

## A.1

# It's Your Future

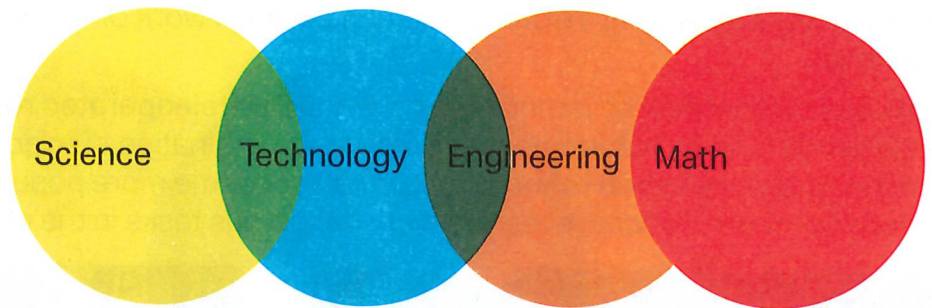
### Unit Overview:

The world needs the students of today to become the scientists, engineers, and problem solving leaders of tomorrow. Science constantly presents us with new breakthroughs and challenges, creating greater opportunities for problem solving through technology.

The solutions to such problems could help change the world, and technology-based problem solvers will be the people to make it all possible. The VEX IQ platform and curriculum provide a fun and engaging vehicle to begin the journey toward becoming the type of problem solver our world needs the most. No matter what you see in your future, the VEX IQ platform and curriculum can help you build the kinds of skills expected of a 21st century innovator.

### Unit Content:

- What is STEM?
- What is Engineering?
- What is Robotics?



### Unit Activities:

-  Matching Exercise
-  Idea Book Exercise



Note: Separate copies and/or printouts of activities may be used for student work. Please see your teacher BEFORE writing in this guide. Visit [www.vexiq.com/curriculum](http://www.vexiq.com/curriculum) to download and print PDFs of all exercises!

## A.2

# What is STEM?

STEM combines science, technology, engineering, and mathematics education to form an engaging field of study. The VEX IQ platform is a great way for students to explore STEM hands-on while learning.

## A.3

# What Is Engineering?



Engineering is all about using practical & scientific knowledge to create solutions for identified problems. Engineers use math and science to create most of the products, buildings and structures we see every day. Engineers often use an engineering notebook to help them think about and solve problems. You will have the chance to use "Idea Book" pages alongside activities that help you to think like an engineer!

### There are Five Basic Types of Engineering:

**Chemical engineering** – Using physical and biological sciences to convert raw materials or chemicals into more useful forms for the purpose of solving a problem.

**Civil engineering** - Using design, construction, and maintenance of physically and naturally built environments to solve a problem. Environmental and structural engineers are two examples.

**Electrical engineering** – Using electricity, electronics, and electromagnetism to solve a problem.