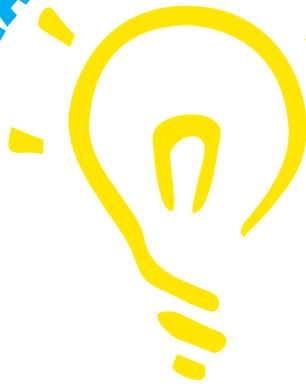


TAKE THE



# CAREER IDEAS *Challenge*

**...with your Middle Grade students!**

The middle grades (4–7) are prime time for exploring careers. They are also an age-appropriate time for cultivating problem-solving skills. The **Career Ideas Challenge** lets students do both – explore careers within the context of solving real world problems.

Use these 9 activities in career exploratory classes, CTE courses, in the library, or to build 21st century skills in core classes.

Cybersecurity  
Analyst  
Logistics  
Manager  
Veterinarian

Heavy  
Equipment  
Operator  
Digital  
Designer  
Nurse

Forensic  
Accountant  
School  
Counselor  
Robotics  
Engineer

***Perkins V and Title 1- friendly!***



# Cybersecurity Analyst

What do your parents, the local power company, and the U.S. Army all have in common? They use computers to store information that hackers would love to get their hands on. Unfortunately, these cyber criminals are often successful. Sometimes they steal money from an individual's bank accounts and credit cards. Other times they hack into computer systems to steal business secrets or disable vital services at places like hospitals. Cyber crime is bad news which is why careers in cybersecurity are in high demand.

*(Feel free to use the back of this sheet for longer answers)*



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## What Do Cybersecurity Analysts Do?

Cybersecurity is one of the hottest career fields right now. Experts say that millions of cyber jobs are currently unfilled because there aren't enough qualified people to do them. This situation is expected to continue as businesses, governments, and the military look for better ways to safeguard their computer systems and data. Cybersecurity analysts are a bit like computer spies. Their job is to detect and prevent cyber threats and to track down cyber criminals. The work requires high-tech skills that are acquired in college information security programs, cyber certification training, or cyber boot camps. Besides the satisfaction of keeping the world safe from cyber crime warfare, top career perks include good pay and job security. Top employers include the military, the FBI, and all types of corporations.

## CHALLENGE #1: *If you had this career...*

What kind of training would you need?

Where could you find a job?

How much money could you earn?

Who would you help and how would you make a difference?

Why would (or wouldn't) you like doing a job like this?

## CHALLENGE #2: *Think Tank*



Yes, cybersecurity is a big issue for businesses, governments, and the military. But it is a big issue for students like you too. The Internet offers lots of ways to learn new things, connect with friends, and goof around with games and videos. Along with all that fun, however, comes the potential for problems.

What do students need to do to stay safe online? Think about ways to prevent cyber bullying and to encourage positive online experiences.

Discuss ideas with your classmates and work together to create posters to share your advice with other students.

# Logistics Manager

The next time you go to the grocery store or shopping mall, pay attention to all the products you find there. Some of those products came from places all over the U.S., some came from China. Other products were brought in from various countries in Southeast Asia, South America, and beyond.

How did all that stuff get to your local store? The obvious answer is by train, plane, cargo ship, and truck. The more complicated answer is logistics. Someone had to figure out how to move all those products from places where they were made or grown to the stores where you buy them.



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(Feel free to use the back of this sheet for longer answers)

## What Do Logistic Managers Do?

The process of moving goods from one place to another is called the supply chain. Logistics managers are an important link in keeping the world supplied with the products people need and want to buy. Their job is to figure out the most efficient way to move goods from suppliers to consumers. According to the Food Marketing Institute, the average grocery store sells as many as 47,000 different products. Add up all the grocery stores in the world, throw in all the other different kinds of retail stores, include all the cars people buy...Are you getting the idea that logistics is a big and challenging job? That's why it takes at least an associates degree in logistics and supply management to qualify for these types of positions. Logistics managers work for all kinds of transportation companies, manufacturers, and product distribution centers.

## CHALLENGE #1: If you had this career...

What kind of training would you need?

Where could you find a job?

How much money could you earn?

Who would you help and how would you make a difference?

Why would (or wouldn't) you like doing a job like this?

## CHALLENGE #2: Think Tank

Where in the world would you most like to visit? For the sake of this activity, let's imagine that you are the "product" that needs to get from your hometown to your most desired location.

Use the Internet to map out your journey. Would it be more efficient to go by car, airplane, train, or ship? What is the quickest way to get there? What is the least expensive way to get there? Make a chart to compare your options.

