



Texas Alliance for Minorities in Engineering 2023-24 Curriculum Quick Guide

LESSON & GOAL NUMBER	PACING TIP	GROUP SIZE	IN THIS HANDS-ON ACTIVITY, YOU ARE A	TACKLE BOX & TOOLKIT MATERIALS TAME PROVIDED	OTHER MATERIALS (ON-HAND) NOT TAME PROVIDED	HELPFUL SOFTWARE INFO!
TAME'S APPROACH TO ENGINEERING EDUCATION tame.org/engineering	1	1	TAME Engineer! You are an engineer because you make observations and use your awareness, passion, and unique qualities to improve your community.	TAME Notebook, TAME Sticker Sheet	N/A	You can find TAME's Approach to Engineering in pages 7 – 11 of the Digital Learning Guide
LO: INTRO TO THE UN SUSTAINABLE DEVELOPMENT GOALS <u>tame.org/lesson0</u>	1 –2	2	TAME Engineer! Lesson 0 will teach you how to navigate the United Nations Sustainable Development Goals website to learn the significance of each goal number, its targets, and its indicators.	N/A	Computer with access to the sdgs.un.org website, upcycled stuff	N/A
LM: WHY FRACTIONS? tame.org/whyfractions	1	1 to 2	lifelong math learner! You will fill out the chart and explore equivalent fractions using hands- on fraction pieces.	Chart of Equivalent Fractions Printout, Fraction Circles	Pencils, colored pencils, markers	N/A
L1, GOAL 1: NO POVERTY <u>tame.org/lesson1</u>	1-2	3	structural engineer who designs buildings for hurricane-prone areas.	Index Cards, Straws, Craft Sticks, Twist-Ties, Tape, String, Spray Bottle, Tennis Ball	pencil, scissors, ruler, large fan	N/A
L2, GOAL 2: ZERO HUNGER tame.org/lesson2	2	3	precision agricultural engineer . You will design, build, and test a model of a Variable Rate Irrigation System	Styrofoam Cups, Plastic Cups, Assorted Straw Sizes, Paper Clips, Rubber Bands	Scissors, a water source such as a faucet or drinking fountain	N/A
L3, GOAL 3: GOOD HEALTH & WELL BEING <u>tame.org/lesson3</u>	2+	2	software engineer . You will create an app focused on mental health using MIT's App Inventor.	N/A	Computer with access to MIT's App Inventor, pencils, colored pencils, or markers	Intro to App Inventor

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	L4, GOAL 4: QUALITY EDUCATION PART 1 tame.org/lesson4	2+	2	network engineer . You will explore the world of computer networks and how they make communication – and educational and economic opportunities – possible.	Ethernet Cables, RJ-45 Cable Connectors, Wire Crimper	Computers or Laptops (at least 2), Ethernet switch or hub, Scissors	N/A
	L4, GOAL 4: QUALITY EDUCATION PART 2 tame.org/lesson4part2	2+	Club Game	network engineer. You will explore the world of computer networks and how they make communication – and educational and economic opportunities – possible.	Index Cards	Computer with access to <u>Get Site IP</u>	N/A
	L5, GOAL 5: GENDER EQUALITY	1-2	2	machine learning engineer. You will create a simple AI model that detects and categorizes different images of humans.	Computer with access to <u>Teachable Machine</u>	N/A	N/A
	L6, GOAL 6: CLEAN WATER & SANITATION <u>tame.org/lesson6</u>	1-2	3	water resources engineer. You will design ways to either clean a water source or find a new water source for a family in need.	Water Scenario Cards	Scissors, pencils, colored pencils, markers	N/A
	L7, GOAL 7: AFFORDABLE & CLEAN ENERGY <u>tame.org/lesson7</u>	2	1 or 2	renewable energy engineer. You will investigate and plan for an innovative solar energy solution.	N/A	Computer with Internet Access	Educators Guides for Tinkercad Circuits and Tinkercad Classrooms tame.org/tinkercad_classr ooms tame.org/tinkercad_circuit <u>S</u>
	L8, GOAL 8: DECENT WORK & ECONOMIC GROWTH <u>tame.org/lesson8</u>	2	3	civil engineer . You will design, construct and models of heat resistant buildings.	Tape, Glue, Craft Sticks, White Paint Markers	Upcycled building materials such as cardboard scraps, tissue paper rolls, empty and cleaned milk cartons, soda bottles, and water bottles	N/A