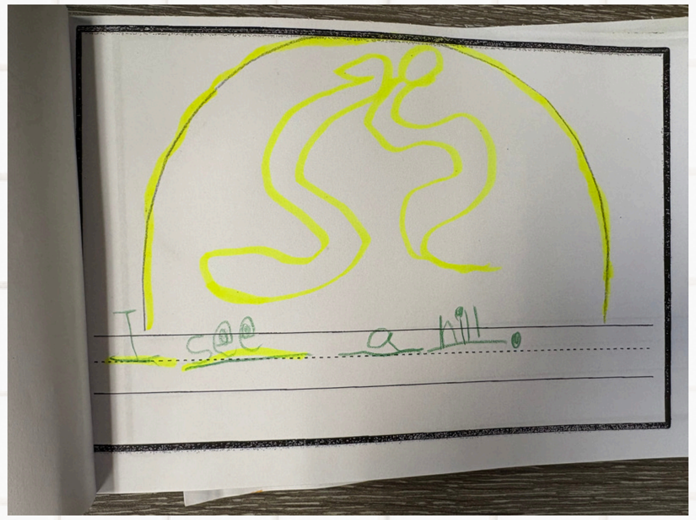
STEAM/PBL ROADMAP

- Team of teachers attended PBL Works training in summer of 2023.
- Grade level release days for planning units.
- 2023-2024 school year, grade levels created & taught one unit in each classroom.
- 2024-2025 school year, grade levels taught last year's unit as well as created & taught one more unit in each classroom.
- 2025-2026 Teaching, planning, & developing units.

