

Why Go to College?



You probably know that while going to college is important, it takes a lot of hard work to get there. From time to time, you may find yourself wondering, "Is it really worth it?" The short answer is...yes!

Here are some reasons why going to college is a goal that is definitely worth working toward.



More career opportunities

A college education can open doors and prepare you for a career that is personally satisfying, financially rewarding, and a perfect match for your interests and values. *With a college degree, the sky is the limit!*



New experiences

Going to college will give you the opportunity to study a variety of subjects, try new things, expand your skills, and meet new people. Most importantly, college gives you the opportunity to become the person you aspire to be.



More money

Four-year college graduates earn almost twice as much as high school graduates. That comes out to \$1,000,000 or more over a lifetime.

Having a higher income provides financial stability and more money for the things that are important to you, like hobbies, travel, and entertainment.

College Timeline



Not sure what you need to do each year to plan and prepare for college? This guide will help you stay on track and achieve your college goals!

9th Grade

Work hard in your classes. Your freshman grades are important. They will be used to calculate your grade point average—and all of your freshman courses and grades will be on your transcript (an official copy of your high school record).

Make a four-year high school plan. Most colleges recommend that students take the following courses in high school:

- 4 years of English
- 3-4 years of math (Algebra I & II, Geometry)
- 3-4 years of science
- 2-3 years of the same world language
- 3 years of social studies
- 1 year of fine or performing arts

10th Grade

Work hard to get good grades. The better your grades, the more college options you will have. *Grades are the first thing colleges look at when determining whether to accept an applicant.*

Develop your interests and be involved. Colleges are looking for students who are active and involved in their school and community.

Regularly meet with your counselor to discuss your college plans and get your questions answered.

High School vs. College

While success in high school and college both require hard work, organization, and time management, there are a number of differences between the two. Here are some of them.

High School

High school is mandatory and it's usually free.

You have classes one right after the other for 6-7 hours a day, Monday – Friday.

Your days are scheduled and organized by others.

Your classes usually have 30 students or less.

Your course selection is limited and your schedule is arranged for you.

College

Attending college is your choice and it is not free.

You may have big gaps between classes. On some days you may not have any classes.

You organize your days and manage your own time.

Your classes can be small or have over 100 students.

You have a wide variety of courses to choose from and you arrange your own schedule.

CHOOSING A COLLEGE

Choosing a college is about finding a school that's a good match for you. Knowing what you're looking for will help you find a college that's a good fit.

The following questions and information will help you determine what's important to you in a college.

Type of College

Two-year colleges offer affordable one- and two-year career programs. Students can also transfer to a four-year college after a year or two. Four-year colleges offer a wide variety of majors and programs.

What type of college are you interested in?

- two-year college four-year college

Size

Larger colleges offer lots of majors, programs, and activities; smaller colleges usually have smaller classes and a more personal feel.

What size college do you want to attend?

- small medium large

Location

Where do you want to attend college?

- close to home in my home state
 near a big city close to nature

Other _____

MAKING A COLLEGE VISIT



PLAN YOUR VISIT

- ▶ Decide when to make your visit. The spring of your junior year is usually a good time to visit.
- ▶ Schedule your visit(s) online or by phone. Check college websites for open houses and visitation days.

LEARN ALL YOU CAN

- ▶ A group tour is a great way to see a campus. Ask your tour guide questions such as, *What is this college best known for? What are the strongest majors?*
- ▶ Check out the nearby city or town.

TALK TO PEOPLE

- ▶ Schedule appointments with people who can answer your questions, such as admissions counselors, financial aid counselors, program directors.
- ▶ Talk to students. Ask them what they like and don't like about the college, what they do on weekends, etc.

TAKE NOTE OF YOUR IMPRESSIONS

- ▶ As you explore the campus, make a note of your impressions and what you like and don't like.
- ▶ Visualize yourself as a student there. Do you feel comfortable? Does the college feel like a good fit?
- ▶ Take pictures to help you remember the campus.

For information on choosing a college, watch this quick video!



VIDEO



9th Grade COLLEGE PLANNING

If you're thinking about going to college, that's great! There's no better way to prepare yourself for a bright future than to continue your education.

Here are some things you can do this year to plan and prepare for college. Do the following and you will be on your way to achieving your college goals!



Work hard in your classes.

To be ready for college, and to have an impressive high school record, work hard to get good grades in all of your classes.

