

My First Science Songs: STEM

Grade Level: 3 - 5

Content Areas: Art, Science, Language Arts, and Music

Time Frame: 60 minutes

MATERIALS

My First Science Songs: STEM Books

Computers with Web browser and Internet connection.

Headphones

OBJECTIVES

Students will:

- Use visual code blocks to create a program
- Sequencing of steps
- Use loops for repetition
- Display information effectively using programming
- Code an interactive ocean ecological pyramid.

VOCABULARY:

Key vocabulary

Before reading, focus on vocabulary. Read the glossary words and their definitions.

STEM - Stands for science, technology, engineering, and mathematics

Coding - A set of symbols that can be interpreted by a computer or piece of software

Technology - The use of science in solving problems

FREE SONG

Click [here](#) to download or stream the My First Science Songs: STEM songs.

Find other Cantata Learning songs and books at <http://www.cantatalearning.com>.

PROCEDURES/ACTIVITIES

Preparation:

Introduce yourself to Tynker and view the [Ecological Pyramid STEM Project](#).

To introduce the lesson, start by reading [My First Science Songs: STEM](#) books.

Now it is time to explain to students how they are going to learn to code using Tynker. Start by going to [Introduction to Tynker](#). Ask for student volunteers to read each speech bubble aloud.

Lesson Procedure:

1. Next is Learn to Code with Gus. Read the instructions at the top of the page.
2. Have students share what Gus needs to do to get to the tablet.
3. Make sure to explain that there are two parts of the screen when they're solving puzzles or creating projects.
4. Allow students to experiment independently or with a partner to solve this puzzle.
5. Making sure to walk around and answer any question that the students have.
6. Now that students have a good introduction to coding it is time to start their STEM Do-It-Yourself Project.
7. First is the introduction to the project. The introduction has an overview of all the blocks that students will need to make their STEM projects. Ask for student volunteers to read each speech bubble aloud.
8. Have students complete the project individually while you go through the steps together as a class. Read each step aloud, then allow the students to do it themselves before moving on.
9. If students already have programming experience, they may feel confident working independently.
10. Again make sure to walk around the class and answer any questions students have



Technology Extension:

Encourage students to continue working on their programs outside of class. Tell students that they can create an account on Tynker for free and use it to explore Tynker's educational resources and create other projects on their own.

You can also point them to the [Coding Coding Coding Symbaloo](#) to find other apps and websites to learn and create using coding.

Music and Art Extension:

Divided students into pairs of two and have students create a [String Phone](#).

Once they have created their string phone try this fun [Sound Through String and Wire Center](#) to experiment with music and sound and find out what makes the string phone work.

You could also use [Chrome Music Lab](#) in order to let students experiment with music.

Language Extension:

Have students research important STEM careers such as engineers, astronauts, artists, scientists, mathematicians, etc... They could use PebbleGO to research, the scientists are under the Biography PebbleGo. There are also other Cantata Learning books which can be used such as Albert Is Just Fine, Mrs. Einstein! and Marie Curie and Her Discovery.

After students do their research have them turn it into a reader's theatre performance, poem about the person, or project using something like eduBuncee where each child has their own page in an eBook including information about their person. They could even interview people they know or Skype them in to bring to the library or classroom.

Standards:

CCSS ELA: RI.3.3, W.3.6, RI.4.5, RI.4.3, RI.5.10

CCSS Math: MP.3.2, MP.3.8, MD.4.5, NF.4.7

CSTA: L1:6. CT.1, L1: 6.CPP.5, L1: 6.CPP.6