CHECK OUT OUR STEAM/PBL OFFERINGS



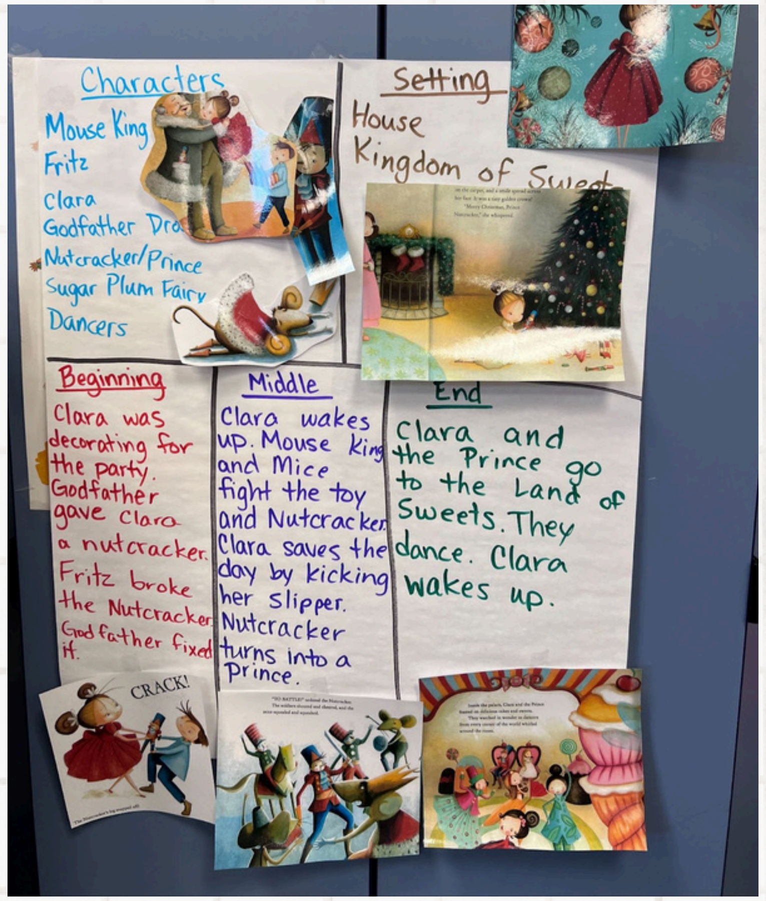


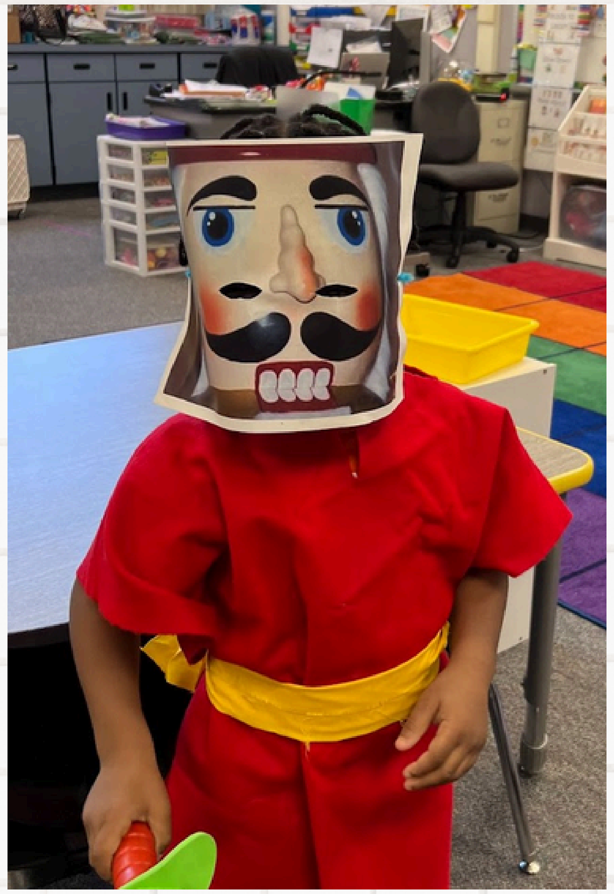


TK PBL
ANTS & LADYBUGS

<u>DRIVING QUESTION:</u>

HOW CAN ANTS AND LADYBUGS SURVIVE IN THE GARDEN AND HAVE THEIR NEEDS MET?



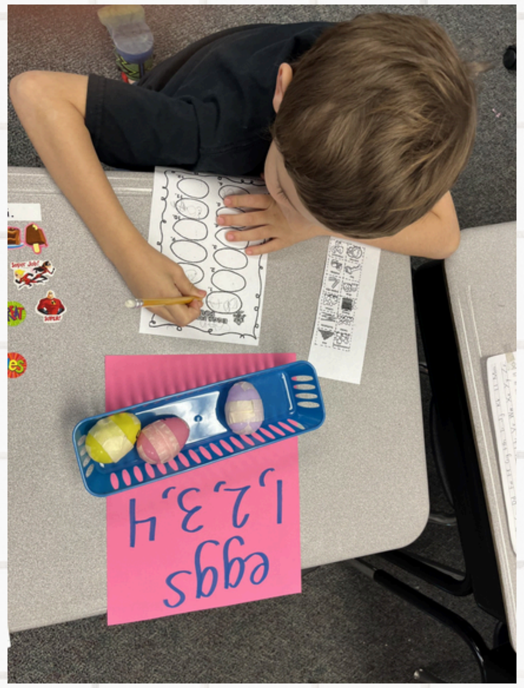
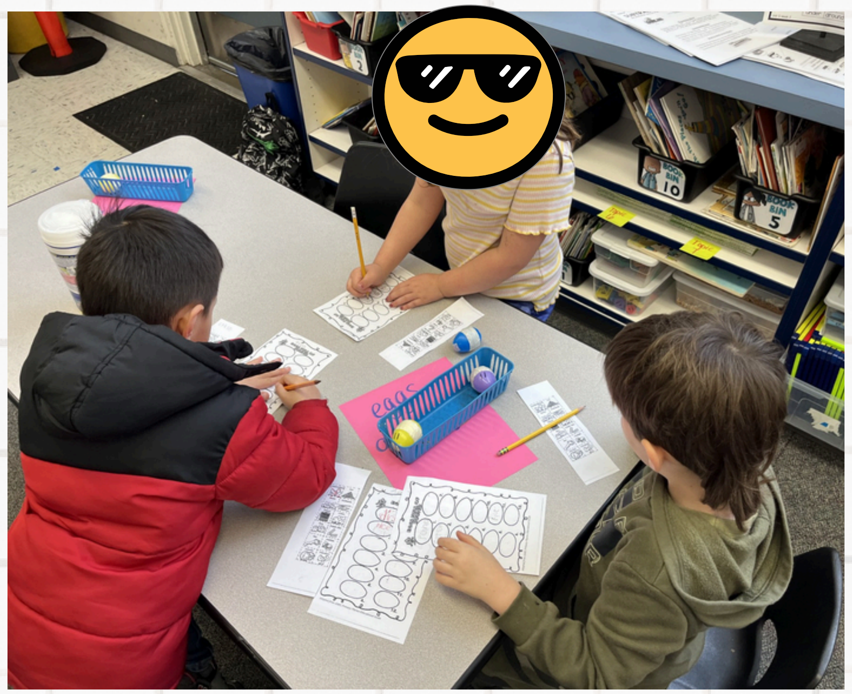