Now that you're a freshman, everything "counts." Your freshman grades will be used to calculate your grade point average—and all of your freshman courses, grades, and credits will be on your transcript (an official copy of your high school record).



Make a four-year high school plan.

In order to be prepared for college-level work, colleges recommend that students take the following courses in high school:

- 4 years of English
- 3-4 years of math (Algebra I & II, Geometry)
- 3-4 years of science
- 2-3 years of the same foreign language
- 3 years of social studies
- 1 year of fine or performing arts

To make a four-year high school plan, list the courses you intend to take each year of high school. If you want to go to college, try to include all of the above courses in your plan.



10th Grade COLLEGE PLANNING

Now that you're a sophomore, it's time to get more serious about planning and preparing for college. To help you stay focused and on track, here's a list of the things you need to do this year.



Work hard to get good grades.

The stronger your high school academic record, the more college options you'll have. Grades are the first thing colleges look at when determining whether to accept an applicant—particularly their grades in college prep classes.



Take college prep courses.

In order to be prepared for college-level work, colleges recommend that students take the following courses in high school:

- 4 years of English
- 3-4 years of math (Algebra I & II, Geometry)
- 3-4 years of science
- 2-3 years of the same foreign language
- 3 years of social studies
- 1 year of fine or performing arts



Develop your interests and be involved.

Colleges are looking for students who are active and involved in their school and community. Participate in school activities, do some volunteer work, and take time to develop your interests and talents.



VIDEO

For tips on how to build an impressive high school record, watch this video!



11th Grade COLLEGE PLANNING

As a college bound junior, there's a lot you need to do this year to plan and prepare for college. To achieve your college goals, do the following and stay focused. The future is yours!

Strengthen your academic record. Take college prep courses and get the best grades possible. *The stronger your high school academic record, the more college options you'll have.*

What can you do this year to strengthen your academic record?

Be involved in meaningful activities. Colleges are looking for students who are active and involved in their school and community.

What activities/interests will you pursue this year?

Make a testing plan. Many juniors take the PSAT/NMSQT in October and the ACT and/or SAT in the spring, if required by the schools they are applying to. Visit act.org and collegeboard.org for information.

What tests will you take? When will you take them?

- PSAT/NMSQT _____
- ACT _____
- SAT _____
- Other _____



12th Grade COLLEGE PLANNING

The following are things college bound seniors need to do to plan and prepare for college. Use this checklist to help you stay focused and on track. Check items off as they are completed.

Get Organized

Take the ACT/SAT, if necessary. Unless you know you don't need to submit test scores, take the ACT or SAT if you haven't already. For information and to register, go to act.org or collegeboard.org.

Set up a master calendar. Use this calendar to help you keep track of test dates, college visits, application deadlines, and college events at your school.

Have a folder for college information. In this folder, keep copies of test scores and applications, notes on college visits, and anything else that's important.

Plan college visits. If you haven't visited a college you are seriously considering, schedule a visit as soon as possible.

Meet with your counselor. Talk to your counselor about your college choices, possible majors, and financial aid.

College Admissions



While you need to prepare for college throughout high school, the college admissions process generally begins early in your senior year.

The information below will give you an idea of how this process works.

The College Admissions Process

STEP 1 – Submission

All colleges have admissions information and applications on their website. Be sure to submit everything that's required before the deadline.

STEP 2 – Review

The college admissions office will put all of the information regarding your application into a file. When all of the required documents have been received, your application will be evaluated by an admissions committee.

STEP 3 – Notification

Once your application has been evaluated, the college will let you know whether you have been accepted, rejected, or put on a waiting list.

STEP 4 – Your Decision

After comparing all college and financial aid offers, you decide which college you want to attend.



For tips on how to complete an impressive college application, watch this video.

THE COMMON APP

commonapp.org

If you're applying to more than one college, you may want to complete the Common Application (Common App). More than 1,000 colleges accept the Common App, so completing this one application can save you a lot of time. Here are the steps.



STEP 1 - Create your account

Go to commonapp.org and click on **Start your application**. The new edition of the Common App opens each year on August 1. You can, however, create an account anytime.



STEP 2 - Add schools to your list

Search for the colleges that meet your needs by name, location, distance from your home, and more. Add these schools to your **My Colleges** list.



