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.