

Exploring the Research Path

The field of scientific research is filled with people with varied backgrounds and skill sets. Expand student perspectives on science careers.

Objective

Students will conduct a short research project on a science career of their choice and consolidate their findings in writing.

Time

60 minutes

Materials

- ▶ Timer
- ▶ Try on a Science Career activity sheet
- ▶ Vocabulary list at [scholastic.com/pathways/vocablist](https://www.scholastic.com/pathways/vocablist)
- ▶ What's the Connection? video at [scholastic.com/pathways](https://www.scholastic.com/pathways)

1 Set a timer for two minutes. Ask students to quickly sketch a picture of a scientist. Ask volunteers to share and describe their drawings. Facilitate a class discussion to help debunk common stereotypes such as the “mad scientist” (older, perhaps male), that scientists are geniuses, or that they “have a gift.” Other misnomers: Scientists always make “lucky” discoveries during eureka moments, or they always work long hours alone in a lab.

2 Show the What's the Connection? video and lead a discussion about the different skill sets and careers in basic science research. Be sure to include the fact that in addition to scientists, scientific research requires people who can illustrate, organize, manage, write, and communicate effectively. These creative, logistical, and interpersonal skills are essential to successful research projects.

3 Distribute the Try on a Science Career activity sheet and invite students to “try on” the roles of molecular animator, lab coordinator, and microbiologist. After they complete the sheet, have them reflect on the experience with a partner: What skills did they use for each job? Did any of the skills or jobs interest them? Why or why not? What kind of skills or jobs might they be interested in?

4 To wrap up the lesson, have students conduct a short research project to find out more about a science career of their choice (See the Career Bank for ideas). During their research, students

should uncover core job duties, desired skill sets, and education requirements. Students should consolidate their research into the format of a job posting.

5 Hang completed job postings in the classroom and ask students to explore the postings their classmates have created. Ask students to jot notes as they visit the postings and be prepared to identify the careers they think they would be good at or would enjoy, as well as the careers they want to learn more about.

Career Bank

Forensic scientist, market research analyst, meteorologist, bacteriologist, technology specialist, science writer, microbiologist, simulations designer, geneticist, science educator, chemist, chronobiologist, science liaison, research scientist, epidemiologist, scientific illustrator, cytologist, lab coordinator, science animator, data analyst/scientist

Activity Sheet Answer Key

Lab Coordinator Autoclave pressure chamber: AM: A, A, A, A, A PM: B, B, D, B, C; **Incubator:** AM: C, C, C, C, D PM: C, C, C, C, B; **Centrifuge:** AM: B, B, B, B, B PM: A, A, D, D, D

Microbiologist Irregular/coarse cell shape, multiple nuclei, nucleoli, smaller area of cytoplasm

Supporting All Learners

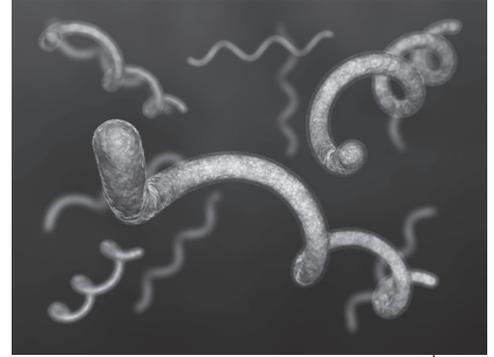
During science career research, have older students find college or post-secondary programs related to their chosen career. Encourage them to interview guidance counselors for more information on educational pathways to science careers.



Name _____

Try on a Science Career

Follow the instructions to explore the roles of three careers in science research.



Above: Spirillum bacterium

1. Molecular Animator (creates animated visualizations of the inner workings of cells) Using the description below, draw three images in sequence to create a storyboard that shows how you imagine spirillum bacterium looks and moves.

The spirillum has a long, spiral body. It has tufts of flagellum (thread-like tails) at each end that it often uses to swim in a corkscrew-like fashion.

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2. Lab Coordinator (responsible for coordinating activities in a science lab)

Create a schedule to manage the equipment requirements for this week's experiments.

Experiment A needs: centrifuge twice a week in the afternoon; autoclave every morning

Experiment B needs: autoclave three times a week in the afternoon; centrifuge every morning; incubator 1/2 day a week

Experiment C needs: autoclave 1/2 day Fridays; incubator all day Monday to Thursday

Experiment D needs: autoclave 1/2 day Wednesdays; centrifuge Wednesday, Thursday, and Friday afternoons; incubator Friday morning

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
Autoclave pressure chamber	AM	AM	AM	AM	AM
	PM	PM	PM	PM	PM
Incubator	AM	AM	AM	AM	AM
	PM	PM	PM	PM	PM
Centrifuge	AM	AM	AM	AM	AM
	PM	PM	PM	PM	PM

3. Microbiologist (a scientist who studies microscopic organisms including bacteria, algae, and fungi)

Look at the illustrated sample the microscope is magnifying. Identify the irregular cell or cells. Describe the irregularities.