STEP 3 - Check requirements

You'll get detailed information on the admission requirements for each school on your **My Colleges** list (e.g., the test(s) required, application deadlines).



STEP 4 - Complete the application

It's helpful to gather the information you need to complete the Common App ahead of time. The checklist on the back of this card will help you know what information you will need.

Completing an Impressive College Application

Your college application is a representation of you, and it's important that you present yourself in the best possible light. Here are some tips to help you submit an impressive college application.

Be sure to do the following:

- ▶ Follow the instructions exactly and answer every question honestly.
- ▶ Use correct spelling, grammar, and punctuation.
- ▶ Submit an application that is clean, neat, accurate, and complete.
- ▶ Include all of your activities and awards. (Quality is more important than quantity.)
- ▶ If you have a noteworthy achievement, special talent, unique characteristic, or something that will bring diversity to a campus, be sure it's included.
- ▶ Proofread, proofread again, and then have someone else look over your application.

Submit forms, scores, and transcripts

Applications for admission require a high school transcript, and most have sections for your counselor to complete. Follow your school's procedures for submitting applications, requesting transcripts, and getting the required forms completed.

Many 4-year colleges also require ACT or SAT scores. Make sure your scores have been sent to any college requiring them.



WRITING A COLLEGE ESSAY



If you're asked to write an essay, think of it as an opportunity to provide the admissions committee with insight into who you are and what makes you unique.

Here are some tips to help you write an outstanding college essay.

► Start early

Give yourself enough time to be able to put your essay away and come back to it several times. When you take it out and read it again, you'll see things you didn't notice before.

► Showcase your writing skills

Colleges want students who can effectively convey their thoughts and ideas in writing—and your essay is an excellent opportunity for you to demonstrate your writing skills.

Follow the instructions regarding length and subject matter; use concise, clear sentences; and write an essay that could only be written by you.

THE ACT

Information & Tips

While many four-year colleges require ACT or SAT scores as part of the application process, some colleges now have test-optional policies. Unless you are certain you will not need to submit test scores, plan to take the ACT and/or SAT.

ABOUT THE TEST

The ACT consists of four multiple-choice tests: English, Reading, Math, and Science. There is also an optional Writing Test. The ACT is given in September, October, December, February, April, June, and July.

WHEN TO TAKE THE ACT

You should take the ACT in the spring of your junior year. If you want to improve your scores, you then have time to retake the ACT in the summer or fall.

HOW TO REGISTER

To register for the ACT, go to act.org. Registration deadlines are about six weeks before the test dates. After you're registered, you'll receive instructions and a ticket to get into the test.

HOW THE ACT IS SCORED

Students receive a score (1–36) for each of the four sections, along with a composite score (an average of the four section scores).

Questions?
Visit act.org or see your counselor.



VIDEO

To review, watch this quick video!

THE SAT

Information & Tips

While some four-year colleges require SAT or ACT scores as part of the application process, many colleges now have test-optional policies. Unless you are certain you will not need to submit test scores, plan to take the SAT and/or ACT.

ABOUT THE TEST

The SAT consists of three main sections: 1) Reading, 2) Writing and Language, and 3) Math. The SAT is given in August, October, November, December, March, May, and June.

WHEN TO TAKE THE SAT

You should take the SAT in the spring of your junior year. If you want to improve your scores, you then have time to retake the SAT in the fall of your senior year.

HOW TO REGISTER

To register for the SAT, go to collegeboard.org. Registration deadlines are about five weeks before the test dates. Once you're registered, you'll receive instructions and an admission ticket.

HOW THE SAT IS SCORED

Students receive a total score (400–1600) and two section scores: one for Evidence-Based Reading and Writing (200–800) and one for Math (200–800).



VIDEO

To review, watch this quick video!

COLLEGE COSTS

College is a worthwhile investment, but it can be a costly one. When thinking about the cost of attendance (COA) for a particular college, be sure to include tuition, fees, books, room and board, transportation, and personal expenses.

Below are the average published COA "sticker prices." *Financial aid and/or discounts from institutions often lower these costs considerably.*

Average Yearly Cost of Attendance 2023-24

Public Four-Year Colleges (in-state)

Tuition and Fees	\$11,250
Room and Board	\$12,775
Books and Supplies	\$1,250
Transportation & Other Expenses	\$3,550
Total	\$28,825

Students who attend a public college in a different state typically must pay the higher out-of-state tuition.