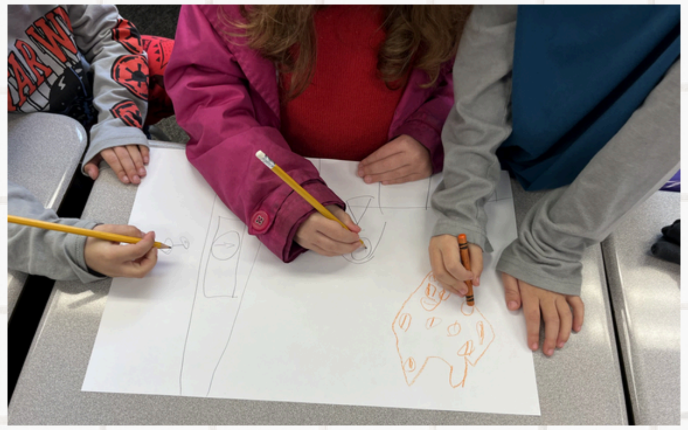
KINDERGARTEN PBL THE NUTCRACKER

<u>DRIVING QUESTION:</u>

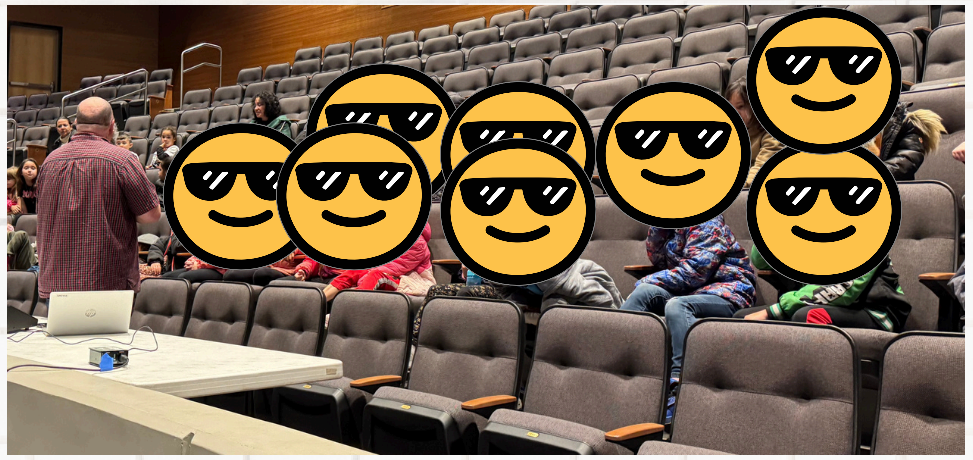
HOW DOES THE BALLET TELL A STORY?

