# Spacegate Station
Episode 5 Resources
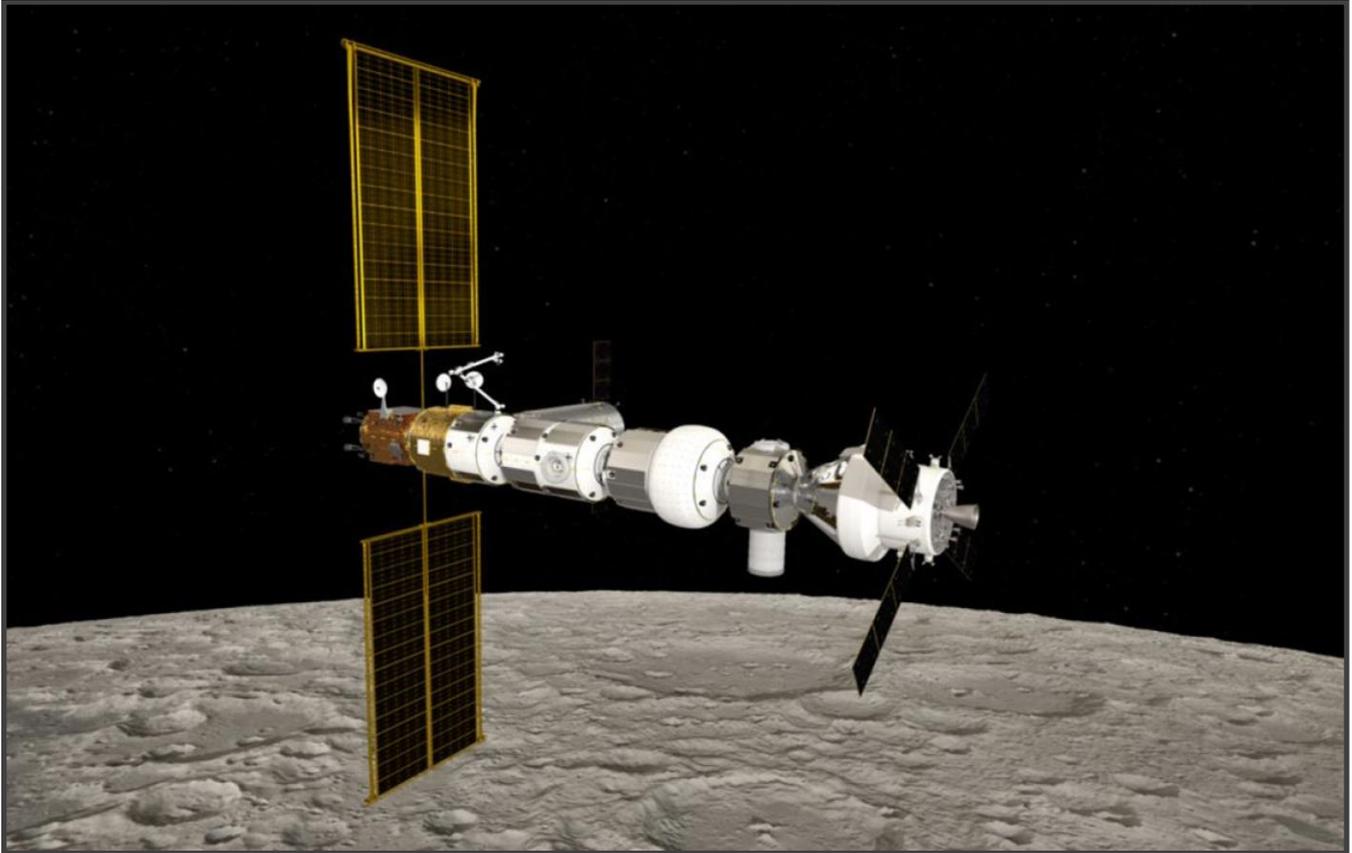
Resource Contents

- Review of Coding Work Sheet
- Coding Pieces
- Race to the Moon Worksheet
- Write the Code Worksheet
- Next Generation Sunshine State Standards (Florida)

This program was designed specifically to be used as part of science subject instruction, science remediation and science enrichment. The determination of the appropriate science standards that correlate to this program was established by a board of Science Specialists and teachers in Duval County Public Schools, Jacksonville, FL.