Private Four-Year Colleges

Tuition and Fees	\$41,550
Room and Board	\$14,650
Books and Supplies	\$1,250
Transportation & Other Expenses	\$2,975
Total	\$60,425

Public Two-Year Colleges

Tuition and Fees	\$4,000
Living Expenses	\$9,975
Books and Supplies	\$1,475
Transportation & Other Expenses	\$4,425
Total	\$19,875

How to Pay for College



College can be expensive, but there are things you can do to make it more affordable. If you need help paying for college, learn about financial aid, fill out a Free Application for Federal Student Aid (FAFSA), and explore ways to cut college costs.

Learn about financial aid

Financial aid comes in four forms: grants, scholarships, work-study, and loans. Grants and scholarships are considered "gift help" because they represent money that is given to students. Work-study and loans are considered "self-help." They provide money that must either be earned or repaid.

To learn more about financial aid, watch this short video.



VIDEO

Apply for financial aid

To get money to help you pay for college, do the following your senior year.

1. Complete college applications.

Complete admission applications in the fall of your senior year. Be aware of deadlines.

2. Complete the FAFSA.

In order to receive any government aid, you must complete a FAFSA. When you complete a FAFSA you automatically apply for a Pell Grant (free money). For information, visit fafsa.gov.

3. Apply for scholarships.

Search for scholarships online at fastweb.com, scholarships.com, and studentaid.gov.

FINANCIAL AID Overview

Financial aid is money that is given, earned, or lent to help students pay for their education. Financial aid makes it possible for millions of students to go to college.

Four Types of Financial Aid



Grants

Grants are funds given, usually because of financial need. Grants do not have to be repaid. *The Pell Grant provides billions of dollars each year to income-eligible families. When students and parents submit a Free Application for Federal Student Aid (FAFSA), they automatically apply for a Pell Grant.*



Scholarships

Scholarships are generally awarded for exceptional academic achievement or outstanding talent. Scholarships do not need to be repaid.



Loans

Loans are funds borrowed from a lender, such as the government or a bank. Loans must be paid back. *Over half of the financial aid awarded is in the form of a loan.*



Work-study

Work-study programs provide students who have financial need with part-time jobs to help fund their education.

Financial aid is awarded in the form of packages that will vary from college to college. Compare them carefully.



VIDEO

For tips on cutting college costs, watch this quick video!

FAFSA

Need Money for College?
Complete the FAFSA!

FAFSA.GOV



All college bound students and their parents (who are referred to as "contributors") should fill out the Free Application for Federal Student Aid (FAFSA).

The FAFSA is available October 1.
Apply early for the best chance
of receiving the aid you need!



You can fill out the FAFSA on
a computer or mobile device.

Filling out the FAFSA is free.
Never pay a company or service
to process your FAFSA.



By completing the FAFSA, you
automatically apply for a Pell
Grant (free money).

Don't let the FAFSA intimidate
you, and don't assume that you
won't be eligible for any aid.



VIDEO

For information on how to get money
for college, watch this video on financial aid.

Understanding the FAFSA

10 Reasons to Fill Out the FAFSA

Here are ten excellent reasons you should fill out the FAFSA, even if you don't think you will qualify for financial aid.

Why You Should Fill Out a FAFSA

1. You can get "free" money

When you submit a FAFSA, you automatically apply for federal grants, such as the Pell Grant and FSEOG. To be eligible to receive free government money for college (money you don't have to pay back), you must complete a FAFSA.

2. Almost everyone qualifies

Many students don't fill out the FAFSA because they think they won't qualify for aid. The truth is that almost every student is eligible for some type of aid, whether it's grants, loans, or both.

3. It's free and fast

The FAFSA is free to fill out, and it takes less than 30 minutes to complete if you have everything ready when you begin.

4. The FAFSA may be required

Students who are applying for scholarships are often required to complete a FAFSA. Many schools want documentation showing that a student isn't eligible for need-based aid before they award their merit-based aid (scholarships).

SCHOLARSHIPS

It's not easy to obtain scholarships, but qualified students who invest the time and energy often find that their efforts pay off handsomely.

TYPES OF SCHOLARSHIPS



ACADEMIC SCHOLARSHIPS

Most academic scholarships are awarded by individual colleges to students with high GPAs (3.5+) and/or high ACT/SAT scores.



