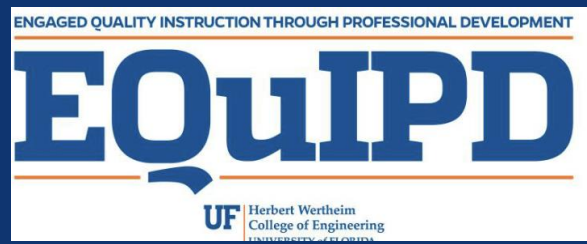




# GOLDBERG GATOR ENGINEERING EXPLORERS SUMMER PROGRAM 2022

Dr. Nancy Ruzycki and the EQuIPD Team



# 2022 GOLDBERG GATOR ENGINEERING EXPLORERS SUMMER PROGRAM LOCATIONS

## ORANGE COUNTY

University High School  
June 6th – 9th  
June 13th - 16th  
June 20th – 23rd

## SARASOTA COUNTY

Booker Middle School  
June 6th - 9th

## ESCAMBIA COUNTY

Ferry Pass Middle School  
June 6th - 9th &  
June 13th - 15th

## PALM BEACH COUNTY

Roosevelt Middle School  
June 13th - 16th &  
June 20th - 23rd

## COLLIER COUNTY

RCMA Immokalee  
Community Academy  
June 11th -15th

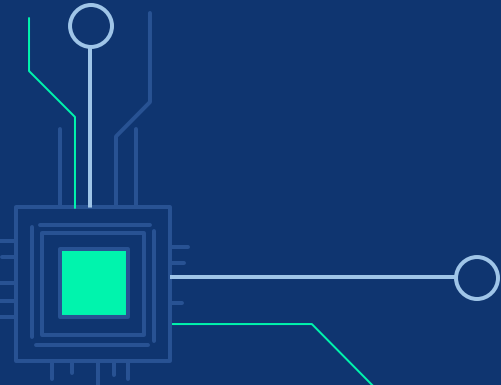
## ALACHUA COUNTY

Howard Bishop Middle School with  
Take Stock In Children Program  
June 11th -15th



# ORANGE COUNTY

Camp 1: June 6th - 9th

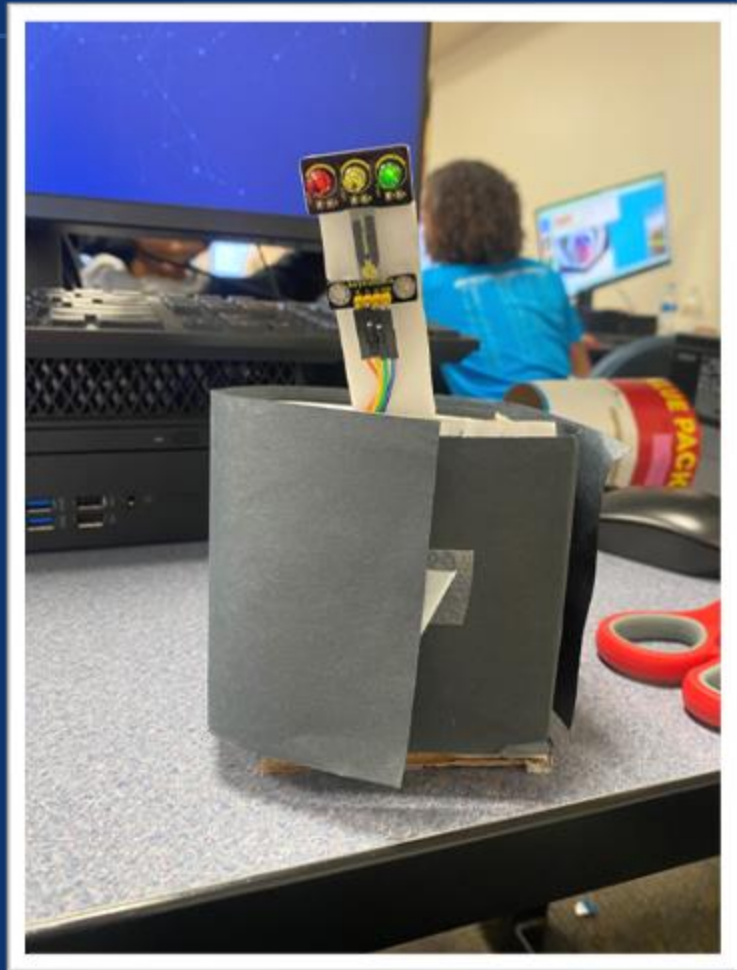




STUDENTS LISTENING TO PROTOTYPE PRESENTATIONS



STUDENTS PRESENTING THEIR TECHNICAL DESIGN CHALLENGES



STUDENT PROJECTS FOLLOWING THE TECHNICAL DESIGN CHALLENGE





Group of students showing off their Technical Design products

# SARASOTA COUNTY

June 6th - 9th





Name: [REDACTED]

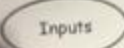
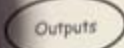
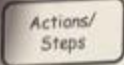


## Process Mapping

Process: A sequence of activities intended to produce particular results

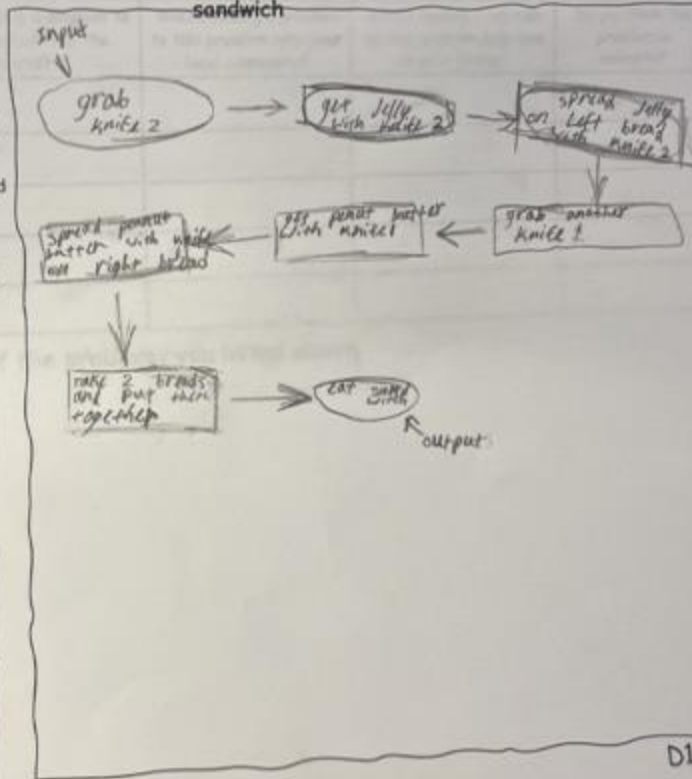
### Steps to Building a Process Map

1. Identify the process
2. Determine the boundaries: inputs (start) and outputs (end)
3. Start with the big picture steps
4. Add in the details: Actions, Decisions and Questions, Relationships to map flow
5. Complete the ENTIRE map before refining
6. Assess the map for improvement areas: Ask questions and make notes to locate possible problem areas
7. Get feedback from peers or users


### Process Map Key

-  Inputs: The start of your process
-  Outputs: The end result of your process
-  Actions/Steps: The steps in the process: how to get from the start to the end
-  Decisions: Questions or choices that can change the flow of the process
-  Show the direction of the steps in the process