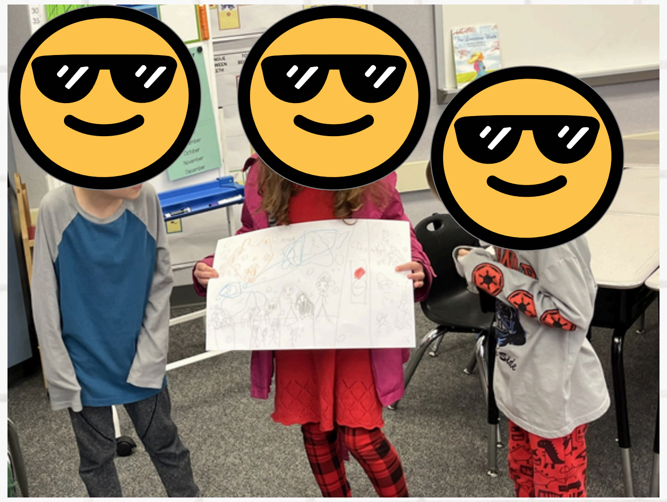




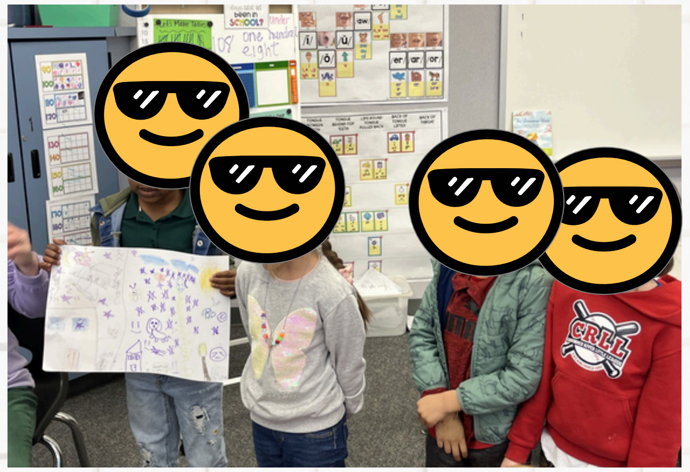
1ST GRADE PBL LIGHT & SOUND

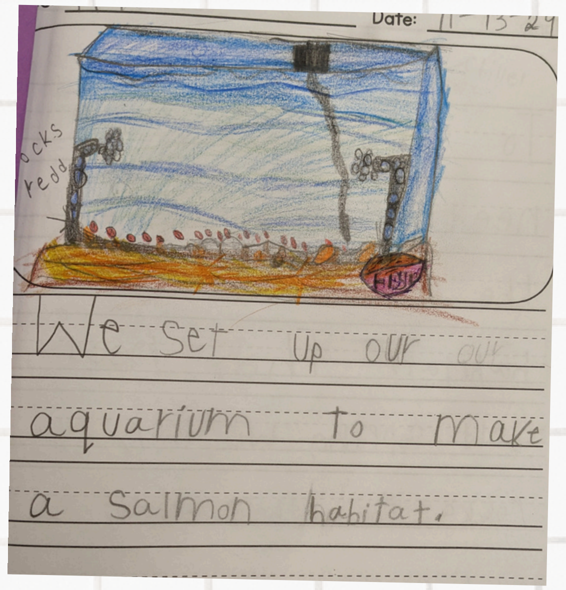




DRIVING QUESTION:

HOW CAN WE COMMUNICATE OVER A DISTANCE USING LIGHT AND SOUND?

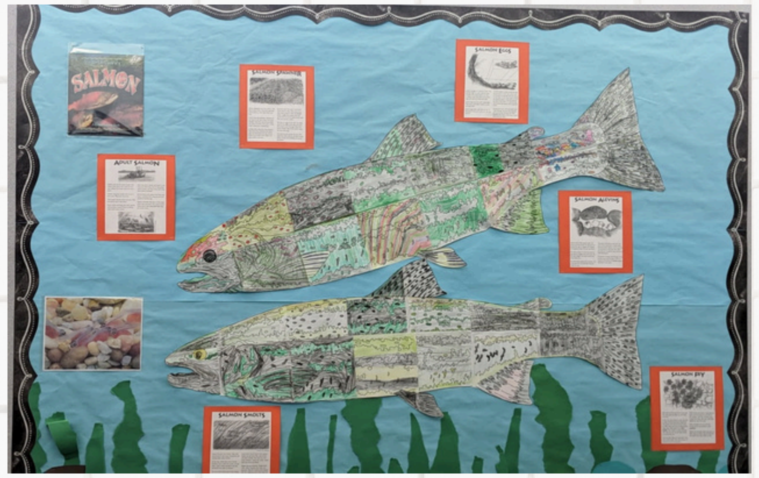




2ND GRADE PBL
SALMON

DRIVING QUESTION:

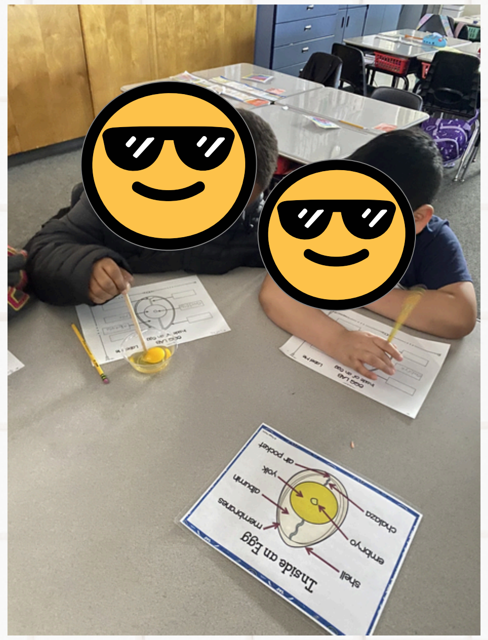
HOW CAN WE, AS RESPONSIBLE STEWARDS OF OUR LOCAL ECOSYSTEM, ENSURE THE HEALTHY MIGRATION AND POPULATION OF SALMON IN OUR WATERWAYS?