ATHLETIC SCHOLARSHIPS

To receive an athletic scholarship, athletes must meet NCAA or NAIA eligibility requirements. For information, go to ncaa.org or playnaia.org.



TALENT SCHOLARSHIPS

Scholarships in music, art, theater, and dance are mostly awarded by individual colleges. Portfolios or auditions are often required.



LOCAL SCHOLARSHIPS

Local groups and organizations offer scholarships for the students in their communities. These scholarships are usually smaller, but easier to get.



MINORITY SCHOLARSHIPS

Colleges offer these scholarships to encourage outstanding minority students to attend their college. Contact colleges for information.



STUDENT LOANS

Families who need additional funds to cover college costs often take out a loan. Student loans have varying requirements, interest rates, and repayment schedules. It is therefore important to learn all you can about your college loan options.

Direct Loans

College students are eligible for Federal Direct Loans. First-year students can borrow up to \$5,500 a year. Second-year students can borrow up to \$6,500 a year. Repayment doesn't begin until six months after the student has left college. Direct Loans are either subsidized or unsubsidized.

Subsidized and Unsubsidized Direct Loans

Direct Subsidized Loans are available for students with financial need; Direct Unsubsidized Loans are available for students without financial need. A Direct Subsidized loan is preferable because the government pays the interest on the loan while the student is in college.

PLUS Loans

PLUS Loans are available to parents with good credit. Parents can apply for a PLUS Loan for the total cost of attendance, minus any financial aid the student has received. A college financial aid office can provide instructions on applying for a PLUS Loan.

Private Loans

Private loans are available through banks and other lending services. Private loans typically have a higher interest rate than loans from the federal government. Families should exhaust their federal loan options before ever considering a private loan.

Alternatives to College

Here you'll find information on some of the many ways you can prepare for a career. Do your research, and make a plan for your future that will be right for you.

College is one path to success in life, but it's not the only path.

Short Term Training Programs

Career/trade schools and community colleges offer short-term training for a number of careers. Many of the most popular programs are in health care, business, computer science, and hospitality (e.g., travel and tourism, culinary arts). While some programs take one or two years to complete, others can be completed in a matter of weeks. There are, for example, a number of health care careers that require less than a year of training.

The Military

As the nation's largest employer, the military offers qualified applicants a salary, benefits, and free job training. The military also provides discipline and structure, as well as opportunities for career advancement and travel.

For those who may want to attend college later, under the Montgomery GI Bill, enlistees who contribute to a college fund can receive over \$50,000 for college.

You may also want to consider joining the National Guard or the Reserves. As part-time members of the military, enlistees go through basic training and job training.

Visit todaysmilitary.com for more information.

Self Assessment

To be successful in a career, you need to do something you enjoy and are good at. It should also be something that aligns with your values (what's important to you).



This quick self assessment will help you examine your interests, abilities, and values, and choose a career that will be a good match for you.

Consider Your Interests

1. What are your two favorite school subjects?

2. Name two hobbies or activities you enjoy.

3. Name one activity you become so involved in that you lose track of time.

4. When and where are you the happiest?

Career Clusters

Career Clusters are groups of careers with similar features. Exploring the 16 Career Clusters will help you figure out which career areas you want to explore further.



Which is a good fit for you?

Below are the 16 Career Clusters, along with a brief description of the kind of work people do in each. Put a ✓ by any Career Cluster you might be interested in.

- Agriculture, Food, & Natural Resources:** farm, fish, and work to improve the environment
- Architecture & Construction:** design, build, and maintain homes and structures
- Arts, A/V Tech & Communication:** design, create, perform, and produce multimedia content
- Business Management & Administration:** plan, oversee, and organize a business
- Education & Training:** teach in schools, libraries, museums, and businesses
- Finance:** manage and work with money
- Government & Public Administration:** make laws and provide public services
- Health Science:** work in the healthcare field treating people and animals

Explore Careers in...

English



If you enjoy doing any of the following, then you might want to consider a career in English.

- ▶ reading fiction and non-fiction
- ▶ keeping a journal
- ▶ writing in a blog
- ▶ doing crossword puzzles and playing word games
- ▶ giving presentations or speeches
- ▶ writing essays, poetry, or short stories
- ▶ doing research
- ▶ discussing and analyzing movies

Studying English in college will help develop your critical thinking and communication skills. Many top companies hire English majors specifically for these skills.