If your teacher or parent gives you permission, you may even go so far as to compare prices for actual trips using websites like Amtrak ([www.amtrak.com](http://www.amtrak.com)) for trains and Kayak ([www.kayak.com](http://www.kayak.com)) for flights.



# Veterinarian

There is a reason why veterinarian (or vet) ranks high on the career wish list of so many people. For animal lovers, what could be better than working with furry and feathered 'patients' all day? The pay is good. The average annual pay is over \$90,000. According to the U.S. Department of Labor, job prospects are expected to be much better than most careers over the next decade. And job satisfaction runs high.



*(Feel free to use the back of this sheet for longer answers)*

## What Do Veterinarians Do?

There are plenty of good reasons to consider being a veterinarian. But there is a catch. Veterinarians are medical doctors. Just like doctors who treat humans, vets diagnose and treat diseases, repair injuries, and perform surgeries. Also like doctors for humans, becoming a vet requires lots of schooling. It starts with getting excellent grades in high school in courses that include plenty of math and science. Then comes 4 years of college and 4 years of vet medical school. Most veterinarians work in private clinics and hospitals. Others travel to farms or work in laboratories, classrooms, or zoos.

Vet technician offers another path to working with animals. This route requires just a 2-year associates degree and prepares you to assist veterinarians in the care and treatment of animals.

## CHALLENGE #1: Go online to find out...

What kind of skills you would need to do this job?

What would a typical day on the job be like?

What kinds of places could you work in?

How would you make a difference in the world?

Why would (or wouldn't) you like doing a job like this?

## CHALLENGE #2: *Career Think Tank*

Next week is adopt-a-puppy week at your veterinary clinic! As a vet, you want to make sure that the families who adopt new pets know how to take care of them properly. That's why you are putting together an "everything you need to know about raising a happy, healthy pet" guide.

Make sure your guide includes tips for feeding, cleaning, and training the new pet. Don't forget to include a checklist for immunizations and well-puppy vet visits.

Both your human and canine clients will appreciate your expert advice as you help them get off to a good start.

# Heavy Equipment Operator

Were you one of those kids who liked to play with toy trucks and cars when you were little? Now that you are older, do you like to watch big trucks and bulldozers do their thing at construction sites? Can you see yourself behind the wheel of a backhoe, loader, dump truck, or crane? As our nation works hard to improve and repair aging infrastructure, this is expected to be a high-demand occupation for years to come.



*(Feel free to use the back of this sheet for longer answers)*

## What Do Heavy Equipment Operators Do?

Heavy equipment operators drive the big trucks and machines used to construct and maintain roads, bridges, airports, gas and oil pipelines, tunnels, buildings, and other structures. Most work on solid ground, but some work with cranes and other heavy equipment on skyscrapers, oil rigs, and other challenging locations. Heavy equipment operators must have a high school diploma and special training to qualify for the job. Apprenticeship programs--where new workers get supervised, on-the-job experience--are how many heavy equipment operators prepare for the job. They must obtain special driver's licenses, and depending on the laws of the state where they work, may need to get special certification. A special perk of the job is seeing the results of their work take form in new homes and businesses, roadways, bridges, and other impressive structures.

## CHALLENGE #1: Go online to find out...

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What would a typical day on the job be like?

What kinds of places could you work in?

How would you make a difference in the world?

Why would (or wouldn't) you like doing a job like this?

## CHALLENGE #2: Career Think Tank

A school near the site of your latest construction project invited you to talk to their students about what it is like to be a heavy equipment operator. To make the experience fun for the students, you decide to make up a game to help them learn which heavy equipment machines do what.

Go online to find the names, images, and descriptions of common types of construction heavy equipment. Be sure to include backhoe, bulldozer, crane, and more.

Use this information and your imagination to create a matching game.



# Digital Designer

You see their work every time you play a video game, visit a website, or watch an animated movie. Digital designers combine creative talent with technical skill to deliver content that includes any combination of print, audio, video, and animation. As technology plays an increasingly important role in day-to-day life as people work, learn, and play, there will continue to be opportunities for digital designers.



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*(Feel free to use the back of this sheet for longer answers)*

## What Do Digital Designers Do?

Digital designers create content, graphics, and animation used in websites, video games, television, and more. They are different from graphic designers who develop layouts and pages used to share ideas found in printed material like books, magazines, and brochures. Digital design requires even more technical skill, which is why many employers look for digital designers who have at least an associate's degree in digital design or digital art. Digital designers must be proficient using a variety of digital design tools like Adobe's InDesign, Photoshop, and Illustrator. Of course, it is one thing to know how to use these powerful design tools. It's another thing to know how to use them to inform, educate, and entertain. Whether a digital designer is new or experienced, they must develop a portfolio of successful and very creative projects to prove their skills.