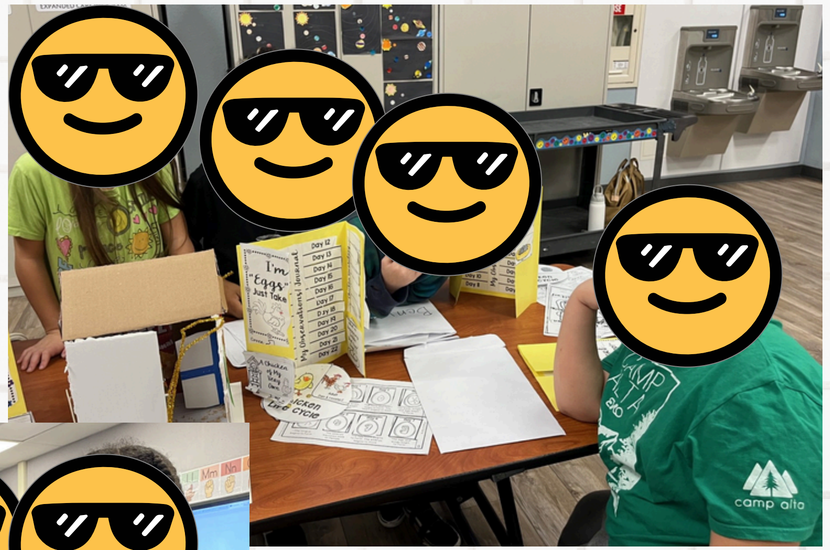
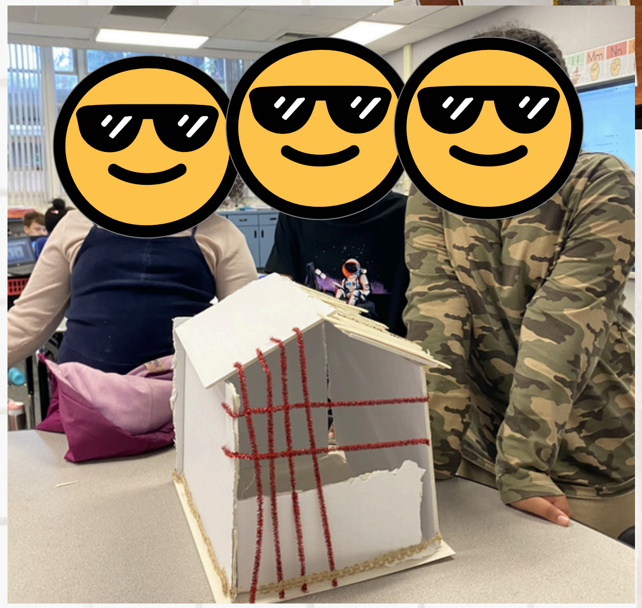
HOW DO THE DIFFERENT STAGES OF A SALMON'S LIFE CYCLE, FROM EGG TO ADULT, DEPEND ON THEIR ENVIRONMENT AND ADAPTATIONS, ALLOWING THEM TO SUCCESSFULLY MIGRATE BETWEEN FRESHWATER AND SALTWATER TO REPRODUCE?