Think about a career in English if . . .

- ▶ you like to read and write.
- ▶ you have strong communication skills.
- ▶ you enjoy working with people.
- ▶ you are creative and good with details.

For more information on careers by subject, watch this quick video!



VIDEO

Explore Careers in...

Math



If you enjoy doing any of the following, then you might want to consider a career in math.

- ▶ working on challenging math problems
- ▶ building or fixing things
- ▶ working with money
- ▶ doing math puzzles like sudoku
- ▶ coding or working with computers
- ▶ following sports statistics

Studying math can lead to a career as a mathematician or statistician. Most people, however, use their math and problem-solving skills to succeed in careers that use math in conjunction with other areas, such as science and medicine. Having strong math skills is a trait that is desired by many employers.

Think about a career in math if . . .

- ▶ you do well in advanced math courses.
- ▶ you enjoy solving problems, and like mathematical challenges.
- ▶ you are good at analyzing facts and figures.

For information on STEM careers, watch this quick video!



VIDEO

Explore Careers in...

Science



If you enjoy doing any of the following, then you might want to consider a career in science.

- ▶ figuring out how things work
- ▶ observing or caring for animals or people
- ▶ spending time outdoors in nature
- ▶ working with your hands
- ▶ learning about the human body
- ▶ observing the stars and planets

The sciences are divided into three main branches:

- ▶ **Life science:** the study of living organisms, such as in **biology, zoology, and anatomy**
- ▶ **Physical science:** the study of events in the natural world, such as in **physics, chemistry, and astronomy**
- ▶ **Earth science:** the study of earth and its atmosphere, such as in **geology, geography, and meteorology**

Think about a career in science if . . .

- ▶ you do well in advanced science and math courses.
- ▶ you enjoy working with computers and/or lab equipment.
- ▶ you are good at solving problems.

For information on STEM careers, watch this quick video!



VIDEO

Explore Careers in...

Social Studies



If you enjoy doing any of the following, then you might want to consider a career in a social studies-related field.

- ▶ keeping up with current events
- ▶ studying maps
- ▶ visiting history museums
- ▶ helping those less fortunate
- ▶ discussing or debating ideas
- ▶ watching or reading the news

Studying social studies helps us understand who we are. Social studies courses look at how people have lived and interacted in the past, and how we live and interact today. Social studies provides a solid background for a number of careers.

Consider a career in social studies if...

- ▶ you're interested in helping others.
- ▶ you have an interest in local, state, and federal government.
- ▶ you spend time thinking about how to make the world a better place.

For more information on careers by subject, watch this quick video!



VIDEO

Explore Careers in...

The Arts



If you enjoy doing any of the following, then you might want to consider a career in the arts.

- ▶ singing or playing an instrument
- ▶ drawing and/or painting
- ▶ taking photographs
- ▶ going to art museums
- ▶ performing in front of an audience
- ▶ decorating a room or arranging objects

Careers in the arts can be divided into two main categories: **visual arts careers** and **performing arts careers**. If you feel that you have the talent and you want to pursue a career in the arts, then get the education or training you need, work hard, and go after your dream!

Think about a career in the arts if . . .

- ▶ you like to work on craft projects and/or create art.
- ▶ you play an instrument well or have a good singing voice.
- ▶ you enjoy speaking or performing in front of others and/or working on set design.

For more information on careers by subject, watch this quick video!



VIDEO

Explore Careers in...

Foreign Language



If you enjoy doing any of the following, then you might want to consider a foreign language career.

- ▶ learning about different cultures
- ▶ meeting people from other countries
- ▶ keeping up with world affairs
- ▶ learning a new language
- ▶ traveling and having new adventures

While knowing a second language can be a great asset in any career, speaking a foreign language and having understanding of other cultures is a tremendous advantage in the competitive 21st century job marketplace.

Think about a career in foreign language if . . .

- ▶ you learn and retain other languages easily
- ▶ you are interested in working in a service industry.
- ▶ you enjoy learning about and immersing yourself in other cultures.

For more information on careers by subject, watch this quick video!



VIDEO

Science

STEM Facts and Info

Are you good at solving problems? Do you like learning how things work, and about why things happen? If so, a science career might be a good choice for you.

Life Sciences

Life science is the study of all living things. Here are a few popular life science fields, along with their focus.