Map the process to make a PBJ sandwich



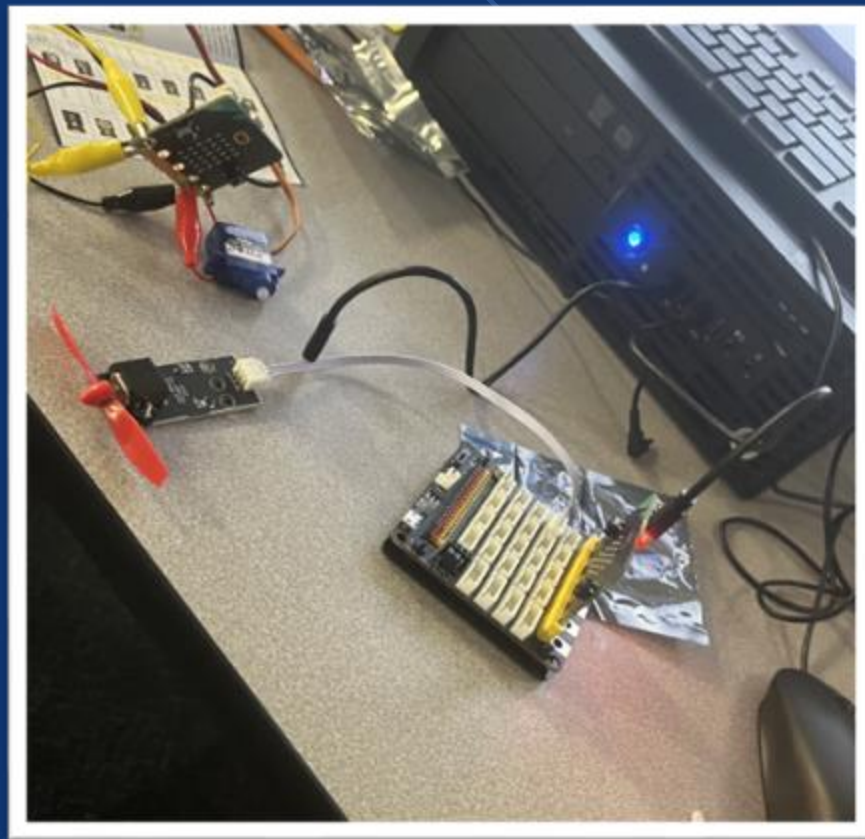
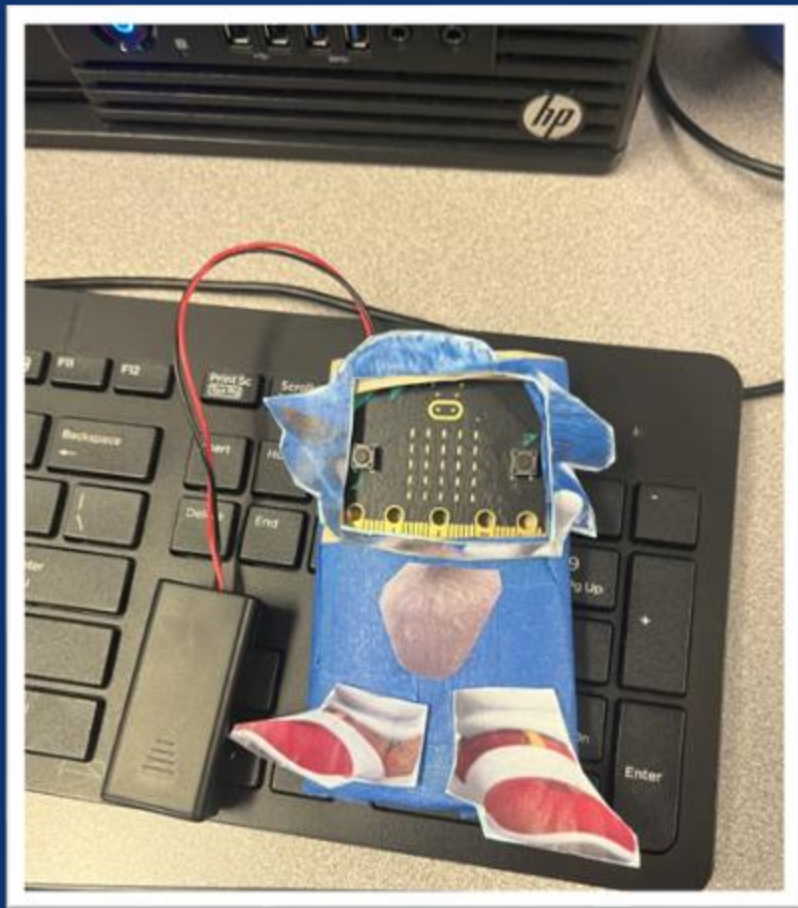
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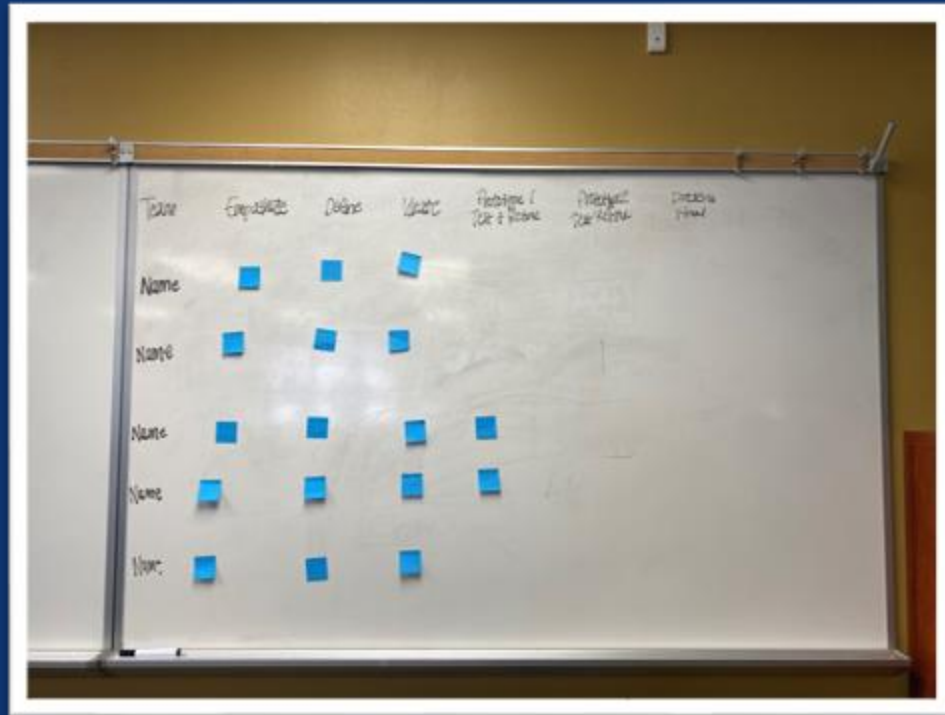
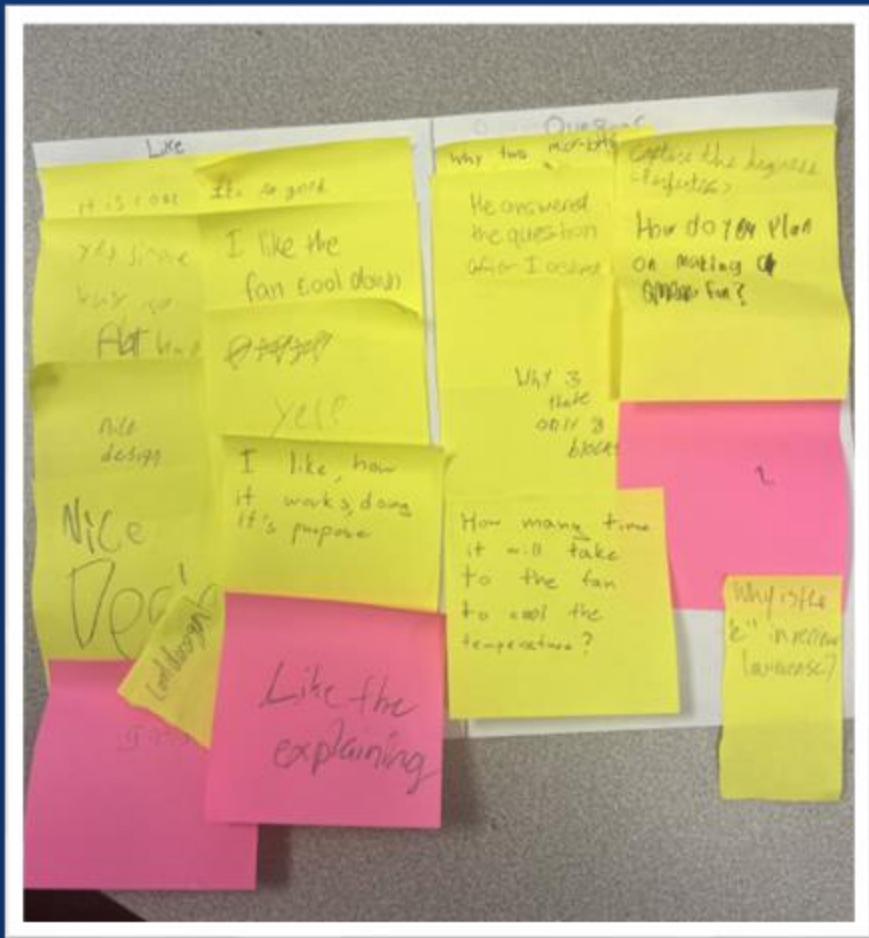
“I learned a lot about coding. I learned how to put LEDs and Sensors and how to make noises out of my Micro: bit. I learned a lot about the project and we had a lot of teamwork. I did a lot of designing and coding and it was super fun.”