### CHALLENGE #1: Go online to find out...

What kind of skills you would need to do this job?

What would a typical day on the job be like?

What kinds of places could you work in?

How would you make a difference in the world?

Why would (or wouldn't) you like doing a job like this?

### CHALLENGE #2: *Career Think Tank*



Designers often use graphic organizers, called storyboards, to map out the sequence of content and images used in a website, film, or video game.

You can use them to plan a video to welcome new students to your school. Divide the back side of this page into four squares with room to sketch a quick illustration and space to add notes to describe the scene in each square.

In each square describe the places you would show, the people you would introduce, and the topics they would talk about.

# Nurse



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Help wanted: nurses! Nurses play a vital role in the health care system and there will continue to be a big demand for new nurses in the coming years. Nurses are often the first health professional that patients encounter and perform a wide variety of health care functions. Nurses are needed to fill positions in hospitals, clinics, physician's offices, nursing homes, and schools.

*(Feel free to use the back of this sheet for longer answers)*

## What Do Nurses Do?

There are several different levels of nursing with different educational requirements and responsibilities for each level. Licensed practical nurses, or LPNs, typically have one year of training and provide basic medical care in home health care, hospitals, clinics and nursing homes. Registered nurses, or RNs, need at least an associate's degree (and often a bachelor's degree) and work closely with physicians to provide direct care to patients. There are also growing opportunities for experienced nurses with advanced training to work as nurse practitioners, nurse anesthetists, and nurse midwives. These nurses perform many of the same duties as a doctor under the supervision of a physician. Future nurses often get a headstart with their training by participating in high school health academies and other types of health science programs.

## CHALLENGE #1: Go online to find out...

What kind of skills you would need to do this job?

What would a typical day on the job be like?

What kinds of places could you work in?

How would you make a difference in the world?

Why would (or wouldn't) you like doing a job like this?

## CHALLENGE #2: *Career Think Tank*



They say an ounce of prevention is worth a pound of cure. It is almost flu season, so as the school nurse, you want to prevent an outbreak among your students.

Go online and talk to any health professionals you may know to find out the best strategies for preventing the flu. Gather as many specific tips as you can and mention any local resources that you find.

Organize your findings into either a poster or Powerpoint presentation to educate students about how to keep the flu bug away from your school.

# Forensic Accountant

You have probably heard about accountants. They are the "number-crunchers" who keep track of finances for businesses and individuals. They prepare, audit, and analyze annual reports, financial statements, and tax returns. An especially important part of their job is to advise clients on tax laws and provide financial projections about investment opportunities.



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(Feel free to use the back of this sheet for longer answers)

## What Do Forensic Accountants Do?

Forensic accountants start with the same focus on numbers and money. However their job is to "follow the money" to crack criminal cases such as embezzlement, fraud, and money laundering. They look through financial statements, spreadsheets, bank records, and other sources of information to find clues proving that the numbers do not add up. These types of crimes are called white-collar crimes because they usually do not involve anyone getting physically hurt. However, these crimes can cause great damage to individuals, businesses, and governments. Forensic accountants work wherever investigative accounting is needed. This includes private accounting firms, insurance companies, and police departments. But did you know that the FBI (Federal Bureau of Investigation) has a whole division of special agents who work on white-collar crimes? It even has its own "most wanted" criminal list!

### CHALLENGE #1: Go online to find out...

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What kinds of places could you work in?

How would you make a difference in the world?

Why would (or wouldn't) you like doing a job like this?

## CHALLENGE #2: *Career Think Tank*

Accountants keep track on money as it comes in and goes out. This is called cash flow and it pretty much works the same way for a kid who gets an allowance as it does for a major corporation.

Here's how you can set up your own accounting spreadsheet. At the top of a blank sheet of paper, write how much money you have (or wish you had). Then set up two columns: one column for income (or money earned) and another column for expenses (or money spent). Keep (or make up) a list of expenses over time. Add new income to your total. Subtract expenses. Double check your numbers to keep track of your balance.

# School Counselor



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It's a typical Tuesday at your school and the school counselor has a full day ahead. First up is a meeting with the principal to discuss student schedules for next semester. Then comes a class visit to talk with students about how to prevent bullying. The afternoon is devoted to counseling individual students about personal problems. After school it is time to lead a teacher meeting about this year's big career fair.

*(Feel free to use the back of this sheet for longer answers)*

## What Do School Counselors Do?

School counselors work to make sure that students are okay now and that they are prepared to do well in the future. They work with students in three main areas: academic success, career exploration and planning, and social and emotional development needs. Add the fact that most school counselors work with hundreds of students, and you'll see just how big a job school counselors have.

