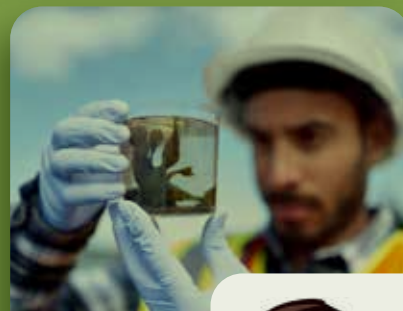


Learning Blade Catalog

Missions and Modules to Discover
Students Career Interests



Why Use Learning Blade?

Learning Blade offers middle schools online interactive supplemental lessons and activities that are proven to increase career interests in a variety of high-demand areas including computer science, STEM, and CTE careers.

Ready-to-use online student lessons for math, science, social studies, and language arts, aligned to state standards, with corresponding lesson plans for teachers.



69% increase
in students
recognizing
what they learn
in school will be
useful later on
in life.



55% increase in students
interested in **Computer
Science Careers**

```
console.log("Hello, World!");
```

Hello, World!



71% of students learned
about new careers.



The Expanding STEM Toolbox

Learning Blade is constantly adapting and expanding our STEM curriculum toolbox that allows educators to integrate STEM awareness and career readiness into their teaching needs.



Interactive Lessons

Over 400 online lessons connect more than 100 STEM, Computer Science careers, and technologies to students' academic skills, demonstrating real-world problem solving.



Design Thinking

Students use design thinking methodology to solve complex problems through brainstorming, collaboration, and the creative exploration of new possibilities.



Challenge Projects

Simple hands-on activities emphasize problem solving, critical thinking, teamwork and communication using readily-available materials.



3D Printing Activities

3D printing experiments and projects demonstrate STEM principles and provide students experience turning 3D designs into physical items



Career Videos

Each STEM and CS career addressed in our online lessons also includes a career introduction video presenting the career and the education pathway.



Parent Discussions

Parent-ready handouts simulate STEM conversations at home, help fill ESSA requirements for parental involvement, and encourage research and simple at-home experiments.



Papercraft Figures

Each STEM and CS career and technology is accompanied by a 3D papercraft figure students can assemble, helping internalize a knowledge of 3D Shapes and offer a tangible reminder of the careers and technologies.

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Modules

- 14 Intro to Artificial Intelligence (AI)
 - Intro to Coding
 - Intro to Computer Science
 - Intro to Engineering



Car Manufacturing Mission Lessons

Students explore and use modern manufacturing techniques to design and build a new concept car

Career Emphasis:
Advanced Manufacturing and Industrial Engineering



● Express missions only include these lessons



Automotive Designer

Ground breaking Design (Social Studies) ●
If You Can Dream It (English)
Making It Go - How an Engine Works (Science)
The Great Shape-Up (Math)
Automotive Designers Invent the Future of Transportation (Video) ●



Assembly Lines

Assembly Lines and the Industrial Revolution (Social Studies)
Making your Quota (Math)
Control It (Science)
Assemble Something Different (English) ●



Manufacturing Technician

Communication in Manufacturing (English) ●
Get It Right - Calibration (Science)
Meeting Demand (Math)
Quality Assurance (Social Studies)
Learning About a Manufacturing Technician (Video) ●



Automation Mechatronics

Digital Decision Making (Math)
Jack of All Trades (English)
Real Life Autobots (Science) ●
Why Now for Mechatronics? (Social Studies)



Mechanical Drafter

Aerodynamics in Action (Science) ●
From the Page to the Track (Social Studies)
Reality - The Simulation (English)
The Magic Number (Math)
Mechanical Drafters Work Through the Details (Video) ●



Innovative Materials

Fabric 2.0 (English)
Rubber Meets the Road (Social Studies) ●
Unbreakable (Science)
Wear and Tear (Math)



Safety Administrator

Anatomy of an Accident (Science)
Crash Test Dummies (English)
Roof Strength Test (Math) ●
Safety in the Factory (Social Studies)
Safety Administrator Keeps You Safe (Video) ●



Paint Technology

By the Bucket (Math) ●
Color Your World (English)
Perfect Coat (Science)
Rust and Society (Social Studies)



Welder

Arcs to Sparks (Science) ●
Artistic License (English)
The Cost of Design (Math)
Forging Ahead (Social Studies)
Welders Assemble Our World (Video) ●



Test Track

Design Matters (Science) ●
Length vs Speed (Math)
Start Your Engines (English)
Test Track Disney Style (Social Studies)

Dolphin Rescue Mission Lessons

Help rescue and rehabilitate an injured dolphin, including creating an artificial prosthetic tail.