**STUDENT QUOTE**





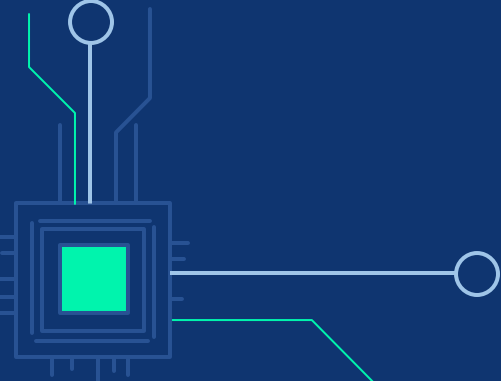
MICRO: BIT PETS AND PROPELLER BREAD BOARDS

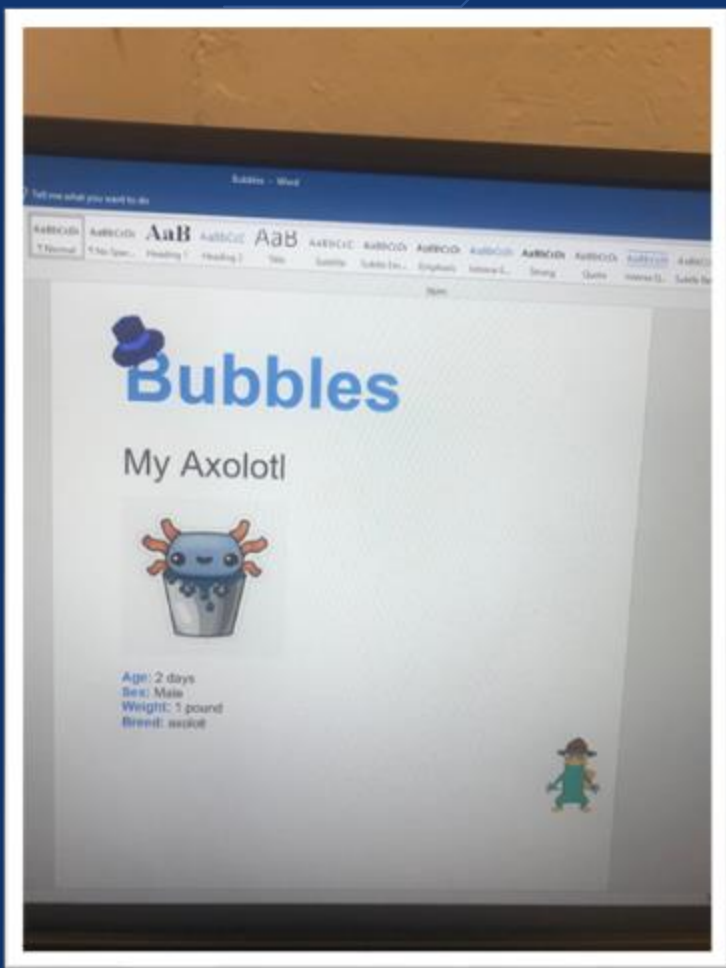


STUDENT KANBAN BOARD AND STICKY NOTE FEEDBACK ON PEER PROJECTS

# ESCAMBIA COUNTY

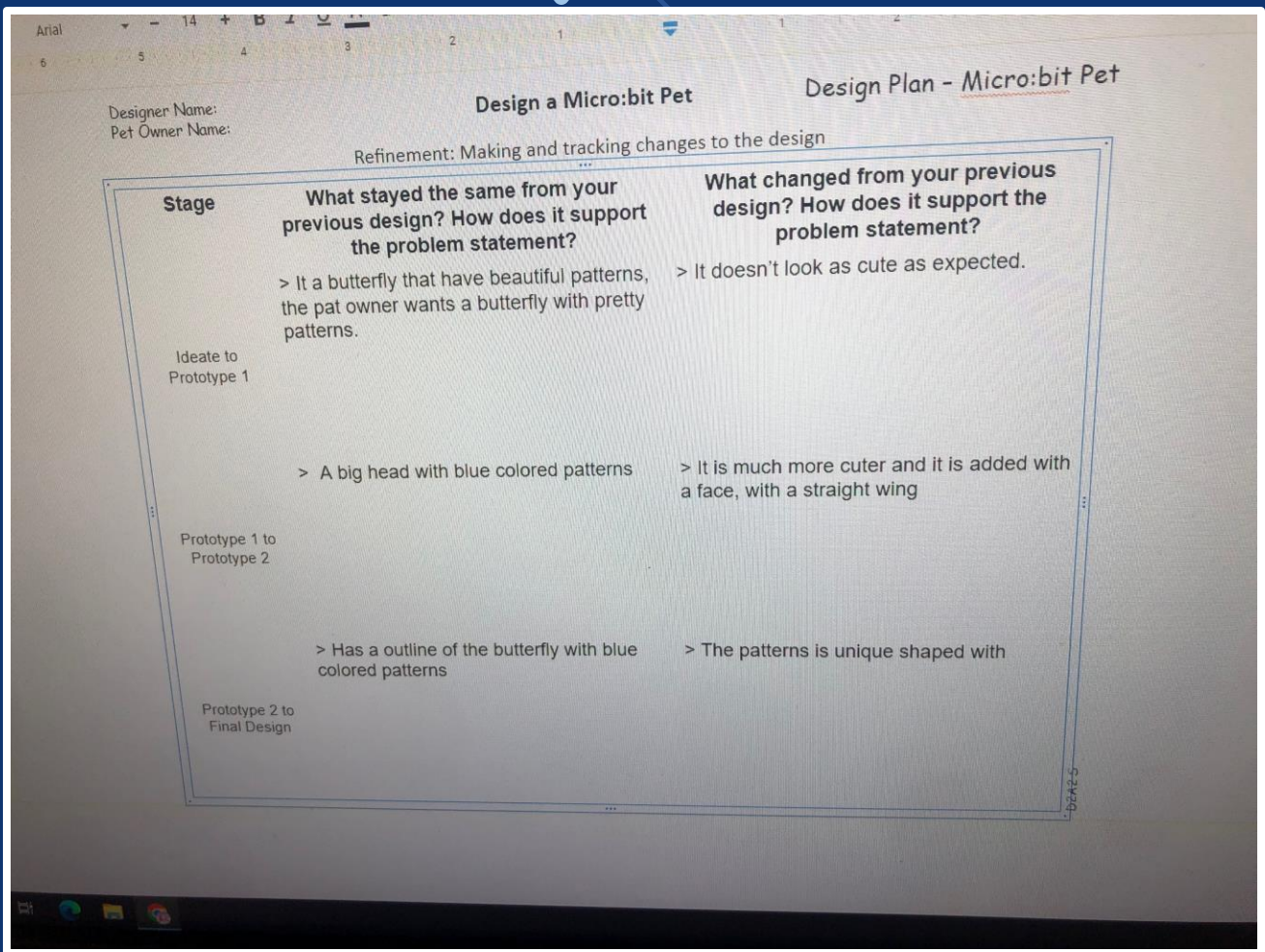
June 6th - 9th &  
June 13th - 15th





STUDENT CREATED MICRO: BIT PET AXOLOTL





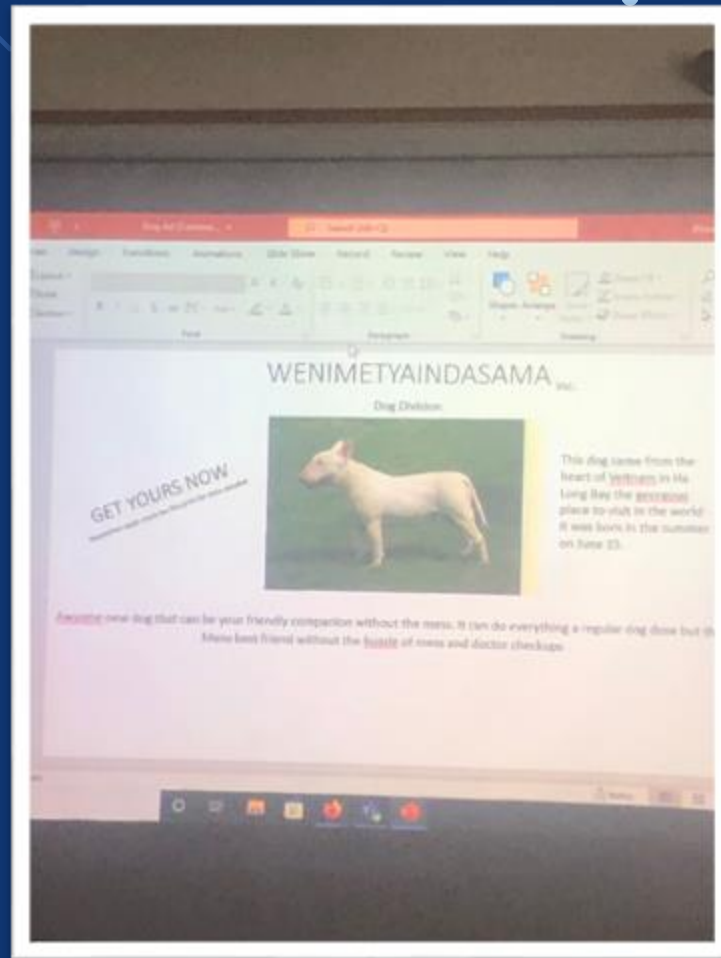
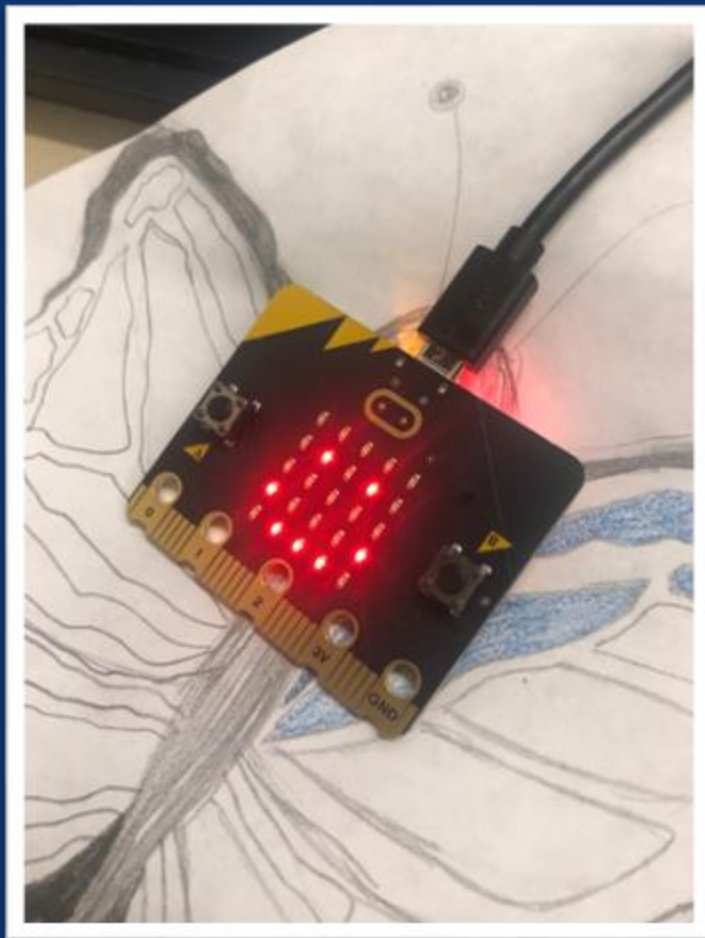
Designer Name:  
Pet Owner Name:

## Design a Micro:bit Pet


## Design Plan - Micro:bit Pet

Refinement: Making and tracking changes to the design

Stage	What stayed the same from your previous design? How does it support the problem statement?	What changed from your previous design? How does it support the problem statement?
Ideate to Prototype 1	> It a butterfly that have beautiful patterns, the pat owner wants a butterfly with pretty patterns.	> It doesn't look as cute as expected.
Prototype 1 to Prototype 2	> A big head with blue colored patterns	> It is much more cuter and it is added with a face, with a straight wing
Prototype 2 to Final Design	> Has a outline of the butterfly with blue colored patterns	> The patterns is unique shaped with



STUDENT MICRO: BIT PETS AND ADOPTION FLYER



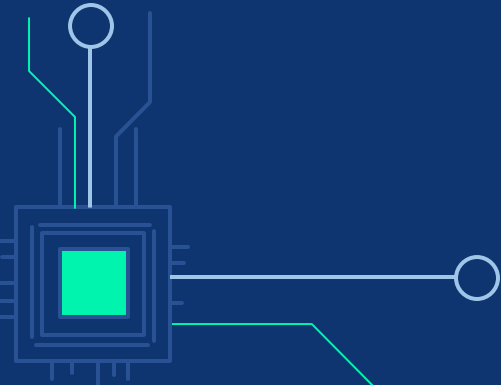
“They are really fun and they are very interactive. You can interact with them a lot and I love the partners I'm with, the people around me. I feel like it's something you really need to learn at a young age if you are thinking about studying this in the future.”