- ▶ **Biology:** The study of living organisms
- ▶ **Botany:** The study of plants
- ▶ **Ecology:** The study of how living organisms interact with their surroundings and each other
- ▶ **Pharmacology:** The study of how drugs work
- ▶ **Zoology:** The study of animals

Physical Sciences

Physical science is the study of non-living systems. Here are a few popular physical science fields.

- ▶ **Astronomy:** The study of the universe beyond Earth
- ▶ **Chemistry:** The study of the properties, composition, and structure of matter
- ▶ **Geology:** The study of the earth's properties and the processes that shape them
- ▶ **Meteorology:** The study of atmospheric science, with a focus on weather forecasting
- ▶ **Physics:** The study of matter and how it moves through space and time

Technology

STEM Facts and Info

Do you like learning how things work? Do you have good computer skills? Do you enjoy building things, and taking things apart? If so, a technology career might be a good choice for you.

What is Technology?

While the technology aspect of STEM is often not as clearly defined as science, engineering, and math, experts generally agree that technology refers to the use and development of the tools used by people working in science, mathematics, and engineering.

If you're interested in technology, here are a few career fields for you to consider.

- ▶ **Computer programming:** Designing and building computer programs.
- ▶ **Computer Aided Design (CAD) and 3D printing:** Using computers to create real world objects.
- ▶ **Mobile technology:** Any technology used by portable communication devices, such as cell phones.
- ▶ **Machine learning:** A branch of artificial intelligence focused on building machines that can learn and adapt, similar to humans.
- ▶ **Game development:** Creating video games.
- ▶ **Data analytics:** Collecting, analyzing, and extracting useful information from data.
- ▶ **Internet of things:** The technology involved in anything that connects to the internet, such as ear buds, fitness trackers, and smart thermostats.

Engineering

STEM Facts and Info

Do you enjoy building and creating things? Do you like advanced math and science? Are you good at solving puzzles? If so, a career in engineering might be a good choice for you.

What is Engineering?

Engineers use science, technology, and math to solve all sorts of real-world problems.

Here is some basic information on what engineers do in five of the most popular engineering fields.

- ▶ **Chemical Engineers:** Develop chemical processes to convert raw materials into useful products (e.g., food, drugs, clothing).
- ▶ **Civil Engineers:** Design, build, and maintain structures such as bridges, airports, tunnels, dams, and railways.
- ▶ **Electrical Engineers:** Design, develop, test, and manufacture electrical and electronic devices, equipment, and systems (e.g., computers, electric motors, smartphones).
- ▶ **Industrial Engineers:** Improve the efficiency and effectiveness of operations in ways that waste less time, money, and raw materials (e.g., improving how things are done in a hospital).
- ▶ **Mechanical Engineers:** Develop, test, and maintain mechanical systems in fields such as health care, transportation, and robotics—to ensure that all systems function efficiently and safely.

Math

STEM Facts and Info

Do you like doing math problems? Are you good at solving puzzles? Do you like the challenge of advanced math? If so, a math-related career field might be a good choice for you.

Pure Mathematics

Pure math is the study of mathematical concepts and principles. Pure math is about achieving a deeper understanding and appreciation of mathematics.

Pure mathematics includes the study of algebra, number theory, probability and statistics, geometry, combinatorics, topology, and more.

Applied Mathematics

Applied mathematics is more practical—it's using math concepts to solve real-world problems. Here are some examples of fields that use applied math.

- ▶ **Actuarial science:** The use of math and statistics to analyze financial risk.
- ▶ **Computer science:** The study of computers, primarily software systems.
- ▶ **Economics:** The study of how people and societies use financial resources.
- ▶ **Engineering:** The use of math and science to solve technical problems.
- ▶ **Operations research:** Using mathematical analysis to make better business decisions.
- ▶ **Statistics:** The collection, analysis, and interpretation of data.

Prepare for a Career

Four-Year College



Why attend a 4-year college?

A four-year college education, or bachelor's degree, can open doors and provide graduates with more choices and opportunities in life. A four-year college diploma provides students with more career opportunities, greater earning potential, and the pride that comes with earning a college degree.

How do I prepare for 4-year college?