Career Emphasis:
Biomedical, Veterinary Medicine



● Express missions only include these lessons



Biomedical Engineer

Physics of Swimming (Math)
Students Driving Change (English)
The Bionic Man (Science)
What is a Biomedical Engineer (Social Studies) ●
Biomedical Engineers Use Technology To Improve Our Health (Video) ●



Antibiotics

Antibiotics in Livestock (English)
History of Antibiotics (Social Studies)
How Antibiotics Work (Science)
The Right Dose (Math) ●



Machinist

3D Printing Technology (Math)
A Day in the Life of a Machinist (Social Studies) ●
Getting into Shape (Science)
Modern Machining Technology (English)
Machinists Craft Our Modern World (Videos) ●



Artificial Limbs

History of Prosthetics (Social Studies)
Measuring Up (Math)
Should Amputees with Prosthetics Compete in Sports? (English)
Strength of Limbs (Science) ●



Marine Biologist

A Day in the Life of a Marine Biologist (English) ●
Jacques Cousteau (Social Studies)
Lessons from the Gulf Oil Spill (Math)
Wale Hunting (English)
Marine Biologists Preserve Our Aquatic Environments (Video) ●



Cell Phone

Cell phone - Help When You Need It (English)
Designing a Cell Network (Math) ●
Effects of Cell Phones Society (Social Studies)
Inside the Cell Phone (Science)



Scuba Diver

Aquarius Underwater Laboratory (Science) ●
A Day in the Life of Aquarium Diver (Math)
The History of Underwater Diving (Social Studies)
Coral Reefs - Our Underwater Rainforests (English)
Commercial Divers go to Great Depths (Video) ●



Radio Tracking

An Overview of GIS (Social Studies)
Privacy Issues of Radio Tracking (English)
Radio Tracking in Conservation (Science) ●
Wale Tracking with GPS (Math)



Veterinarian

Advanced Surgical Care for Pets (Social Studies)
Calculating a Diet for a Dolphin (Math) ●
Modern Advances in Veterinary Care (Science)
The Perfect Habitat (English)
Veterinarians Care for Our Animal Friends (Video) ●



Diving Gear

Breathing Under Pressure (Science)
Diving in Warfare (Social Studies)
Observing Sea Life in a Submarine (English) ●
Timing Your Dives (Math)

Energy Sources

Mission Lessons

Evaluate alternative or upgraded energy sources for a city that currently has an old coal-fired power plant.

Career Emphasis:
Energy, Environment



● Express missions only include these lessons



Economist

A Day in the Life of an Economist (English)
Economic Impacts of Global Warming (Science)
The Great Energy Debate (Social Studies) ●
To Build or Not to Build (Math)
Economists Affect the Bottom Line (Video) ●



Energy Conservation

Calculation Your Carbon Footprint (Math)
Great Inventors (Social Studies)
Saving Energy at Home (Science) ●
What is Clean Energy? (English)



Environmental Engineer

A Day in the life of an Environmental Engineer (English) ●
Can the Color of Your House Reduce Your Energy Bill? (Science)
Electrical Energy Cost Calculator (Math)
History of Coal Fired Power Plants (Social Studies)
Environmental Engineers Keep Our World Clean and Healthy (Video) ●



Emission Controls

Emission Releases (Math)
Hazardous Air Pollutants (Social Studies) ●
The Science Behind Emissions (Science)
What are Emissions? (English)



Environmental Protection Specialist

Fuels - Coal, Oil, and Natural Gas (Science)
How to Become an Environmental Protection Specialist (English)
Keeping It Clean (Math)
Renewable Energy vs. Fossil Fuels (Social Studies) ●
Environmental Protection Specialist Give Good Stewardship (Video) ●



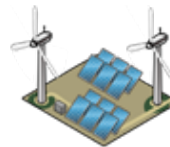
Environmental Protection Agency

Climate Change (Science) ●
What is the Energy Star Program? (English)
How Clean is the Energy You use? (Math)
What is the EPA? (Social Studies)



Nuclear Engineer

Benefits and Uses of Nuclear Power (English)
How a Nuclear Power Plant Works (Science) ●
The Cost of Nuclear Power (Math)
Top Nuclear Power Disasters (Social Studies)
Nuclear Engineers Provide the Power (Video) ●