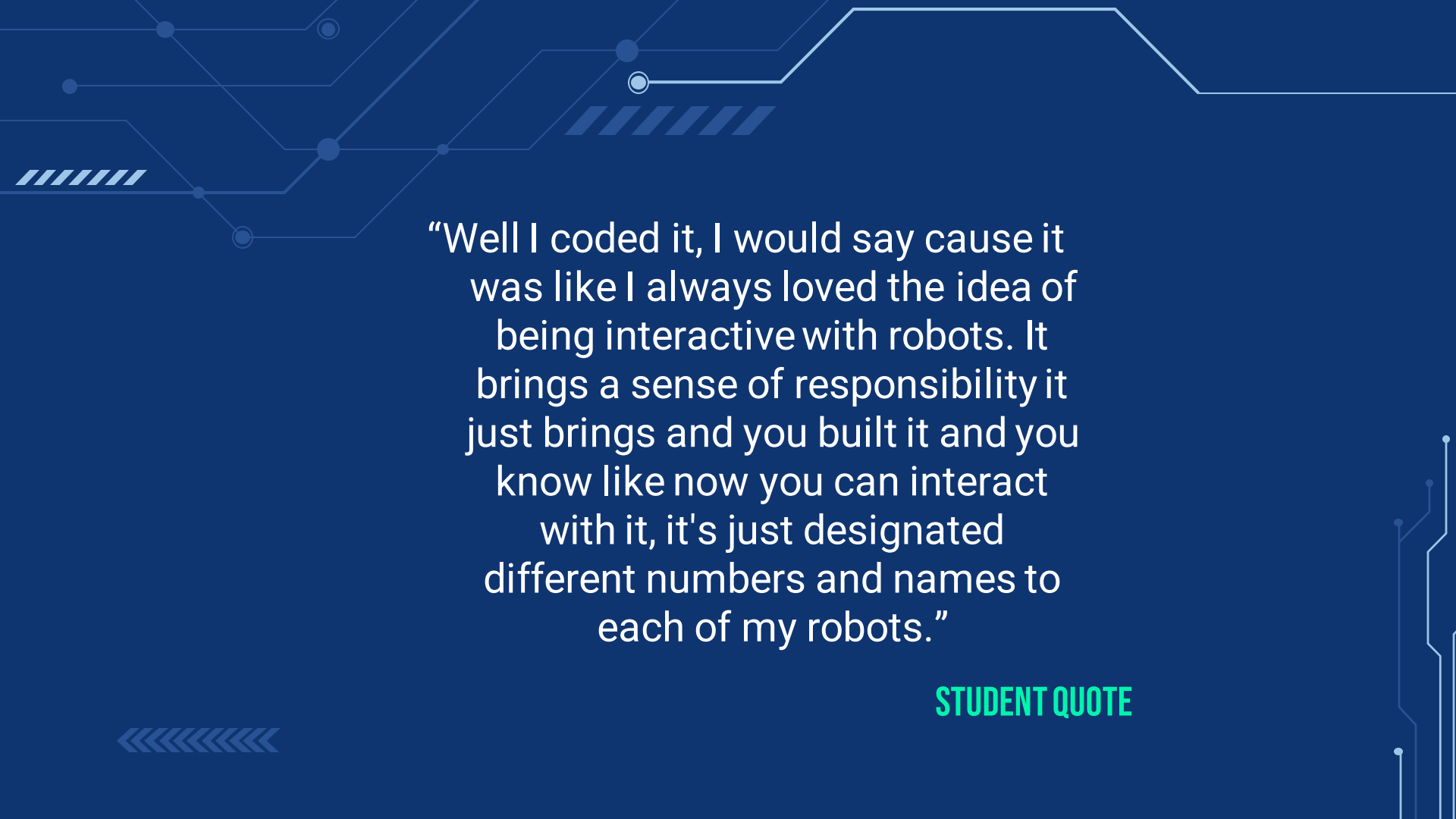
**STUDENT QUOTE**



# ORANGE COUNTY

Camp 2: June 13th - 16th

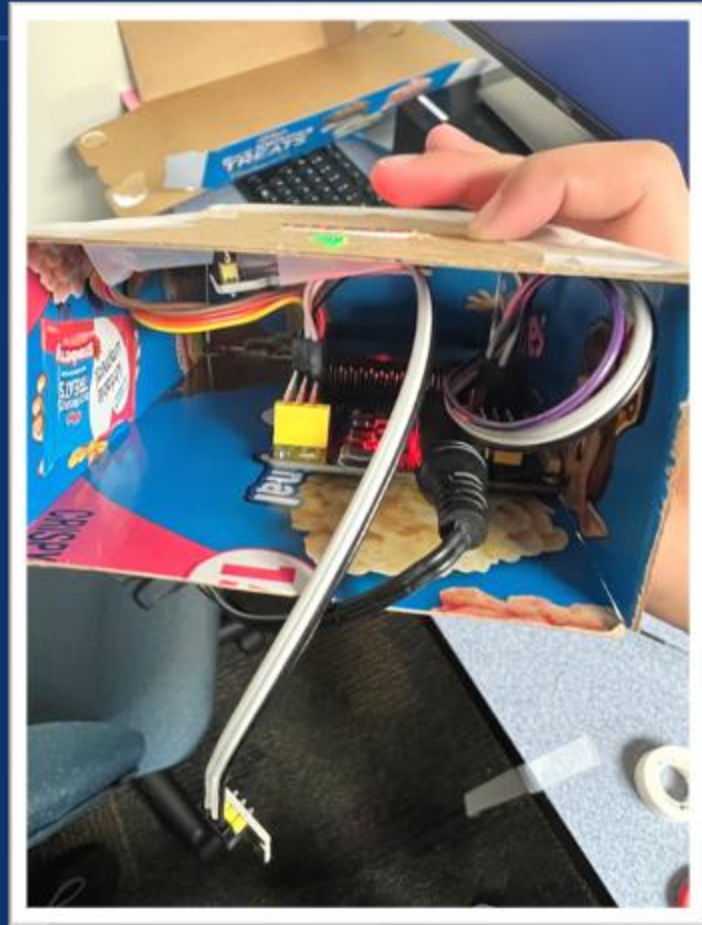
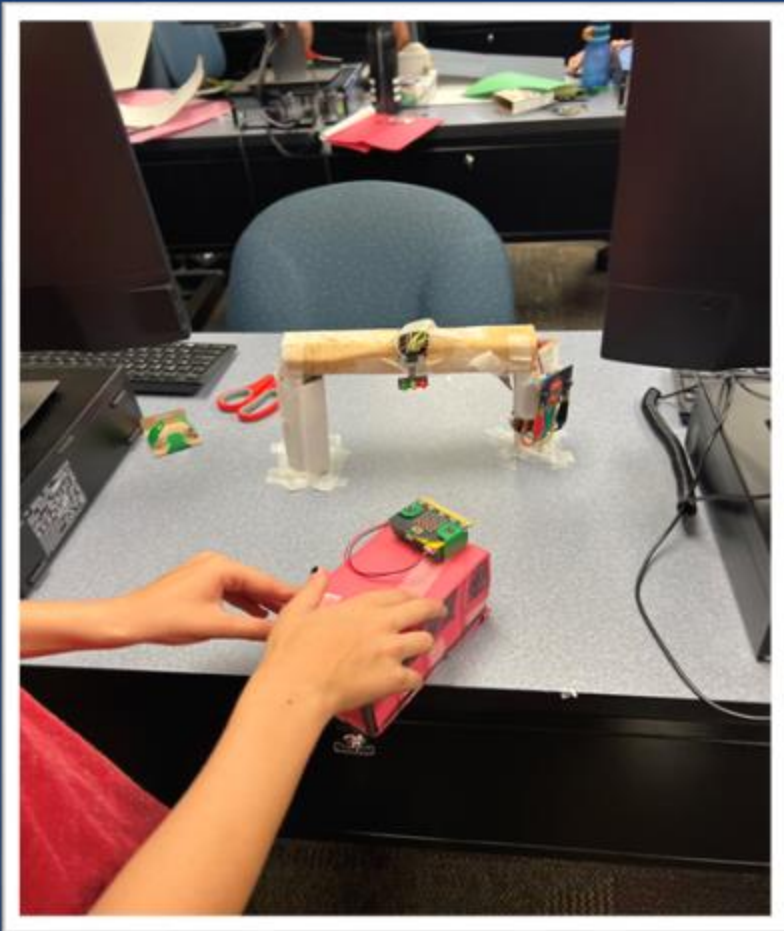




“Well I coded it, I would say cause it was like I always loved the idea of being interactive with robots. It brings a sense of responsibility it just brings and you built it and you know like now you can interact with it, it's just designated different numbers and names to each of my robots.”

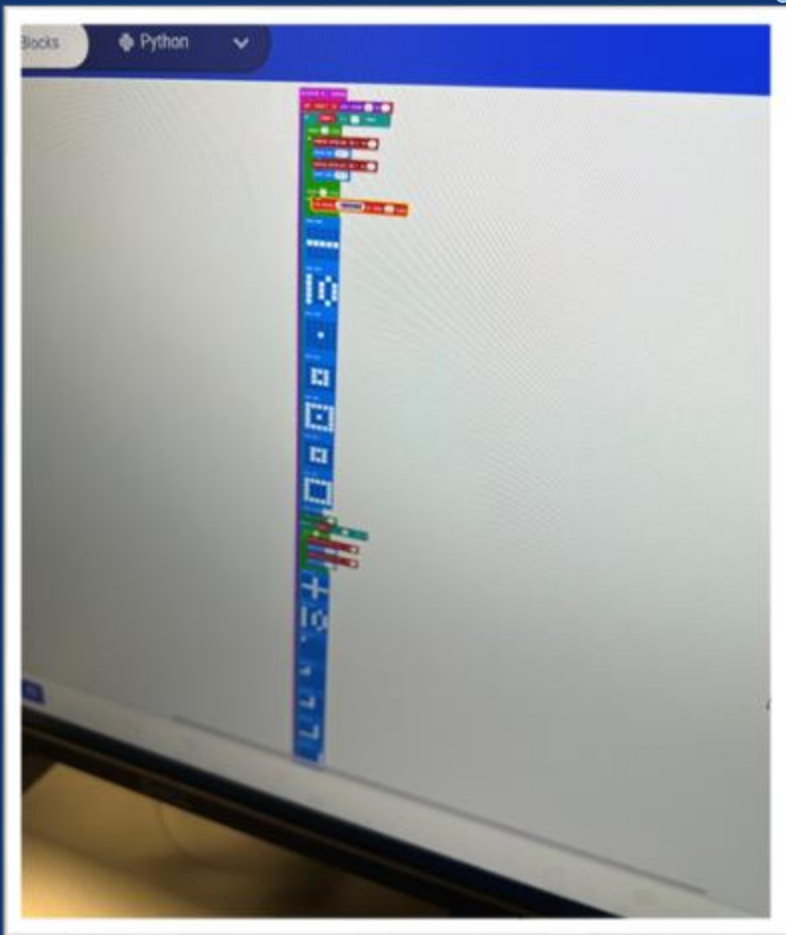
**STUDENT QUOTE**





STUDENTS SHOWING OFF THEIR WIRING SKILLS AND DESIGNS (L: REACTIVE TRAFFIC LIGHT, R: WRING OF LEDS AND SENSORS)