Take college prep courses

Most colleges recommend that students take the following college prep courses in high school:

- 4 years of English
- 3–4 years of math (including Alg I, Geom, & Alg II)
- 3 years of social studies
- 3 years of science
- 2–3 years of the same foreign language
- 1 year of fine or performing arts

Students who haven't taken several of the above courses may want to start at a community college or at a college's branch campus, where the admissions requirements are less competitive.

Get involved

Colleges are looking for students who are involved in meaningful activities. Look for ways to develop your interests and talents—and get involved in your school and community.



VIDEO

For the differences between high school and college, watch this quick video.

Prepare for a Career

Two-Year College



Why attend a 2-year college?

Two-year colleges are an increasingly popular college choice. They provide affordable, career-oriented programs that enable students to begin their careers after two years of college or less.

- ▶ Two-year colleges offer programs in high-growth career fields such as healthcare, computer science, and business.
- ▶ Going to a two-year college can be an excellent choice for students who have specific career goals.
- ▶ Students who want a bachelor's degree can start at a two-year college and then transfer to a four-year college.

What is a 2-year college like?

They are affordable and classes are small

- ▶ It generally costs much less to attend a two-year college than a four-year college.
- ▶ Two-year colleges keep their classes small, and hire instructors who have worked in a related career field. The law enforcement instructor, for example, might be a retired police officer.

They offer activities and services

While community colleges generally do not have dorms, most have a variety of athletic programs, clubs, and social activities, as well as support services such as counseling, career placement, and tutoring.

Prepare for a Career

Career or Trade School



Why attend a career or trade school?

Students today can prepare for many high growth careers by going to a career or trade school.

- ▶ Career and trade schools focus on teaching students the skills they need for a specific career.
- ▶ If you know what career you want to pursue, going to a career or trade school might be the right choice for you.

What is a career/trade school like?

Training is available in a variety of careers

Career and trade schools offer training for a large number of careers. Many of the most popular programs are in healthcare, business, computer science, and hospitality.

Students receive hands-on instruction

Students spend the majority of their class time in job-related settings where they receive hands-on training from experienced instructors. The student-teacher ratio is low, and students generally receive a great deal of individual attention.

Programs vary in length

While some programs take one or two years to complete, others can be completed in a matter of weeks.

2-year colleges offer many of the same programs. For information on 2-year colleges, watch this quick video!



VIDEO

Prepare for a Career

Apprenticeship



What is an apprenticeship?

Apprenticeship programs are an excellent way to learn a skilled trade.

- ▶ Apprenticeships are available in over 1,000 occupations. While they are available in a number of career fields, the majority of programs are in construction and manufacturing.
- ▶ Apprentices start off earning approximately half of what experienced workers earn. As their skills improve, their wages increase.

Qualifications

- ▶ Most programs require that an applicant be 18 years old and a high school graduate.
- ▶ Some programs require that applicants take an aptitude test; others require a physical exam.
- ▶ Applicants who have had experience, training, or a related job generally have an advantage.

How does an apprenticeship work?

Apprentices learn their trade through a combination of on-the-job training and classroom instruction.

On-the-job training

- ▶ Apprentices start by doing simple tasks under the guidance and supervision of a journey worker. Apprentices are given more difficult work to do as their skills and knowledge increase.
- ▶ Apprentices must have at least 2,000 hours of structured, supervised work experience.
- ▶ While apprenticeship programs can last anywhere from one to six years, most apprenticeships are four-year training programs.

Prepare for a Career



Military

Why join the military?

The United States military is the country's largest employer. Here are some benefits of enlisting:

- ▶ The military offers training in over 2,000 jobs, most of which have civilian counterparts.
- ▶ Most enlistees begin at pay grade E-1 and receive about \$1,680 a month. Pay increases steadily with rank and years of service.
- ▶ Enlistees get free housing and free medical care.
- ▶ Under the Montgomery GI Bill, enlistees who contribute to a college fund can receive \$50,000+ for college.

What are some of the options?

Enlistees generally sign up for four years of active duty. These are the military's main branches:

Army

Founded in 1775, the Army is the oldest and largest branch of the armed services. The Army is primarily responsible for land-based military operations.

Navy

The Navy's mission is to maintain, train, and equip combat-ready naval forces, and to protect and defend our right to move freely on the oceans. The US Navy is the largest navy in the world.

Air Force

The Air Force became a separate military service in 1947. It includes aviation forces for both service and combat. Air Force troops are organized, trained, and equipped for offensive and defensive air operations.