Renewable Energy

Geothermal Heating and Cooling (Science)
Hydroelectric Power (Social Studies)
Calculations for Solar Energy Systems (Math) ●
Wind Energy (English)



Power Engineer

History of Oil Exploration (Social Studies)
Is Renewable Energy the Answer? (English)
Oil and Gas Exploration (Math) ●
What is Power and Energy? (Science)
Power Engineers Get Energy (Video) ●



The Power Grid

Blackout (Social Studies)
How Much Power Do You Need? (Math)
The Power Grid (Science)
The Smart Grid (English) ●

Entrepreneurship

Mission Lessons

Set up a new business with a focus on entrepreneurship.

Career Emphasis:
Finance, Business,
Resource Management



● Express missions only include these lessons



Accounting

Account for This (Social Studies)
Count on This (Math)
Is This the Best Way? (English)
Just Graph It (Science) ●
Accountants Monitor the Bottom Line (Video) ●



3D Printing

3D Printing is the Latest Form of Additive Manufacturing (Social Studies)
A Day in the Life of a 3D Printing Technician (English)
A World of 3D Printing Options (Science) ●
Making Models - Printing 3D Objects (Math)



Business Consultant

Is Your Plan Ready? (English) ●
Looking at Finances (Math)
Management Principles (Social Studies)
Systematically Scientific Problem Solving (Science)
Business Consultants Provide Leadership (Video) ●



Cybersecurity

Are You a Target? (Social Studies)
Breaking the Language (English)
The Business of Security (Science)
The Math of Security (Math) ●



Data Scientist

AI vs IQ (English)
Female Firsts in Computer Engineering (Social Studies) ●
It's All in the Stats (Math)
Mining For More Than Gold (Science)
Data Scientists are Statisticians (Video) ●



Database

Find the Information (Math)
Getting Information Efficiently (Science)
Really Amazing Data (Social Studies)
Store This (English) ●



Industrial Engineer

Control It (Science)
Maximize This (English)
What Does It Cost (Math)
What is an Industrial Engineer? (Social Studies) ●
Industrial Engineers See the Big Picture (Video) ●



Business Software

A Proposal: Using Words - Creating Action (English)
Mean, Median, and Mode in Spreadsheets (Math) ●
Typewriters to Word Processors (Social Studies)



Investor

Stocks Equity or Cash (Social Studies) ●
The Science of Investing (Science)
What are Stocks? (Social Studies)
Which Investor? (English)
Investors Manage Vital Resources (Video) ●



Workspace

Green the Office (Science)
Plan the Space (Math) ●
The 9 to 5...Does It Still Work? (Social Studies)
Where Do We Work? (Math)

Flu Outbreak Mission Lessons

Learn how health and IT professionals use data, GIS and social media analysis to predict flu outbreaks.

Career Emphasis:
Information Technology, Disease Management



● Express missions only include these lessons



Anthropologist

Evolution of an Outbreak (English)
Germs and Their Interactions (Science)
Learning to Count - The History of Math (Math)
What is a Cultural Anthropologist? (Social Studies) ●
Anthropologists Provide Insight into Our Humanity (Video) ●



Big Data

Big Data Technology (Science) ●
Examining Data - Exponentially Expanding Exabytes (Math)
They are Watching - How Social Media Gathers Data (Social Studies)
What is Big Data? (English)



Computer Programmer

Bits and Bytes (Science)
A Day in the Life of a Computer Programmer (English)
Programming Logic (Math) ●
The Information Age (Social Studies)
Computer Programmers - Writing the Future (Video) ●



Computer Data

Charles Babbage: The Father of Computing (English)
Chart It Up - The Best Way to Display Data (Math) ●
The Computer Age (Social Studies)
What is a CPU? (Science)



Database Administrator

A Day in the Life of a Database Administrator (English) ●
Adding It Up With a Program (Math)
Computer Languages (Social Studies)
Small Bytes - How Does a CD Work? (Science)
Database administrators Keep Track of Critical Information (Video) ●



GIS - Geographic Information Systems

The Geographic Approach (Science)
An Overview of Geographic Information Systems (Social Studies) ●
Spatial Math (Math)
Tracking Yourself with GPS (English)



Epidemiologists

History of Health Records (Social Studies)
How Does the Flu Spread? (Math)
Preventive methods and Treatments of the Flu (Science)
What is an Epidemiologist? (English) ●
Epidemiologists Make the World Safer (Video) ●