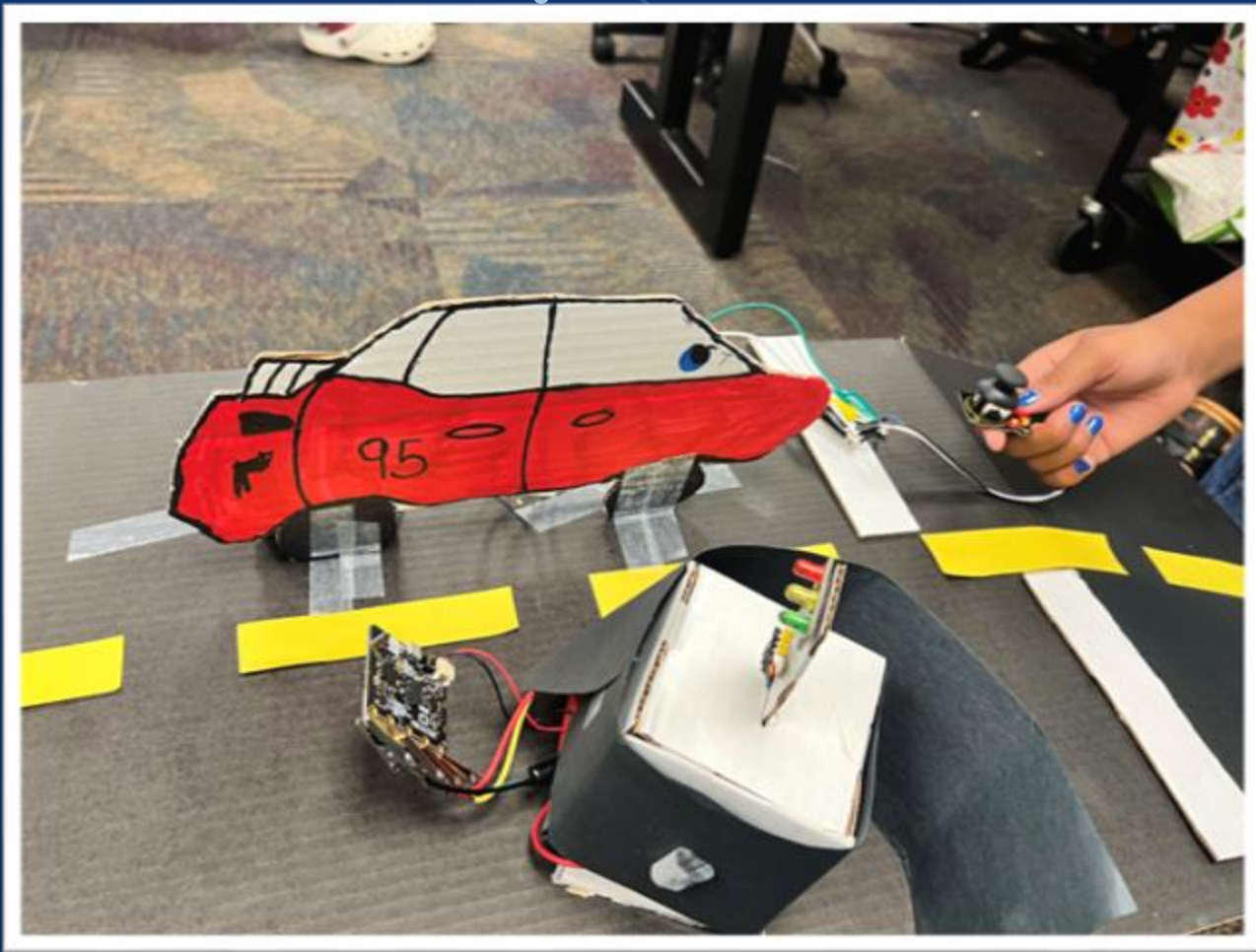




ADVANCED CODE AND TWO HAPPY STUDENTS SMILING FOR A PHOTO



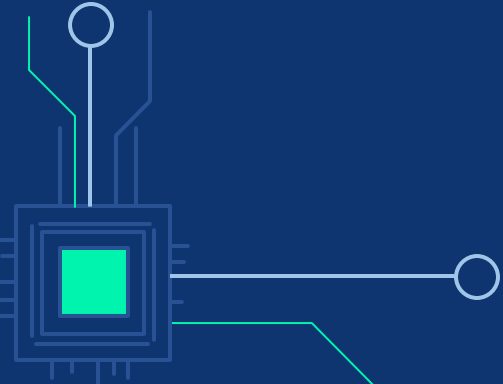
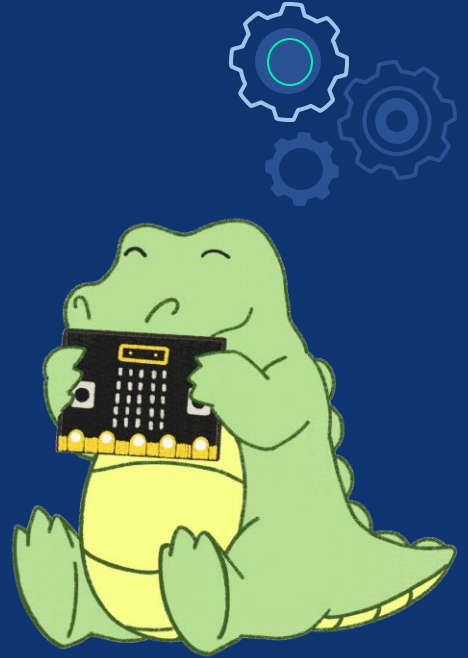
END OF CAMP PHOTO IN FRONT OF SCHOOL MURAL



LIGHTNING MCQUEEN INSPIRED TECHNICAL DESIGN CHALLENGE PRODUCT WITH JOYSTICK EXTENSION

# PALM BEACH COUNTY


June 13th - 16th & 20th - 23rd







UNDERGRADUATE ASSOCIATES WITH STUDENTS FROM PALM BEACH



“At the end of each activity, when we had the project finished, I had a lot of confidence that I would win or something and it’s such a great feeling when you win.”

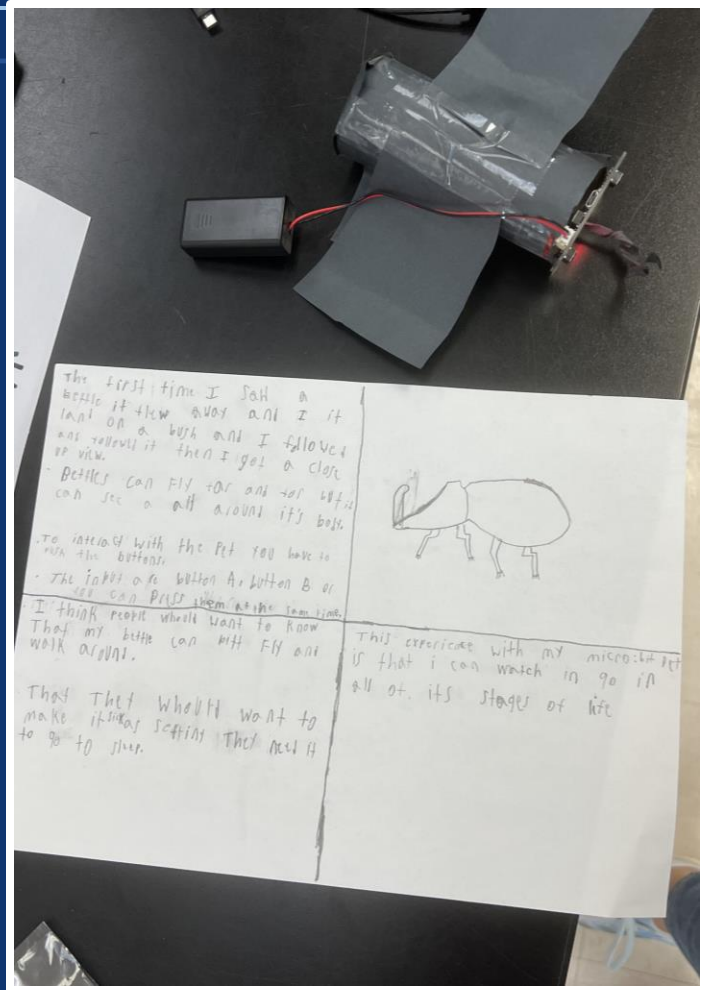
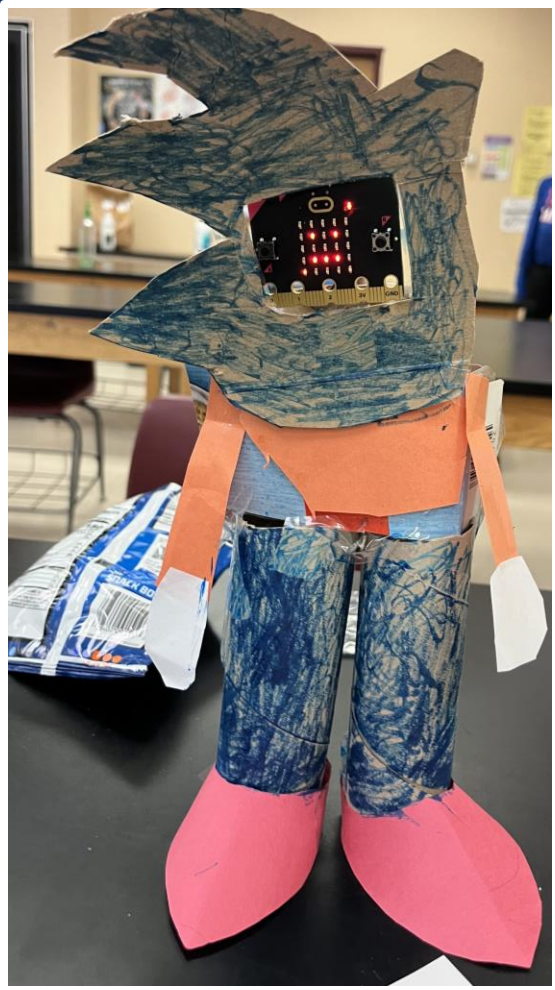
**STUDENT QUOTE**







UNDERGRADUATE ASSOCIATES TEACHING STUDENTS ABOUT PROCESS MAPPING



The first time I saw a beetle it flew away and I it land on a book and I followed was behind it then I got a close of view.  
 Beetles can fly for and for what can see a all around it's body.