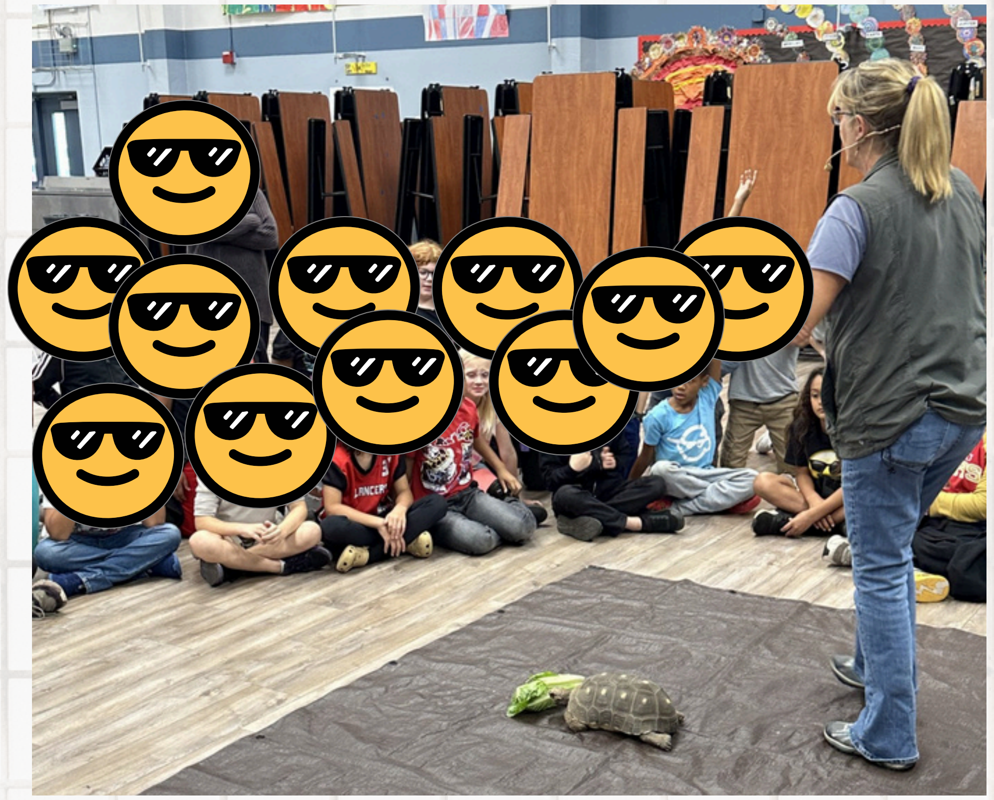
3RD GRADE PBL HATCHING CHICKS

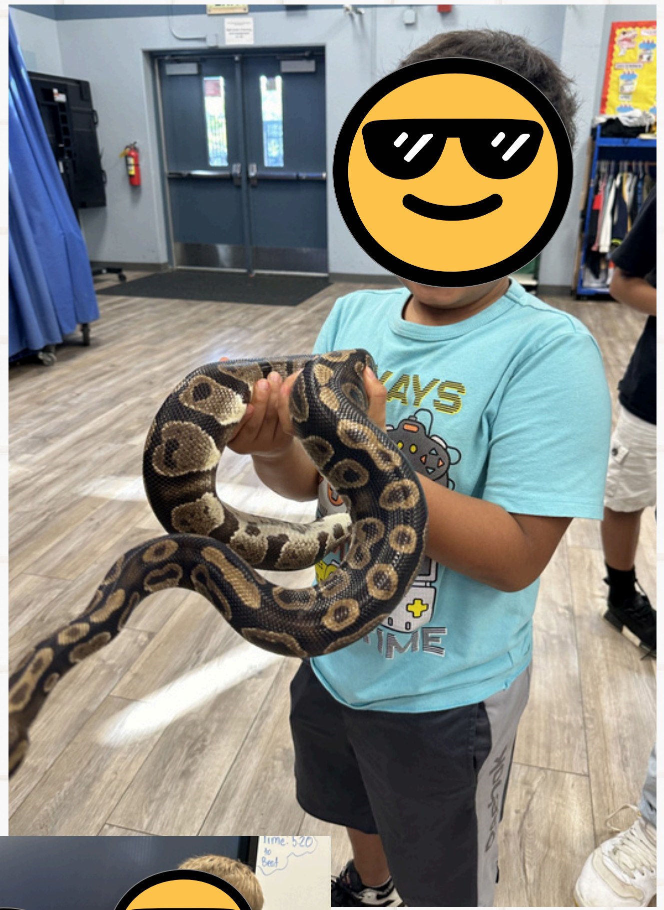



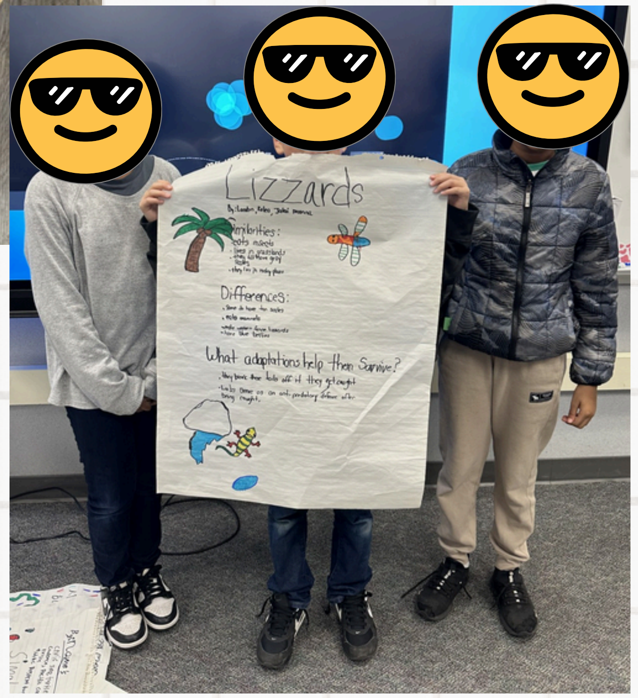
<u>DRIVING QUESTION:</u>

WHAT DOES IT TAKE TO HATCH A CHICK?

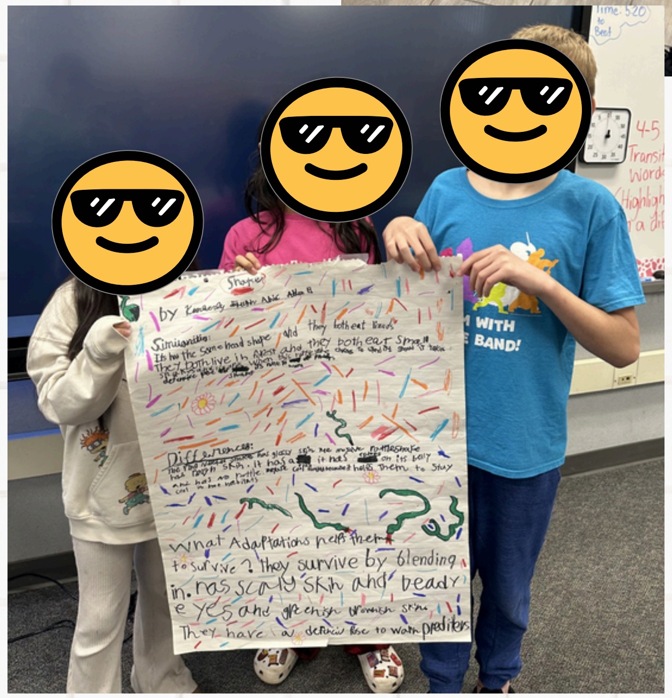
ONCE CHICKS ARE HATCHED, WHAT IS NEEDED TO RAISE ONE IN YOUR OWN BACKYARD?