Social Media

Changing the Way We Communicate (English)
Extra! Extra! Read All About It (Social Studies)
Predicting the Future with Social Media (Math) ●
Social Media Networks (Science)



Statistician

A Day in the Life of a Statistician (English)
Mean, Media, and Mode (Math) ●
What is Statistical Modeling? (Science)
Stimulating Work as Data Scientists (Video) ●



Vaccines

Calculating the Appropriate Dose (Math)
How to Create a Vaccine (Science) ●
The History of Polio (Social Studies)
What is a Vaccine? (Science)

Fresh Food Mission Lessons

Consider methods to increase production of local foods in a community.

Career Emphasis:
Agricultural Science



● Express missions only include these lessons



Agricultural Engineer

By the Light of the Moon (Social Studies)
Grinding the Grain (Science)
Growing Green (English) ●
Why Waste Energy? (Math)
Agricultural Engineers Help Feed the World (Video) ●



Farming Equipment

A Day to Pick a Day to Plant (English) ●
From Farm to Glass (Science)
My Tractor My Friend (Social Studies)
Water Your Work (Math)



Agronomist

Around the Ground Crop Rotation (Science) ●
Criss Cross Hybrid Crops (Social Studies)
A Day in Life of Agronomist (English)
Time is Money (Math)
Agronomists Make Food Better (Video) ●



Hydroponics

Building a Hydroponic Garden (Math) ●
Explaining Hydroponics (Science)
Growing Our Lunch (English)
History of Hydroponics and its Benefits (Social Studies)



Food Assurance Technician

Better Building Blocks (Science)
It's Found in Food (Social Studies)
Making the Right Choice (English)
You Are What You Eat (Math) ●
Food Assurance Technicians Keep Us Healthy and Safe (Video) ●



Living Livestock

Farm Fresh Fish (Science) ●
Free the Beef (Social Studies)
Room to Farm (Math)
The Food that Moos (English)



Microbiologist

Finding Your Fit (Social Studies)
Microbes and Disease -The Study of Microbiology (Science)
Tiny Dangers -To Eat or Not to Eat (Math)
When Food Goes Bad (English) ●
Microbiologist Focus on the Details (Video) ●



Improving Crop Yield

Composting (Social Studies)
Growing Needs (Math)
Jack and the Beanstalk (Science)
Pesticide Use -Advantages and Disadvantages (English) ●



Veterinarian

Antibiotics in Livestock (English)
A Day in Life of Large Animal Vet (Social Studies) ●
Getting it Right -Caring for Large Animals (Math)
Health Benefits of Humane Animal Treatment (Science)
Veterinarians Care for Our Animal Friends (Video) ●



Organic Farming Methods

Designer Plants -Plant Genetics (Science)
Entomologists - a Ladybugs Best Friend (Social Studies) ●
Maximum Efficiency, Minimum Space (Math)
Organic Food Argument (English)

Hack Attack

Mission Lessons

See how web development, applications, and social media experts restore a school's website and social media after being hacked.

Career Emphasis:
Computer Science, Communications



● Express missions only include these lessons



Data Scientist

AI VS IQ (English)
Female Firsts in Computer Engineering (Social Studies) ●
It's All in the Stats (Math)
Mining For More Than Gold (Science)
Data Scientists are Statisticians (Video) ●



Cloud Computing

How Big is Big? (Math)
It's Not Just a Nimbus (English)
The History of Cloud Computing (Social Studies)
Protecting the Cloud (Science) ●



Information Security Analyst

Don't Open The Door (Science)
If I Were a Hacker (English) ●
It Could Happen To You (Social Studies)
Spreading the Bugs (Math)
Information Security Analysts Secure Our Future (Video) ●



Cybersecurity

Are You A Target? (Social Studies)
Breaking the Language (English)
The Business of Security (Science)
The Math of Security (Math) ●



Software Engineer

Pushing the Limit (Science)
The Journey of 1000 Miles Begins with a Line of Code (Math) ●
The Language of Code (English)
The Power of Possibilities (Social Studies)
Software Engineers Make the Future Possible (Video) ●



Mobile Applications

Design Your App (Science)
DIV App (Math)
Hot Spots Are Not (English)
Misdirection (Social Studies) ●