Spacegate Station Episode 5 - The Power of Programing

Introduction

Word Bank

Actions   Computer program   Larger problems   Programing

- _____is how we communicate with computers to get them to do things for us.

- When we create a _____what we do is write a group of instructions for a computer to process.

- These instructions are used by the computer to perform certain _____, like in robots, or solve a problem, or, to make _____ shorter and easier to solve.

Computer Instructions

Word Bank

Algorithm   Decision   Repetition   Sequence

- What you have done was describe the process in a _____of ordered steps which also included:

- A _____ is like what type of bread and cheese you wanted.

- A _____ is like adding the mustard to the bread.

- The process of making the sandwich using a step-by-step procedure or ordered sequence is an example of an _____.

Computer Program

Word Bank

Coding   Instructions   Program

- This language is called _____and is the process of translating instructions for the computer into language it can understand.

- A _____ may contain many algorithms to help the computer do what we want it to do.

- By writing the directions in arrows for the robot's computer to understand what it is supposed to do, we are coding the necessary _____.

Coding Pieces
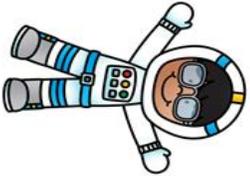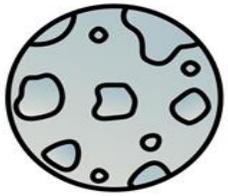
START	FINISH	OBSTACLE	OBSTACLE

Race to the Moon

Directions: Code a path for the astronaut to get to the moon.

WRITE THE CODE

Directions: Write the code that shows the steps needed to get the astronaut to the moon. Then move the rocket ships to come up with a different coding path.

↑ ⬇ ➡ ⬅

UP DOWN RIGHT LEFT

1.

2.

WRITE THE CODE

3.

4.

5.