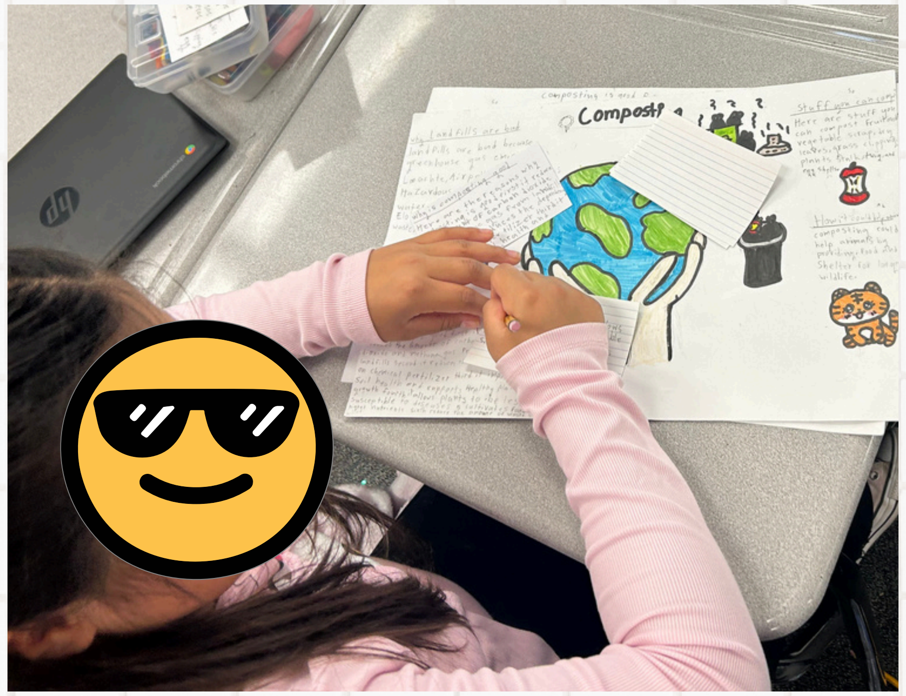


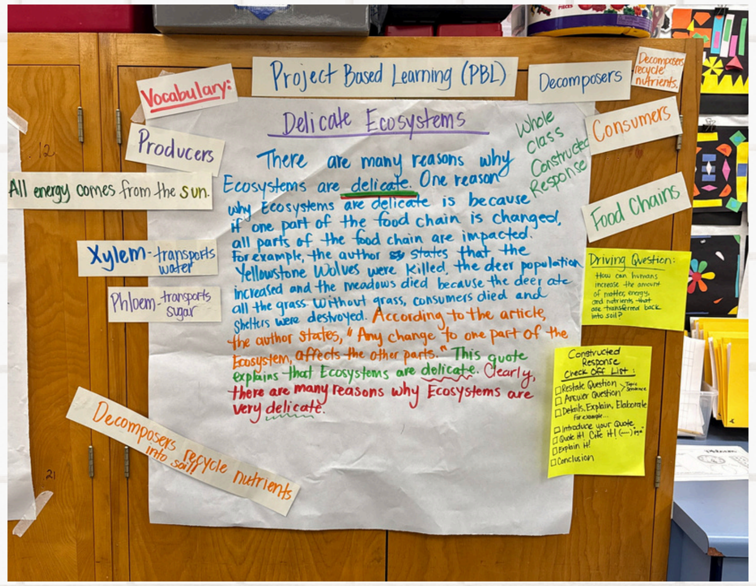
4TH GRADE PBL NATIONAL PARKS



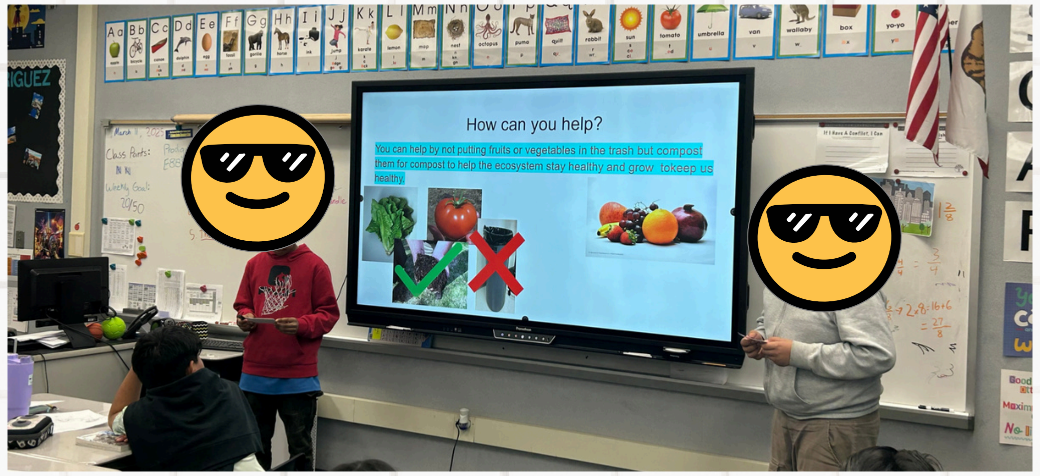
DRIVING QUESTION:

