

The Spaces You'll Go

Career Exploration Activities



Introduction

These activities have been developed to accompany the book **The Spaces You'll Go** by Rachael Mann. These activities explore each of the STEM careers listed in the glossary. Each lesson has a video to introduce the career and then lesson activities to accompany each career.

Make sure you review the suggested videos before you use them with your students. You may want to view all or in some cases only a portion of the video for each lesson.

Please feel free to contact me with other ideas and suggestions to make this resource even better.



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EXTENSION:

- [5 Available Space Jobs No One Tells You About](#)
- [Careers in Earth and Space Sciences](#)
- [The Spaces You'll Go Activity Sheets and other Resources](#)

Choose a job you love, and you will never have to work a day in your life." —Confucius

A - Architect

OBJECTIVE:

Students shall become aware of a future as an architect.

MATERIALS:

Graph paper
Legos

INTRODUCTION:

I dream about amazing buildings, like houses and skyscrapers, and make blueprints to build them.

An **architect** is a person who plans, designs and reviews the construction of buildings.

PROCEDURE:

1. Create a [KWL Chart](#) and work through what students “know about an architect,” “what students want to learn about an architect” and then upon conclusion of the lesson, follow up with “what students learned about an architect.”
2. Show the YouTube Video, [I Want To Be An Architect! - Kids Dream Jobs - Can You Imagine That?](#)
3. Complete any of the activities from the websites below.
4. Another activity is to have students design a home or business with graph paper and then have them use legos to build their designs.

RESOURCES:

- [iExplore](#) - Good resource with multiple activities to introduce Architecture.
- [Architecture: It's Elementary](#)

A - Aerospace Engineer

OBJECTIVE:

Students shall become aware of a future as an aerospace engineer.

INTRODUCTION:

Flying is awesome, so I imagine and build new kinds of airplanes and spaceships.

An **aerospace engineer** designs and builds new kinds of airplanes and spacecraft.

PROCEDURE:

1. Create a [KWL Chart](#) and work through what students “know about an aerospace engineer,” “what students want to learn about an aerospace engineer” and then upon conclusion of the lesson, follow up with “what students learned about an aerospace engineer.”
2. Show the YouTube Video, [What’s an Engineer?](#). This video is about engineers in general. You will need to explain that aerospace engineers design airplanes and spaceships.
3. Complete any of the activities from the suggested links below.

RESOURCES:

- [Aerospace Activities and Lessons](#)
- [Aerospace Technology & Flight Engineering](#)

C - Cartographer

OBJECTIVE:

Students shall become aware of a future as a cartographer.

INTRODUCTION:

I draw maps to help people find their way in new places.

A **cartographer** is a person who creates maps, whether they're of the world, the local bus routes, or buried pirate treasure.

PROCEDURE:

1. Create a [KWL Chart](#) and work through what students “know about a cartographer,” “what students want to learn about a cartographer” and then upon conclusion of the lesson, follow up with “what students learned about a cartographer.”
2. Show part or all of the YouTube Video, [A Brief History of Cartography and Maps](#)
3. Complete any of the activities from the Mapmaking & Cartography Worksheets & Activities website.

RESOURCES:

- [Mapmaking & Cartography Worksheets & Activities](#) - Numerous activities that help students learn about maps. The study of maps thus encompasses and integrates the humanities, social sciences, and natural sciences.

C - Civil Engineer

OBJECTIVE:

Students shall become aware of a future as a civil engineer.

INTRODUCTION:

I love to build! I design and build roads, bridges, airports, and more.

An **engineer** is a person who designs and builds complex products, machines, or structures. A **civil engineer** deals with the construction of buildings and roads.

PROCEDURE:

1. Create a [KWL Chart](#) and work through what students “know about a civil engineer,” “what students want to learn about a civil engineer” and then upon conclusion of the lesson, follow up with “what students learned about a civil engineer.”
2. Show part or all of the YouTube Video, [What's an Engineer? Crash Course Kids #12.1](#)
3. Complete any of the activities from the Fun A Day website.

RESOURCES:

- [Fun A Day](#) - This site has links to numerous activities to teach engineering from Milk Jug Igloos to catapults.

C - Computer Programmer

OBJECTIVE:

Students shall become aware of a future as a computer programmer.

INTRODUCTION:

I like computers, and I create computer programs to help people do their work better and faster.

A **computer programmer**, sometimes called more recently a coder, is a person who creates computer software.

PROCEDURE:

1. Create a [KWL Chart](#) and work through what students “know about a computer programmer,” “what students want to learn about a computer programmer” and then upon conclusion of the lesson, follow up with “what students learned about a computer programmer.”
2. Show part or all of the YouTube video, [What are Computers for Kids | Intro to Computers | Programming for Kids](#).
3. Complete any of the numerous activities from the resources below.

RESOURCES:

- [Coding for Kids](#)
- [Coding a Lego Maze](#)
- [Best Coding for Elementary](#)

D - Doctor

OBJECTIVE:

Students shall become aware of a future as a doctor.

INTRODUCTION:

I love to help people who are sick or hurt feel better.