UI-UX Designer

Creating a Visual Interface (Science) ●
Getting The Message Write (English)
Sizing Up the Competition (Math)
Translating our Meaning (Social Studies)
UI/UX Designers Create Digital Experiences (Video) ●



Robot Development Kit

Controlling Your World (Social Studies)
If You Build It (English) ●
Sensory Overload (Math)
Simple and Compound Machines (Science)



Web Developer

Oh Sweet Phi! (Math) ●
The First Website (Social Studies)
The Story of a Site (English)
The Three Second Rule (Science)
Web Developers Build Our Digital Experiences (Video) ●



Social Media

Check Yourself (Science)
Driving The Traffic (Math) ●
To the Ends of the Earth (English)
Who is Watching You? (Social Studies)

Haiti

Orphanage

Mission Lessons

Design and build an environmentally-sound orphanage for children left homeless by an earthquake in Haiti.

Career Emphasis:
Civil Engineering, Sustainability



● Express missions only include these lessons



Architect

A Day in the Life of an Architect (English)
Amazing Architectural Art (Social Studies)
Designing an Orphanage (Math)
What a Hurricane Can Do To a Building (English) ●
Architects Design the Cities of the Future (Video) ●



Antibiotics

Antibiotics in Livestock (English)
How Antibiotics Work (Science)
The History of Antibiotics (Social Studies)
Calculating Antibiotic Doses for Children (Math) ●



Civil Engineer

Builder of a Civilized World (English)
Stand Your Ground with Surveying (Math) ●
The Best Type of Bridge (Science)
Wonders of the Modern World (Social Studies)
Civil Engineers Design our World (Video) ●



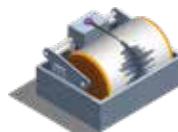
Cell Phone

Cell phone - Help When You Need It (English) ●
Designing a Cell Network (Math)
Effects of Cell Phones Society (Social Studies)
Inside the Cell Phone (Science)



Electrician

A Day in the life of an Electrician (English)
Designing Electric Circuits (Math) ●
Electrifying Rivals: Edison vs Tesla (Social Studies)
Energy Use in the Home (Social Studies)
Electricians Bring the Power (Video) ●



Earthquake Science

An Earthquake Strikes Haiti (Social Studies) ●
Earthquake Safe Buildings (Science)
Measuring Earthquakes - The Richter Scale (Math)
The Great Alaskan Earthquake (Social Studies)



Environmental Engineer

A Day in the Life of an Environmental Engineer (English) ●
Monitoring Our Air (Science)
Supplying Clean Water (Math)
Trash Troubles (Social Studies)
Environmental Engineers Keep Our World Clean and Healthy (Video) ●



Green Buildings

Advancements in Green Building Technology (English)
Efficient Building Construction (Social Studies) ●
Energy Conversion Rates of Solar Panels (Math)
Geothermal Heating and Cooling (Science)



Nurse

Calculating Antibiotic Doses for Children (Math)
Preventative Medicine for Children (Science) ●
Providing Medical Care in the 3rd World (Social Studies)
To Vaccinate or Not to Vaccinate (English)
Nurses Deliver Care (Video) ●



Water Purification

Determining Water Safety (Science) ●
Making Clean Drinking Water (English)
Natural Disasters and Disease in Haiti (Social Studies)
The Water Cycle (Science)

Heart Surgery Mission Lessons

Understand heart surgery techniques and therapy used to treat a child's heart defect.

Career Emphasis:
Medicine, Healthcare



● Express missions only include these lessons



Biomedical Engineer

How Big is My Heart (Math)
Keep It Level - Sensors for Diabetic Patients (Science)
Students Driving Change (English) ●
What is a Biomedical Engineer? (Social Studies)
Biomedical Engineers Use Technology to Improve Our Health (Video) ●



Air Ambulance

A Bird with One Wing - How Helicopters Fly (Science) ●
Air Ambulance - Getting Off the Ground (Math)
Air EMT (English)
History of the Air Ambulance (Social Studies)



Doctors

Ethics and Modern Medicine (English)
Great Doctors in History (Social Studies)
Knowing your numbers - Diagnostic Testing (Math) ●
The Respiratory System (Science)
Doctors Improve Quality of Life (Video) ●



Body Imaging

Cat Scans - Looking Inside You (Science)
Industrial Uses of Medical Imaging (Science)
Magnetic Resonance Imaging (English) ●
X-Rays - The Inside View (Social Studies)