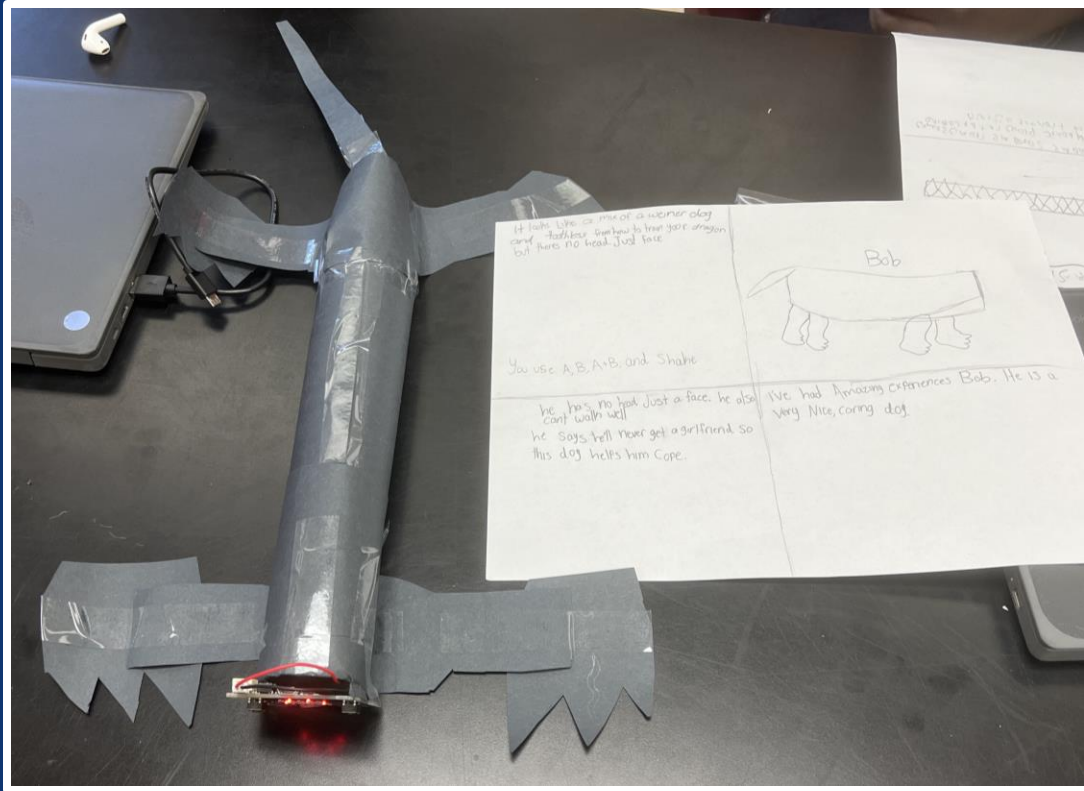
To interact with the pet you have to push the buttons.  
 The robot can push button A, button B or see can push them at the same time.

I think people would want to know that my beetle can walk fly and walk around.

This experience with my micro:bit pet is that i can watch in go in all of its stages of life

That the robot would want to make it happy so that they need to go to sleep.