A **doctor** is a person trained to to keep people healthy and to heal the sick.

PROCEDURE:

1. Create a [KWL Chart](#) and work through what students “know about a doctor,” “what students want to learn about a doctor” and then upon conclusion of the lesson, follow up with “what students learned about a doctor.”
2. Show the YouTube Video, [I Want to Be a Doctor - Kids Dream Jobs - Can You Imagine That?](#)
3. Complete any of the activities from the resources below.

RESOURCES:

- [Doctor Activities & Fun Ideas for Kids](#)
- [Doctor Preschool Activities, Lesson and Games](#)
- [What Does a Doctor Do - Lesson for Kids](#)

E - Environmentalist

OBJECTIVE:

Students shall become aware of a future as an environmentalist.

INTRODUCTION:

I protect nature by helping people be smart and careful about how students live.

An **environmentalist** is someone who works to protect the environment from destruction or pollution.

PROCEDURE:

1. Create a [KWL Chart](#) and work through what students “know about an environmentalist,” “what students want to learn about an environmentalist” and then upon conclusion of the lesson, follow up with “what students learned about an environmentalist.”
2. Show the YouTube Video, [What is Environment and How to Keep it Clean?](#)
3. Complete any of the activities from the resources below.

RESOURCES:

- [5 Environmental Activities for Kids](#)
- [Kindergarten Environmental Lesson Plans](#)
- [Environment](#)

E - Explorer

OBJECTIVE:

Students shall become aware of a future as an explorer.

INTRODUCTION:

I love new places! I try to find things no one else has seen before.

An **explorer** is a person who travels in search of geographical or scientific information.

PROCEDURE:

1. Create a [KWL Chart](#) and work through what students “know about an explorer,” “what students want to learn about an explorer” and then upon conclusion of the lesson, follow up with “what students learned about an explorer.”
2. Show parts or all of the YouTube Video, [Early Explorers](#).
3. Complete any of the activities from the resources below.

RESOURCES:

- [Beyond Penguins and Polar Bears](#) - Lessons and Activities about Exploration
- [Explorers](#) - Lesson plans, coloring pages, clipart, activities and resources on explorers.

F - Fashion Designer

OBJECTIVE:

Students shall become aware of a future as a fashion designer.

INTRODUCTION:

I help design clothes, shoes, spacesuits, and other things people wear in space.

Fashion designers work in a number of ways in designing clothing and accessories such as bracelets and necklaces.

PROCEDURE:

1. Create a [KWL Chart](#) and work through what students “know about a fashion designer,” “what students want to learn about a fashion designer” and then upon conclusion of the lesson, follow up with “what students learned about a fashion designer.”
2. Show the YouTube Video, [I Want to Be a Fashion Designer! - Kids Dream Jobs - Can You Imagine That?](#)
3. Complete any of the activities from the resource below.

RESOURCE:

- [Free Fashion and Style Worksheets](#)

G - Geologist

OBJECTIVE:

Students shall become aware of a future as a geologist.

INTRODUCTION:

I learn about what planets are made of and where they came from.

A **geologist** is a scientist that studies the surface of the Earth and what it is made of. This branch of science is called **geology**, which **means** the study of rocks. If you like digging in the dirt, then this may be the job for you!

PROCEDURE:

1. Create a [KWL Chart](#) and work through what students “know about a geologist,” “what students want to learn about a geologist” and then upon conclusion of the lesson, follow up with “what students learned about a geologist.”
2. Show the YouTube Video, [What Does a Geologist Do?](#)
3. Complete any of the numerous activities from the resources below.

RESOURCES:

- [Geology.com](#) - Numerous activities to use in teaching about geology.
- [5 Geology Activities for your Classroom](#)
- [The Geology Society - Lesson Plans](#)
- [Science Kids - Fun Science Activities for Kids](#)

I - Inventor

OBJECTIVE:

Students shall become aware of a future as an inventor.

INTRODUCTION:

I think about things no one has ever made, and then I figure out how to make them.

An **inventor** is a person who creates or discovers a new method, form, device or other useful means that becomes known as an **invention**

PROCEDURE:

1. Create a [KWL Chart](#) and work through what students “know about an inventor,” “what students want to learn about an inventor” and then upon conclusion of the lesson, follow up with “what students learned about an inventor.”
2. Show the Youtube video [What are Inventions?](#) Inspiration. Creativity. Ingenuity. There are many things that make something an invention. This video shows what it takes to become an inventor.
3. Complete any of the numerous activities from the resources below.

RESOURCES:

- [Inventors and Inventions Lessons, Printables, and More](#) - Explore inventors and inventions with your students by using lessons and printables to discover a world of unlimited possibilities. There are plenty of hands-on science activities to encourage creativity and engage students of all ages in learning. Additional resources include art activities, puzzles, and timelines.
- [Inventions & Inventions](#) - The student look for inventions in the classroom that begins with their alphabet letter.

M - Meteorologist

OBJECTIVE:

Students shall become aware of a future as a meteorologist.

INTRODUCTION:

I look at the weather to know if it's going to be hot or cold, rainy or sunny.