Nurses

Blood - It's Chemistry (Science) ●
Nurse Counseling (Social Studies)
Pediatric Nursing Care (English)
You Are What You Eat (Math)
Nurses Deliver Care (Video) ●



Heart Repairing

History of Artificial Heart (Social Studies)
Keep up the Pace (Science)
Our Incredible Heart (Math) ●
Putting your Heart at Risk (English)



Paramedics

Day in Life of a Paramedic (Social Studies)
Race Against the Clock (Math) ●
The Golden Hour (Science)
When Seconds Count (English)
Paramedics Provide Critical Response (Video) ●



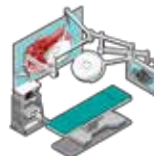
Medical Technology

Anesthetics (Math)
How Antibiotics Work (Science)
New Discoveries in Medicine (English)
Robotic Surgery (Social Studies) ●



Therapist

Make it Move - Physical Therapy (Math)
Meeting Ralph - Dog Therapy (English)
Take a Swim - Aquatic Therapy (Science)
Work It Out - Occupational Therapy (Social Studies) ●
Physical Therapists Bring Healing and Recovery (Video) ●



Organ Transplants

Artificial Organs (Social Studies) ●
Foreign Bodies (Science)
We Got the Beat - Heart-Lung Machines (Math)
Organ Donation - Myth vs Fact (English)

Lightweight Aircraft Mission Lessons

Design a lightweight and easily maintained aircraft for multiple roles and mission distances.

Career Emphasis:
Aerospace, Manufacturing, Metallurgy, Recycling



● Express missions only include these lessons



Industrial Designer

The Material Difference - New Materials in Product Design (Science)
A Day in the Life of an Industrial Designer (Social Studies) ●
Balancing Form and Function (English)
3D Modeling (Math)
Industrial Designers Develop Amazing Things (Video) ●



Aircraft

As the Crow Flies (Math)
Silent Flight (English)
The Solar Impulse (Social Studies) ●
The Plane Truth About Planes (Science)



Machinist

3D Printing Technology (Math)
A Day in the Life of a Machinist (Social Studies) ●
Getting Into Shape (Science)
Modern Machining Technology (English)
Machinists Craft Our Modern World (Video) ●



Automation Mechatronics

Digital Decision Making (Math)
Jack of All Trades (English)
Real Life Autobots (Science)
Why Now for Mechatronics? (Social Studies) ●



Manufacturing Technician

Communication in Manufacturing (English)
Get It Right - Calibration (Science)
Meeting Demand (Math) ●
Quality Assurance (Social Studies)
Learn About a Manufacturing Technician (Video) ●



Metals and Alloys

How Much Metal is There? (Math)
How to Make it with Metals (Science)
Out of the Iron Age - The History of Metals (Social Studies) ●
The Rarest of Metals (English)



Mechanical Engineer

Simple and Compound Machines (Science)
Mechanical Advantage and Efficiency (Math)
How Machines Advance Civilization (Social Studies)
A Day in the Life of a Mechanical Engineer (English) ●
Mechanical Engineers Design Tools (Video) ●



Modern Innovative Materials

Fabric 2.0 (English)
Flying Farther (Math) ●
Wear and Tear (Math)
Who's Your Alloy? (Science)



Welder

Arcs to Sparks (Science) ●
Artistic License (English)
The Cost of Design (Math)
Forging Ahead (Social Studies)
Welders Assemble Our World (Video) ●



Recycling

Making the Argument for Recycling (English) ●
Save the Earth Through Recycling (Math)
Where Does Your Can Go? (Science)
Who Recycles the Most? (Social Studies)

Rescue Robot Mission Lessons

Explore technology and techniques used in robotics design such as sensors, circuits, industrial design and computers.

Career Emphasis:

Electronics, Computer Science



● Express missions only include these lessons



Computer Programmer

Bits and Bytes (Science)
 A Day in the Life of a Computer Programmer (English)
 Programming Logic (Math)
 The Information Age (Social Studies) ●
 Computer Programmers - Writing the Future (Video) ●



Cameras

Cameras vs Privacy (Social Studies)
 Get Focused - Lenses (Math) ●
 I See You - Facial Recognition (English)
 Over the Rainbow - Electromagnetic Spectrum (Science)



Drone Operator

Getting It Under Control (Science) ●
 A Day in the Life of a Drone Operator (English)
 The Right Tool for the Job - Drone Features (Math)
 It's Automatic - History of Automated Machines (Social Studies)
 Drone Operators Use Robots to Inspect the World (Video) ●