STUDENT MICRO:BIT PET DESIGNS



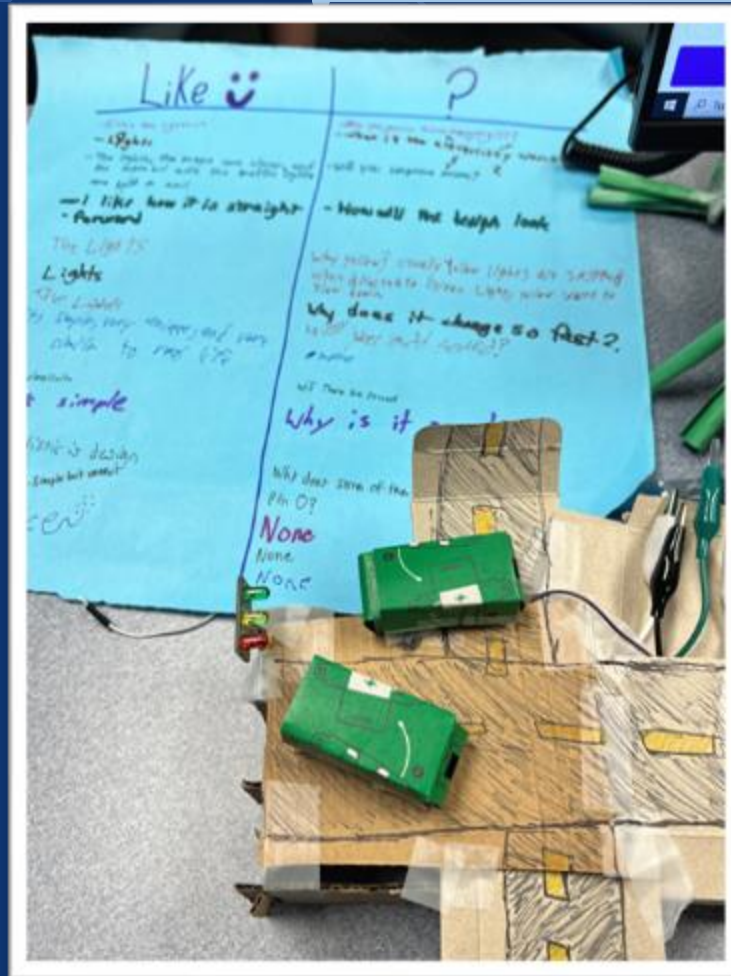
STUDENT MICRO:BIT PET DESIGNS

# ORANGE COUNTY

Camp 3: June 20th - 23rd





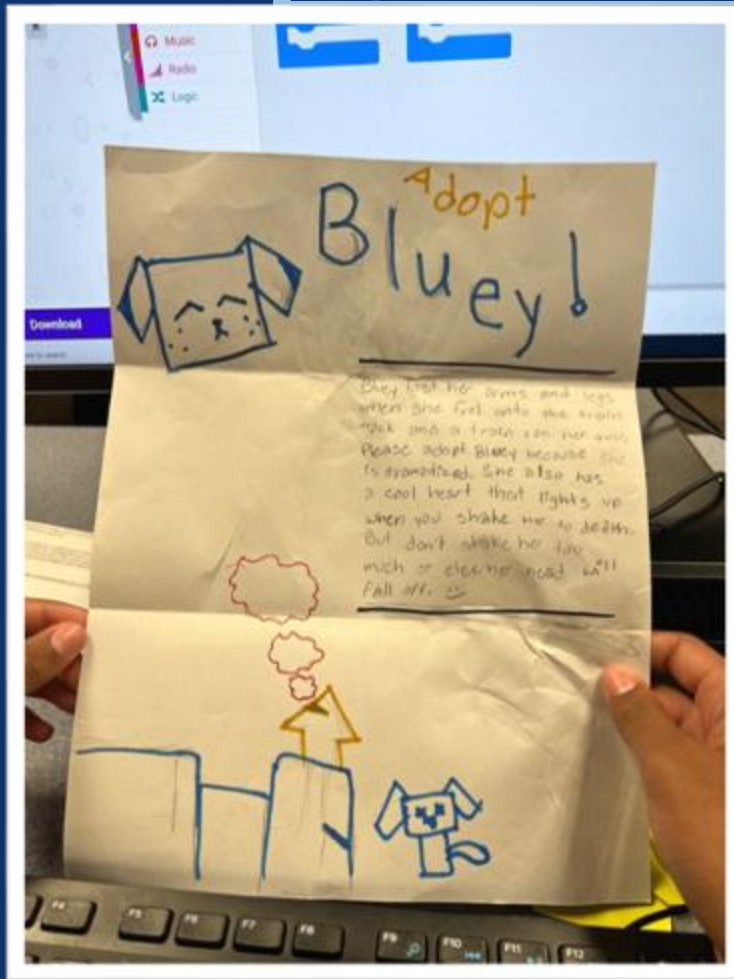


LIKE AND QUESTION FEEDBACK POSTER FOR MECHANICAL DESIGN PRODUCT



END OF CAMP PHOTO FEATURING STUDENTS AND UNDERGRADUATE ASSOCIATES





STUDENT SHOWING OFF THEIR ADOPTION FLYER FOR THEIR PET BLUEY

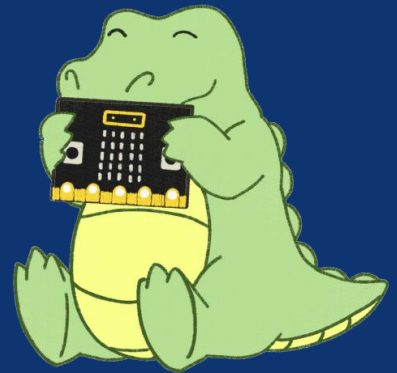


STUDENTS POSING FOR A PICTURE AFTER PRESENTING THEIR DESIGN CHALLENGES

# ALACHUA COUNTY

IN PARTNERSHIP WITH TAKE STOCK IN CHILDREN