A **meteorologist** is a type of scientist that studies the atmosphere to predict and understand the earth's weather.

PROCEDURE:

1. Create a [KWL Chart](#) and work through what students “know about a meteorologist,” “what students want to learn about a meteorologist” and then upon conclusion of the lesson, follow up with “what students learned about a meteorologist.”
2. Show the YouTube video, [I Want To Be a Meteorologist - Kids Dream Jobs - Can You Imagine That?](#) - or [Be a Weather Watcher](#).
3. Complete any of the numerous activities from the resources below.

RESOURCES:

- [Meteorology: An Educator's Resource for Inquiry-Based Learning for Grades 5-9](#)
- [15 Fun, Hands-On Weather Activities for the Classroom](#)
- [Meteorology Activities for Kids](#)
- [Weather Resources for teachers](#)

P - Pilot

OBJECTIVE:

Students shall become aware of a future as a pilot.

INTRODUCTION:

I fly airplanes, spaceships, and anything else that soars through the air.

A **pilot** is a person who controls the flight of an aircraft by operating its directional flight controls.

PROCEDURE:

1. Create a [KWL Chart](#) and work through what students “know about a pilot” “what students want to learn about a pilot” and then upon conclusion of the lesson, follow up with “what students learned about a pilot.”
2. Show the YouTube Video [I Want To Be A Pilot - Kids Dream Jobs - Can You Imagine That?](#)
3. You could also show the YouTube video, [What Do Astronauts Do?](#)
4. Complete any of the numerous activities from the resources below.

RESOURCES:

- [Science Kids: Flight Lesson Plans](#)
- [Up, Up and Away! Aviation Activities](#)

R - Robotics Engineer

OBJECTIVE:

Students shall become aware of a future as a robotics engineer.

INTRODUCTION:

I build robots because robots aren't just cool, they also help us in so many ways!

Robotics engineers are scientists who think of ways that people can use robots.

PROCEDURE:

1. Create a [KWL Chart](#) and work through what students “know about a robotics engineer,” “what students want to learn about a robotics engineer” and then upon conclusion of the lesson, follow up with “what students learned about a robotics engineer.”
2. Show the YouTube video, [What are Robots?](#)
3. Complete any of the numerous activities from the resources below.

RESOURCES:

- [NASA: Robotics Lesson Plans](#)
- [Robotics: Activities & Programs That Are Educational & Fun](#)
- [Robotics Projects for Kids](#)

S - Scientist

OBJECTIVE:

Students shall become aware of a future as a scientist.

INTRODUCTION:

I learn about the world around me to know how things work and what they are made of.

A scientist is someone who does research to discover why things happen.

PROCEDURE:

1. Create a [KWL Chart](#) and work through what students “know about a scientist,” “what students want to learn about a scientist” and then upon conclusion of the lesson, follow up with “what students learned about a scientist.”
2. Show the YouTube video, [I'm a Little Scientist \(K-1\)](#).
3. Show the Youtube video, [Kids learning about different types of Scientist!](#) (grades 2-4)
4. Complete any of the numerous activities from the resources below.

RESOURCES:

- [STEM Activities for Kids](#)
- [Fun Science Experiments for Kids](#)

S - Space Farmer

OBJECTIVE:

Students shall become aware of a future as a Space Farmer.

INTRODUCTION:

I grow fruits, vegetables, and plants on the Space Station or even other planets.

Space farming refers to the cultivation of crops for food and other materials in space such as on the Moon or on Mars.

PROCEDURE:

1. Create a [KWL Chart](#) and work through what students “know about a space farmer,” “what students want to learn about a space farmer” and then upon conclusion of the lesson, follow up with “what students learned about a space farmer.”
2. Show part or all and any combination of the YouTube videos on the future of farming.
 - a. [This Farm of the Future Uses No Soil and 96% Less Water](#)
 - b. [Can we Grow Plants on Mars?](#)
 - c. [The High-Tech Vertical Farmer](#)
 - d. [Growing Food on Mars](#)
3. Complete any of the activities from the resources below.

RESOURCES:

- [Celebrate!](#) 100 Days of School, 100 Agricultural Activities.
- [National Agricultural Literacy Curriculum Matrix](#)

S - Space Mechanic

OBJECTIVE:

Students shall become aware of a future as a space mechanic.

INTRODUCTION:

I fix spaceships and other machines when they break down.

Spacecraft **Mechanics** repair and perform scheduled maintenance on airplanes and spacecraft.

PROCEDURE:

1. Create a [KWL Chart](#) and work through what students “know about a space mechanic,” “what students want to learn about a space mechanic” and then upon conclusion of the lesson, follow up with “what students learned about a space mechanic.”
2. Show any of the YouTube videos, [Space Mechanic Simulator Trailer](#) or [Careers at Delta: Aviation Maintenance Technician](#) or [Careers at Delta: Aviation Maintenance Technician - Middle School Outreach](#),
3. Complete any of the lesson plans or activities in the resources below.

RESOURCES:

- [Mechanic Activities for Kids](#)
- [Mechanic Lesson Plans](#)