Computers

A Supercomputer in Your Pocket (Math)
 Communicating with Computers (English) ●
 Making Memory (Science)
 The Computer Age (Social Studies)



Electrical Technician

A Day in the Life of an Electrical Technician (English) ●
 Electric Circuits (Science)
 Ohm's Law (Math)
 Throwaway and Repairable Electronics (Social Studies)
 How Electrical Technicians Power the World (Video) ●



Electrical Circuits

Print Circuit Boards (English)
 Staying Alive (Math)
 Vacuum Tubes to Circuit Boards (Social Studies)
 Zap, Crackle, Pop! = Resistors and Capacitors (Science) ●



Industrial Designer

3D Modeling (Math)
 Balancing Form and Function (English)
 A Day in the Life of an Industrial Designer (Social Studies) ●
 The Material Difference (Science)
 Industrial Designers Develop Amazing Things (Video) ●



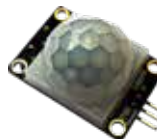
Microphones

Can you Hear Me? (English)
 Making Waves - Sound Waves (Science) ●
 Sound Bites - Microphone Technology (Social Studies)
 Turn it Up - Decibel Levels (Math)



Mechanical Engineer

A Day in the Life of a Mechanical Engineer (English)
 How Machines Advance Civilization (Social Studies)
 Mechanical Advantage and Efficiency (Math) ●
 Simple and Compound Machines (Science)
 Mechanical Engineers Design Tools (Video) ●



Sensors and Logic

Digital Decision Making (Math)
 How Decisions Are Made (Social Studies)
 How We and Machines Perceive the World (English)
 Seeing with Sound - Sonar (Science) ●

Transportation Congestion Mission Lessons

Evaluate new Transportation methods for a city with traffic congestion problems.

Career Emphasis:
Transportation, Engineering

● Express missions only include these lessons



Automotive Engineer and Technician

A Day in the Life of an Automotive Engineer (English) ●
Consumption Junction (Math)
Fuel Cells (Science)
Intelligent Roadways (Social Studies)
Automotive Technicians Keep Things Moving (Video) ●



Aircraft

As the Crow Flies (Math) ●
Silent Flight (English)
The Solar Impulse (Social Studies)
The Plane Truth About Planes (Science)



Logistics Engineer

Find It and Fix It (Math)
Five Minutes Late (Science) ●
Labyrinth of Logistics (Social Studies)
The Text Heard Round the World (English)
Logistics Engineers Get Things Done (Video) ●



Automobiles

Better Mileage and Better Safety (Science) ●
Cars and Society (Social Studies)
Home James - Self Driving Cars (English)
Pay the Toll (Math)



Mechanic

Diesel Gas or Electric? (Science)
Dr. Diagnosis (English)
Engine Mechanics - What's Your Specialty? (Social Studies) ●
Hold Your Horses (Math)
Mechanics Keep Our World Moving (Video) ●



Hybrid and Electric Vehicles

Braking the Car (Science)
Government Policies and Electric Cars (Social Studies)
Hybrid and Electric Vehicles - Are They Worth It? (Math)
Range Anxiety (English) ●



Transportation Engineer

Building Blocks (English)
Mix It Up (Science)
The Master Plan (Social Studies)
To Grid or Not to Grid? (Math) ●
Transportation Engineers Move the World (Video) ●



Public Transportation

Busing It (Social Studies)
Chemistry of Smog (Science) ●
Pedal Power (English)
What Floats Your Boat (Math)



Transportation Planner

An Ounce of Prevention (English)
Drive or Dollars (Social Studies)
Eye in the Sky (Science)
Hurry UP and Go (Math) ●
Transportation Planners Keep the World Moving (Video) ●



Trains

Railroad Tracks - One Size Fits All (English)
Riding the Rails (Social Studies)
The Force is With You (Science)
Worth the Ride (Math) ●

Building Submarines

Mission Lessons

Explore modern manufacturing techniques and technologies to improve the design and construction of a new Naval submarine.