School counselors need at least a master's degree in school counseling before they qualify to work in an elementary, middle or high school. They play an important role in any school community and enjoy helping students succeed.

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What kinds of places could you work in?

How would you make a difference in the world?

Why would (or wouldn't) you like doing a job like this?

### CHALLENGE #2: *Career Think Tank*



The school counselor is in -- and it is you!

What kinds of issues are students at your school dealing with? Bullying? Poor grades? Figuring out what kind of career they want to pursue?

Pick an issue and plan an activity to help students understand or deal with the problem. Maybe it's a special class visit to inform and encourage students. Maybe it's a special field trip or afterschool club.

Make a flyer to invite students to invite students to participate in your activity. Include as many details as you can so students know what to expect.

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# Robotic Engineer

Think robots! What's the the first thing that comes to mind? Is it futuristic characters in a movie or video game?

Maybe your first thought was about vacuum cleaners or lawn mowers. Probably not! But robots now do chores like these in many homes.

Making life easier for humans is a big challenge for robotic engineers. So are robots that drive cars and fight cancer!

*(Feel free to use the back of this sheet for longer answers)*

## The Future of Robots and You

Robots are machines programmed to do two types of things. Robots do things that people can't do. Robots also do things that people don't want to do. They are used to repeat the many steps involved in making products like cars or candy. They also do jobs that are too dangerous for humans. For instance, the military uses robots to defuse bombs.

One thing that robots cannot do is create themselves. That's where robotic engineers come in. They design robots to "think" and "act" in human-like ways. Robotic engineers must know a lot about math, science, and technology. They are problem-solvers and creative thinkers. This STEM career requires a college degree in engineering or computer science and offers better than average earning potential.

### CHALLENGE #1: *If you had this career...*

What kind of training would you need?

Where could you find a job?

How much money could you earn?

Who would you help and how would you make a difference?

Why would (or wouldn't) you like doing a job like this?



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### CHALLENGE #2: *Think Tank*



If you could invent a robot, what would you want it to do? Think about your own life as a student. In what ways could a robot make your life easier (or more fun)?

Draw a picture and use words to describe how your robot would work. Start with the problem and show the steps your robot would make to solve it.

How could your robot make the world a better place for students? Be creative and get specific with your ideas.

# Robotic Engineer Teacher Tips

Robots can be an effective way to engage students of all ages in STEM learning. Robots are also the source of high demand, STEM-focused career opportunities. Fueled by innovations in industries that include transportation (self-driving cars!), medicine (nanomedicine!) and the military (neutralize explosive devices!), the job outlook is good for robotic engineers.



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## DISCUSS

Ask students to make a list of the types of real and fictional robots they know about. Discuss differences and similarities between the two types.

## READ

Students can read about robotic engineers out loud as a class or silently on their own.

## CHALLENGE #1: If You Had This Career...

Several queries prompt students to get up close and personal with essential information about this career option. As they work through each question, remind students to relate this information to their own attributes, interests, and aspirations. Online research tools include:

- Using Google (or another approved Internet search engine) to make specific queries like “what kind of training does a robotic engineer need” or “what can robots do.”
- Visiting career information websites like [www.getmyfuture.org](http://www.getmyfuture.org) or [www.mynextmove.org](http://www.mynextmove.org). Both of these websites are sponsored by the U.S. Department of Labor.
- If available, tapping into your school’s career development software platform (such as Career Cruising) or your state’s career and college information system (such as [www.CFNC.org](http://www.CFNC.org)).

## CHALLENGE #2: FZ ] FS ]

Robots are being used to solve problems in many industries such as manufacturing, transportation, the military and more. Robots are also being used to make life easier for humans. Ask students to identify a problem or challenge faced by the typical middle grade students. Then have them sketch out ideas for a robot that could be created to solve that problem.

## EXTEND THE DISCUSSION

Use this career option as a way to open up discussion about other ways robots might be used to change the world.

## EXPLORE MORE STEAM CAREERS

Bright Futures Press features two STEAM-focused career exploration series in its middle grade collection. Go online to [www.brightfuturespress.com](http://www.brightfuturespress.com) to find out more about the **Find Your Future in STEAM** and **Emerging Tech Careers** series. **Find Your Future** includes titles for *Science, Technology, Engineering, Art, and Mathematics*. **Emerging Tech Careers** features titles for *Artificial Intelligence, Drone Technology, Nanomedicine, Personal Space Travel, Robot Technology, Self-driving Car Technology, Virtual Reality Technology, and Wearable Electronics*.