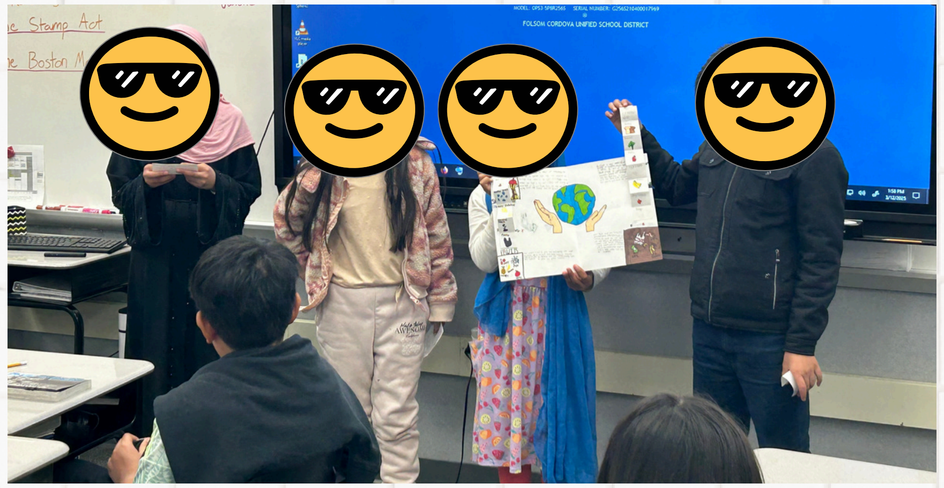
HOW DO DIFFERENT REPTILES IN CALIFORNIA NATIONAL PARKS ADAPT TO THEIR UNIQUE ENVIRONMENTS TO SURVIVE AND THRIVE?





5TH GRADE PBL
ECOSYSTEMS & ENVIRONMENT





DRIVING QUESTION:

HOW CAN HUMANS HELP INCREASE THE AMOUNT OF MATTER, ENERGY, AND NUTRIENTS THAT ARE TRANSFERRED BACK INTO OUR ECOSYSTEM?

OTHER GRADE LEVEL TOPICS & DRIVING QUESTIONS

Transitional Kindergarten:

- Ants & Ladybugs: How can ants and ladybugs survive in the garden and have their needs met?
- Sea Animal Ocean Life: How can sea animals survive in the ocean and have their needs met?

Kindergarten:

- Nutcracker: How does the ballet tell a story?
- Weather: How does weather impact us? As meteorologists, how can we prepare others for different kinds of weather?
- Fairy Tales: What can Fairy Tales teach us about problem solving?

1st Grade:

- Light & Sound: How can we communicate over a distance using light and sound?
- Plants: How can we, as scientists, create an environment for plants to grow? Once grown, how are plants recognizable as similar and different from their parents?
- Animal Superpowers: How do animals use their superpowers to survive and help their babies grow?

2nd Grade:

- Salmon: How can we, as responsible stewards of our local ecosystem, ensure the healthy migration and population of salmon in our waterways? How do the different stages of a salmon's life cycle, from egg to adult, depend on their environment and adaptations, allowing them to successfully migrate between freshwater and saltwater to reproduce?
- Inventions: How do people solve everyday problems?

OTHER GRADE LEVEL TOPICS & DRIVING QUESTIONS

3rd Grade:

- Hatching Baby Chicks: What does it take to hatch a chick? Once chicks are hatched, what is needed to raise one in your own backyard?
- Natural Hazards: How can we keep our communities safe and prepared for natural hazards?

4th Grade:

- Caves/Weathering/Erosion: How can I communicate information on the effects of weathering and the rate of erosion with people in the community?
- Ocean Ecosystems: How do human activities impact our oceans, and what actions can we take to protect ocean life?

5th Grade:

- Ecosystems & Environment: How can humans help increase the amount of matter, energy, and nutrients that are transferred back into our ecosystem?
- Bison: Human Impacts on the Environment: How have humans affected organisms and their habitat and how can we help reverse this?