Exploring Robotics with mTiny Scope and Sequence

UNIT A: INTRODUCTION

Lesson	Materials	Learning Objectives Students will be able to:	Description (5 E Aligned with What the Teacher Does)

A1 Hello mTiny!
 	
Driving Questions: What is a Robot? Who makes robots? What is an Engineer?
 	
Time: 60 min+
	Pretest
	Lesson Plan
	Student Handout
	Robot Roadmap
	YouTube videos:
	  - Unboxing video
	  - "What is an Engineer?"
	Teacher Guide
		Identify 2-3 features of the mTiny robot
		Name 2-3 properties of engineers Define/illustrate:
		● Robot
		● Engineer
		● Technology
		● Solve
		● Create
			This lesson measures students' prior knowledge of **robots** and **engineers**. The unboxing portion is used to *engage* students and encourage their curiosity. Students then *explore* mTiny and the kinds of people that create **technology** like it. Go on a journey with your students as you complete a roadmap of knowledge and skills!

A2 Team s and Sharing
 	
Driving Questions: How do we take turns and share? How do we act like engineers?
 	
Time: 60 min+
	Lesson Plan
	Teacher Guide
	YouTube videos:
	  - Sharing Cookies
	  - What's an Engineer?
		Demonstrate daily classroom norms and procedures
		Demonstrate sharing
		Identify 2-3 responsibilities for 3 different kinds of engineers
		Define/illustrate:
		● Share
		● Fair
		● Disappointed
		● Team
		● Teamwork
		● Badge
		● Engineer
			This lesson combines SEL and STEM topics. The lesson begins with a discussion on the importance of **sharing**. Then, students *explore* the many **emotions** mTiny can express with the purple expressions cards. Students *discuss* different types of engineers and are tasked with assigning specific roles in their teams.

[A3 mTiny Robot Overview](#)
 	
Driving Questions: How do we control mTiny? How can we be safe and take care of the robot?
 	
Time: 60 min+
	[Lesson Plan](#)
	[Student Handout](#)
	[mTiny image](#)
	YouTube videos:
	    - [mTiny Coding Kit](#)
	    - [Unboxing Video](#)
		Demonstrate how to play safely with the mTiny robot and its
		components
		Demonstrate 2-3 basic mTiny functions
		Create and use symbols to represent information
		Count and understand the relationship between counting and robot actions
			Students get first-hand experience *interacting* with mTiny in this lesson. Time is provided for students to *explore* all of mTiny's components, as well as scenarios that require **coding**. This lesson works as an introduction to **programming**. Students wrap up the lesson by *discussing* techniques for the proper care of mTiny.

End of Document Sample

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