July 11th – 15th  
Python Coding



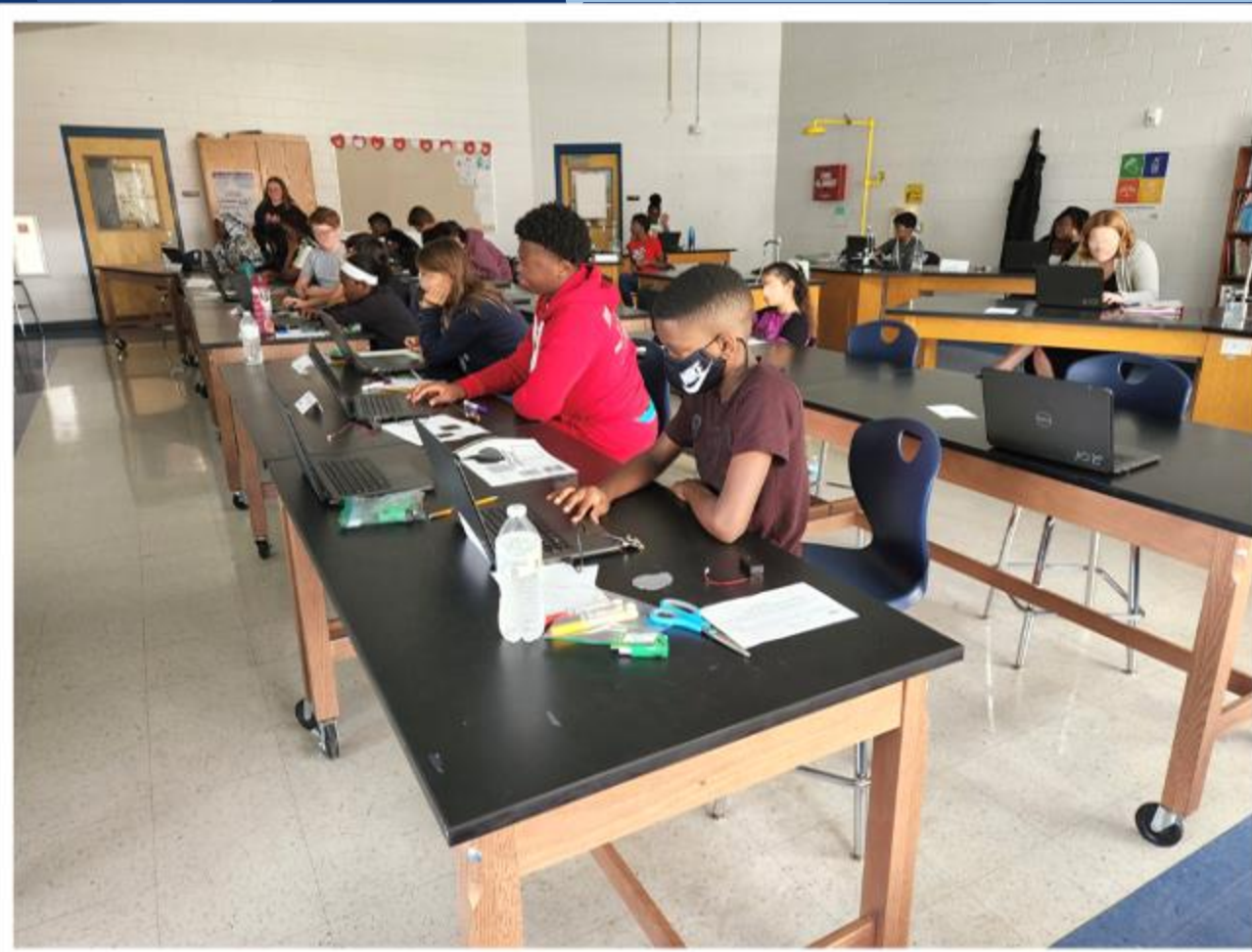


STUDENTS LISTENING TO AN UNDERGRADUATE ASSOCIATE TALKING ABOUT CODING





STUDENTS QUIETLY WORKING AND ASKING QUESTIONS

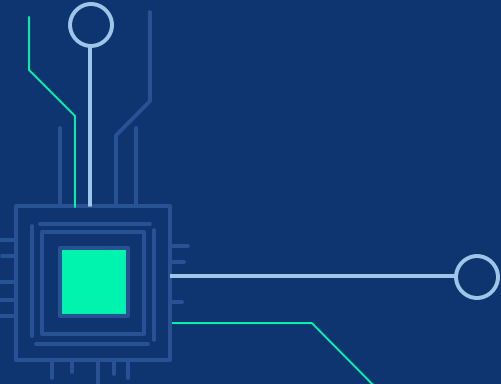
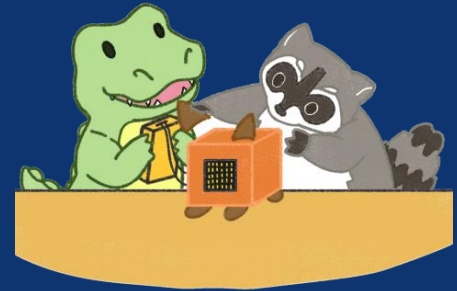


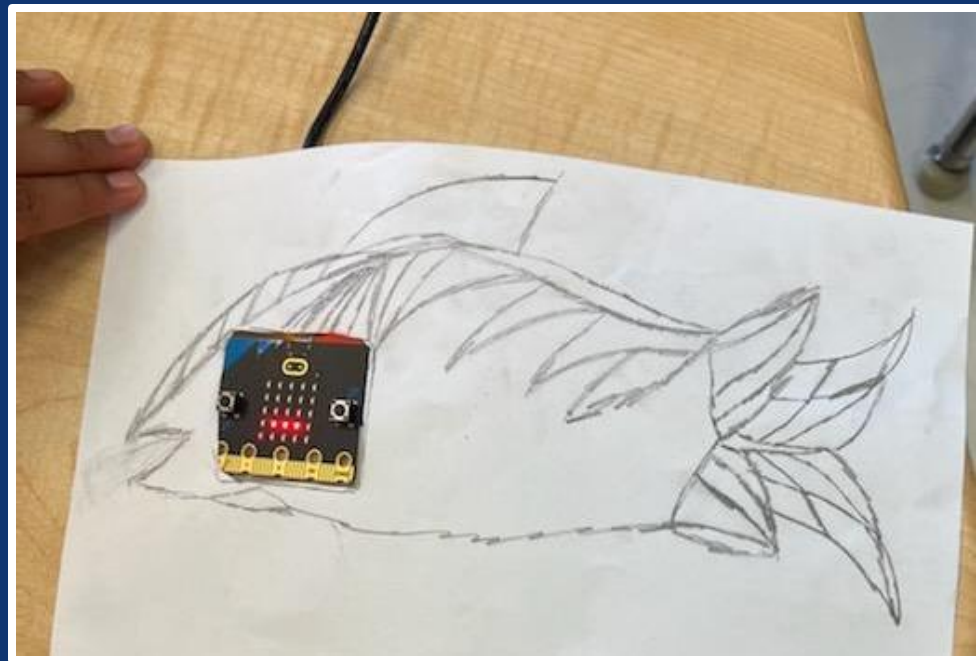
STUDENTS WORKING TOGETHER ON THEIR TECHNICAL DESIGN CHALLENGES

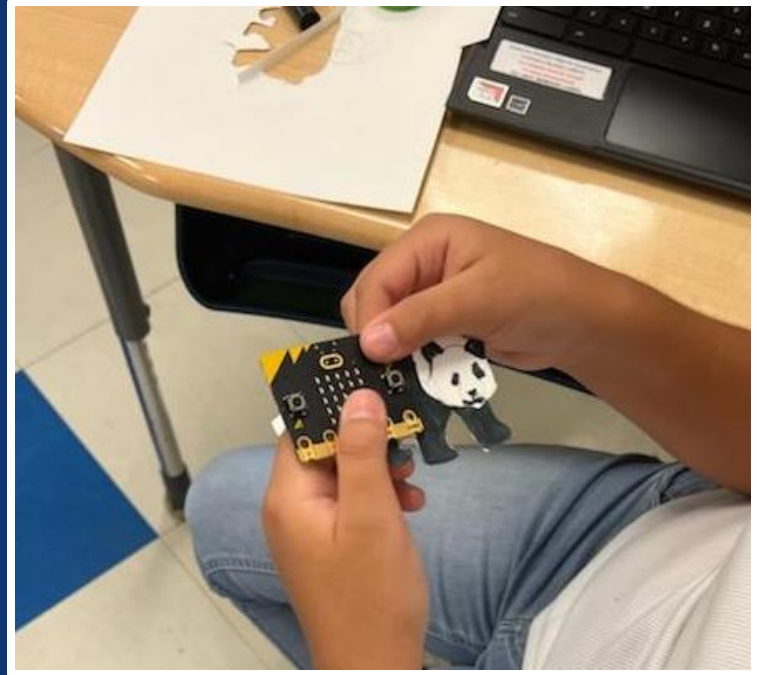


# COLLIER COUNTY

July 11th - 15th

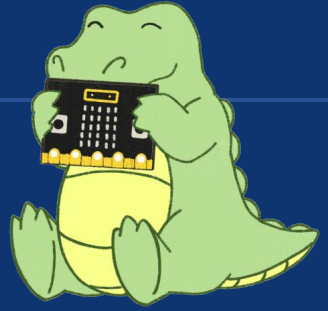








STUDENTS ENJOYING THEIR END OF CAMP PIZZA PARTY



# THANK YOU

