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The background of the page is a blue architectural blueprint with white lines and text. A white spiral notebook is overlaid on the left side of the page. The blueprint contains various geometric shapes, lines, and labels such as 'P3', '3.89M²', 'P1', 'P2', and '3.50M²'.

Dear Family,

Navigating middle school and high school can feel hectic and confusing. It's a stressful time filled with busy schedules; challenging homework; sports; clubs; elective choices; volunteer hours; and new acronyms like GPA, SAT, ACT, and A-G. Amidst this chaos is the challenge of trying to prepare for adulthood. Most schools focus on college preparation. While this is certainly a great path to pursue, it is important to understand that a four-year university is simply one of many paths a graduate can take.

Skilled trades are essential, in-demand professions. These jobs keep our lights on, our water running, and our homes safe. They include people who plan and build our communities, respond in emergencies, and grow and prepare the foods we eat. They even include people who help us stay healthy and look our best! Skilled tradespeople are needed now more than ever.

There are a variety of reasons why someone would choose to attend a vocational or trade school. These programs are far more affordable than traditional college and are often completed in less than two years. For many people, working with their hands helps make learning click in ways that traditional classroom textbooks may not. Skilled trades offer meaningful careers that will forever be in demand because our modern world relies on their services.

This guide is designed to empower families to explore some of the many career paths that can be pursued without a bachelor's degree. As you think about what comes next, remember that there is no single definition of success. Weigh the pros and cons of each career path that is of interest. Talk about strengths, interests, and goals. The future is wide open and new paths are waiting to be discovered!

Electrician

Electricians keep the power in check! They install, maintain, and repair electrical systems in homes, schools, and businesses. They make sure our communities are powered up safely. When the power goes out, electricians work hard to troubleshoot quickly so that people aren't left in the dark. Electricians are usually divided into categories: residential, commercial, industrial, transportation, and construction.

Getting Started

To become an electrician, you'll need a high school diploma or equivalent. You can then enroll in an electrical program through an approved trade school. Most states require you to have an electrician trainee (ET) card before you start working on job sites. After a certain number of on-the-job training hours, you can apply for certification. A second option is to apply directly for an apprenticeship so that you can earn money while you train. But this path is competitive, and you will have to pass an entrance exam and interview for the program. Whichever path you choose, it will take around four years of hard work, training, and study before becoming an official licensed electrician, also known as a journeyman. Most states require additional training hours every few years to renew your license.

Trade Talk

Master electricians have completed the highest level of training. They can become managers, inspectors, and business owners.

The Daily Hustle

A typical workday will vary and may include working overtime hours or nights and weekends based on the type of electrician. Here are some general tasks:

- Driving to the jobsite or residential area that needs work
- Installing, fixing, or upgrading electrical panels, circuit breakers, or outlets
- Reading and following electrical plans and blueprints
- Ensuring that all work meets code and safety standards
- Performing inspections to prevent equipment failure
- Working both indoors and outdoors
- Communicating with coworkers, contractors, homeowners, or site managers





Tools of the Trade

Here are some tools that electricians must learn how to use safely:

- voltage testers and multimeters
- clamp meters
- insulation testers
- fluorescent light testers
- wire strippers
- screwdrivers and pliers
- fish tape for cable routing
- electrical tape
- power drills
- safety gear (gloves, helmets, goggles, flashlight)

Job Opportunities

Electricians are in demand, and the profession is experiencing job growth. Here are some specialty jobs you can research further:

- automotive electrician
- avionics electrician
- electrical designer
- highway systems electrician
- lineperson
- marine electrician
- solar panel electrician



Power It Up!

Electricians get to work in some truly unique places. Cruise ships, bank vaults, movie sets, sports arenas, concerts, and theater stages are all powered by skilled electricians.



The Right Fit

Is this the right job for you? Here are some ways to find out.

Ask yourself...

- Do I like math?
- Can I be precise and accurate?
- Am I serious about safety? (Working with electricity can be dangerous.)

Try...

- Building a basic circuit kit.
- Fixing a broken lamp or taking it apart to see how it works.
- Enrolling in a STEM program or robotics club.
- Volunteering with a program like Habitat for Humanity.
- Helping your family with a home-improvement project.
- Touring a construction site or a trade school.

Ultrasound Technician

Ultrasound technicians, also known as diagnostic medical sonographers, use sound waves to take internal pictures of organs, blood flow, muscles, and even growing babies.

Getting Started

Most sonographers obtain a two-year associate's degree in diagnostic medical sonography. These programs are challenging and include hands-on training in a clinical setting where students practice the skills on real patients. From there, ultrasound techs need to get certification by passing an exam. Once certification is obtained, candidates can apply for jobs in hospitals, clinics, or private practices.

Trade Talk

Ultrasounds display instant real-time movement. Doctors use this technology to observe activity inside the body through a live video feed.



The Daily Hustle

A typical workday will vary, but here are some general tasks:

- Reviewing medical records
- Discussing the procedures with patients
- Operating medical sonography equipment, including a handheld device called a transducer
- Taking sonography images of a patient's organs or muscles, or to track and measure fetal development during pregnancy
- Reviewing images and looking for any unusual findings
- Discussing sonography results with the doctor
- Cleaning and maintaining all medical equipment.
- Being on your feet and moving heavy equipment around



Tools of the Trade

Ultrasound technicians are well-trained in using a variety of medical tools, including:

- transducers (small devices that send out sound waves)
- medical gel
- computer consoles and video monitors
- patient monitoring equipment
- electronic medical records

Job Opportunities

The job market for ultrasound techs is growing steadily. Here are some specialties to consider:

- abdomen
- breast
- echocardiology
- musculoskeletal
- obstetrics and gynecology
- vascular technology



Ultrasound Evolution

High-frequency sound waves were used during WWI to locate submarines underwater. It was later adapted to be used as a medical tool. Today, ultrasounds can be done in 3D and 4D with incredible accuracy!

The Right Fit

Is this the right job for you? Here are some ways to find out.

Ask yourself...

- Am I interested in healthcare, but don't really want to attend college for 15 years?
- Am I willing to commit to two years of rigorous study?
- Do I enjoy working with people?
- Can I be empathic and professional during patient interactions?
- Can I be around medical procedures without feeling uncomfortable or queasy?

Try...

- Volunteering at a senior center or babysitting to see if you enjoy caring for others and can be patient with people of varying ages.
- Volunteering in a hospital.
- Watching videos on how sonography works.

