Future Ready Project - CODING w OZOBOTS

Teacher Name:		Duration (in minutes): 3 40 minute lessons
Grade Level(s): 2	Subject/Course: Library/ELA	Unit: Animal Research and Writing
Resources needed: (On-site people, facilities, tools, technology, materials, community connections)	Ozobots, plain paper, markers and materials downloaded from the Ozobot website.	
Learning Standards: (content + CS & DF)	2-3.CT.2 Students identify data tools used in everyday life 2-3.CT.4 Identify multiple ways that the same problem could be decomposed into smaller steps 2-3.CT.9 Identify and debug errors within an algorithm or program that includes sequencing or repetition. 2-3.CT.10 Develop and document a plan that outlines specific steps taken to complete a project. 2-3.DL.4 Use a variety of digital tools and resources to create digital artifacts.	
Big Idea:	Code your Ozobot animal through the animal's habitat	
Authentic Purpose: (Why does this matter to your students?)	The students complete animal research and are making an illustration of their habitat that the Ozobot can interact with - slow down for food; stop to sleep; move fast for a predator.	
Future-Ready Competencies: _x__Collaboration __x_Communication __x_Critical Thinking & Problem Solving __x_Creativity & Innovation ___Other:	Objectives: Students will be able to research an animal and its habitat, code an Ozobot to navigate through the habitat, identify predators, food sources, sleeping areas, and other characteristics of the animal.	
Project Statement: (Include: issue, problem or challenge; student role, purpose, beneficiary, and desired outcomes)	After students complete animal research, they will design a map showing key features of an animal's habitat and code the Ozobot through the habitat.	
Empathy Anchor: (How will students develop empathy and care about this problem)	Students will want to care about this because they are excited to use the robots and to show what they have learned during their research.	
Public Audience & Reveal: (Experts, audiences, or product users students will engage with during and at the end of project)	Future Ready Presentation	
Knowledge Construction: (How are students going to construct content knowledge and practice it) OPENING: • Show students different pictures of the habitats they researched to activate knowledge about the habitats and elements of the habitat. • Brainstorm list of characteristics of the animal habitats. INTRODUCTION TO NEW MATERIAL: • Students practice using the Ozobots and learn the basics of operating the Ozobot including how to calibrate, how to turn it on and off, how to make it move and a		Student Assessment: The habitat map and the Ozobot coded path

few basic color codes to change the speed of the Ozobot.

GUIDED PRACTICE:

- In pairs, students will practice using the Ozobot and the different color codes.
- Guide students using the appropriate codes
- Monitor student performance by circulating throughout the groups, providing guidance, and assessing their understanding.

INDEPENDENT PRACTICE:

- Students create their habitat map with features of the habitat
- Students will add the correct codes to their habitat map and explain why they picked that code

Design Process:	Describe what (& how) students are going to do in each step:
1. Discover 2. Research & Empathize 3. Brainstorm 4. Choose 5. Build 6. Test 7. Communicate 8. Redesign	• Prior to the Ozobot activity students will research an animal and important parts of the animals habitat • The students will complete a map of the habitat and include important parts of the habitat including food source, sleeping area, predators/prey, etc. • Students will learn the basic functions of the Ozobot including how to turn it on and off, how to calibrate, and how to make it move quickly or slowly using the Ozobot color codes. • Students will add the appropriate color codes to the habitat map and be able to explain why they chose that particular code (for example speed up to run from a predator)