6.
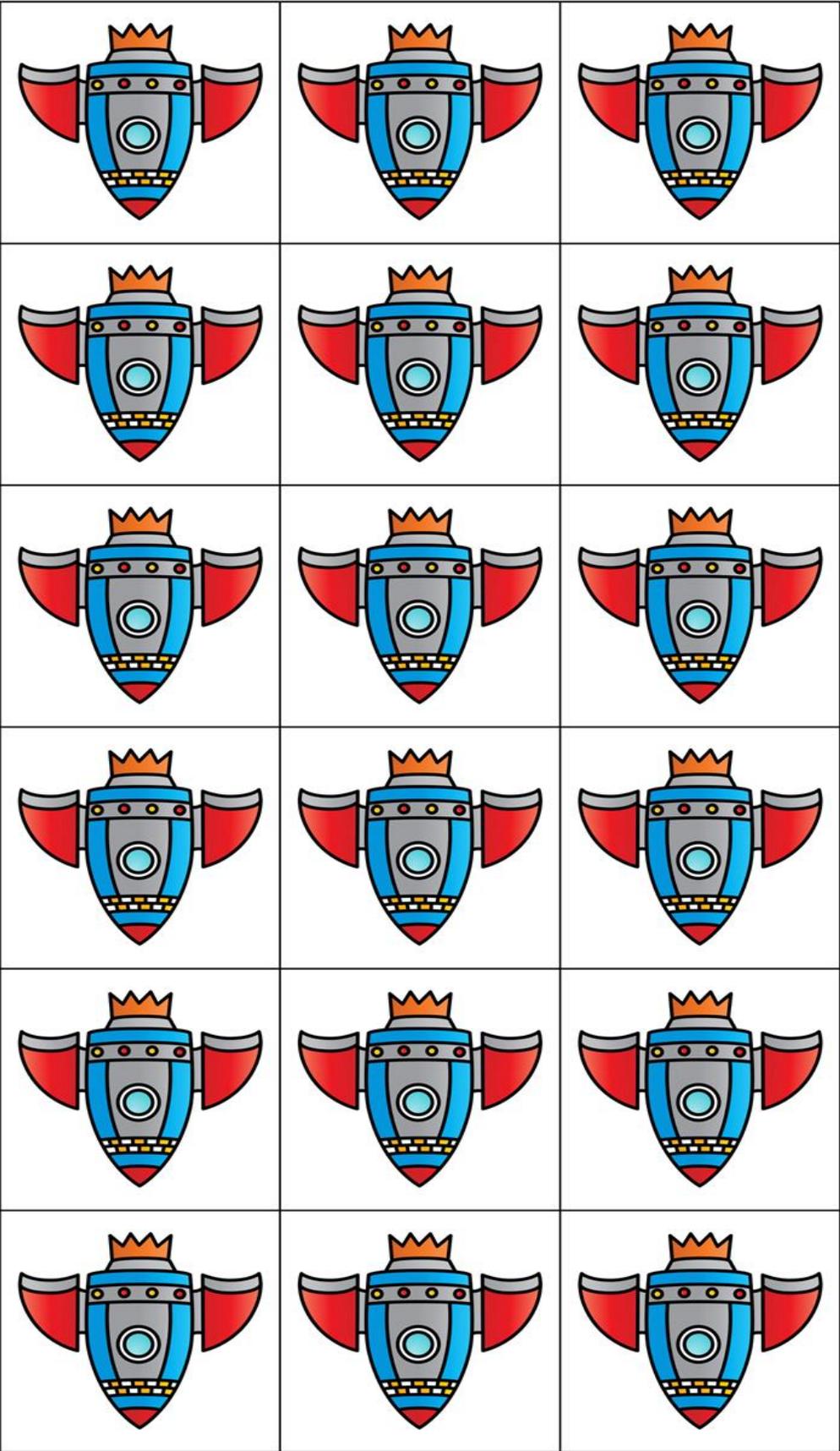
Episode 5 – The Power of Programing

Next Generation Sunshine State Standards (Florida)

SC.4.N.1.2 Compare the observations made by different groups using multiple tools and seek reasons to explain the differences across groups.

SC.5.N.1.1 Define a problem, use appropriate reference materials to support scientific understanding, plan and carry out scientific investigations of various types such as: systematic observations, experiments requiring the identification of variables, collecting and organizing data, interpreting data in charts, tables, and graphics, analyze information, make predictions, and defend conclusions.

SC.6.N.1.1 Define a problem from the sixth grade curriculum, use appropriate reference materials to support scientific understanding, plan and carry out scientific investigation of various types, such as systematic observations or experiments, identify variables, collect and organize data, interpret data in charts, tables, and graphics, analyze information, make predictions, and defend conclusions.

SC.6.N.1.4 Discuss, compare, and negotiate methods used, results obtained, and explanations among groups of students conducting the same investigation.

SC.6.N.1.5 Recognize that science involves creativity, not just in designing experiments, but also in creating explanations that fit evidence.

SC.6.N.3.4 Identify the role of models in the context of the sixth grade science benchmarks.

SC.7.N.1.1 Define a problem from the seventh grade curriculum, use appropriate reference materials to support scientific understanding, plan and carry out scientific investigation of various types, such as systematic observations or experiments, identify variables, collect and organize data, interpret data in charts, tables, and graphics, analyze information, make predictions, and defend conclusions

SC.7.N.3.2 Identify the benefits and limitations of the use of scientific models.

SC.8.N.1.1 Define a problem from the eighth grade curriculum using appropriate reference materials to support scientific understanding, plan and carry out scientific investigations of various types, such as systematic observations or experiments, identify variables, collect and organize data, interpret data in charts, tables, and graphics, analyze information, make predictions, and defend conclusions.

SC.8.N.3.1 Select models useful in relating the results of their own investigations.