Career Emphasis:
Engineering, Construction



● Express missions only include these lessons



Engineer

Meet the Engineers (Social Studies)
Systems that Work (Math)
Pick a Specialty (English) ●
Environmental Controls (Science)
Nuclear Engineers (Video)



Additive Manufacturing

3D Printing Revolution (Science) ●
From Ideas to Print (Math)
On-Demand Innovation (English)
Future Tech (Social Studies)



Naval Architect

On the Job with a Naval Architect (English)
Math Under the Waves (Math) ●
Designing a Submarine (Science)
A Timeline of Submarine Design (Social Studies)
Marine Engineers and Naval Architects (Video)



Metals

Metal Magic (Science) ●
Shaping Metals (Math)
Wonderful World of Welding (English)
Safety in Metalworking (Social Studies)



Machinist

Meet a Machinist (English)
Precision in Motion (Math) ●
CNC Magic (Science)
Machining Your Future (Social Studies)
Machinists (Video)



Nondestructive Testing

Putting Subs to the Test (Science)
Quality Matter (Math)
Tech Spotlight: NDT Techniques (English) ●
Learning From Mistakes (Social Studies)



Quality Control Inspector

Meet a Quality Control Inspector (Science)
Measuring for Submarine Safety (Math)
Communication During Inspection (English)
Failing the Test (Social Studies) ●
Fire Prevention and Protection Engineers (Video)



Nuclear Reactors

Powering the Deep (Science) ●
Inside the Reactor (Math)
Balancing Act: Dangers and Challenges (English)
Future Horizons (Social Studies)



Welder

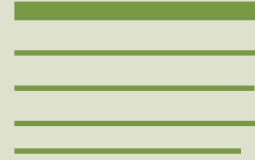
Meet a Welder (Science) ●
Numbers in the Heat (Math)
Communication for Welders (English)
Forging Futures (Social Studies)
Welders, Cutters, Solderers, and Brazers (Video)



Robotics and Automation

Robots at Work (Science)
Math in Motion (Math)
Tech Talk (English)
Shaping the Future (Social Studies) ●

Modules



Introduction to Artificial Intelligence (AI)

From the wheel to the printing press and all the way to the internet, we can mark human history through some key innovations. There's the world before and the world after. AI technologies are surely another one of those innovations, and the world isn't going to be the same. In this course, students will take a walk through the world of AI. They'll learn what it is, how it works, what it's already doing for people, and where it will take us in the future.



Introduction to Coding

This 20-hour course provides everything you need to introduce students to computer science and real, text-based computer programming for middle school! This course includes online lessons, group classroom activities and complete lesson plans for guiding students through authentic coding experiences. Students will learn basic programming concepts, careers in IT and computer science, and explore mobile applications and cloud computing.



Introduction to Computer Careers

This comprehensive module is designed specifically for middle school students looking to learn more about the different careers in the field of computer science and technology. This course offers a blend of online lessons, group classroom activities, and complete lesson plans to introduce students to the various roles, responsibilities, skills, and knowledge required for different positions for computer professionals.



Introduction to Engineering

This module provides a comprehensive overview of various aspects of engineering, designed to inspire and educate middle school students. This course includes online lessons, group classroom activities, and complete lesson plans designed to engage students with interactive content, real-world applications, and insights into the daily lives of engineers, fostering an interest in engineering careers and technology.

Expand the Benefits of Learning Blade with Digital Curriculum

Transform your middle school Career and Technical Education (CTE) program by offering a comprehensive CTE curriculum with Learning Blade's interactive missions, creating an enriched educational experience. eDynamic Learning is the largest publisher of CTE and elective courses in North America, offering over 250 courses for middle and high schools. The Middle School Library offers unique elective and career courses for students to explore a variety of professions and receive the knowledge and preparation needed to make life-shaping decisions prior to high school. Our digital curriculum can serve as a textbook replacement or supplement the classroom curriculum with tailored resources and assessments catering to diverse student needs, fostering personalized learning experiences.



Contact us today to explore courses tailored to your students' career interests, discovered through Learning Blade Missions and Modules.



Do you find yourself wondering how your favorite apps, websites, and games were made? Maybe you want to try building your own. Well, now you can! In Middle School Coding 1a, you will get an introduction to the basics of computer science, HTML, CSS, JavaScript, and Python.

Unit 1: Crack the Code!

Sometimes good old human ingenuity is the key. We'll begin by solving some puzzles and exploring a secret computer that might be hiding in your home!

Unit 2: There's Nothing "Soft" about Software!

We're going to see how software can improve your life and the lives of others. You'll also get some hands-on experience with creating a database for a local deli.

Unit 3: Let's Play!

You will use a block-based programming website to help you control a program and learn some of the foundations of coding.

Unit 4: It's All Greek to Me!

Get ready to think like a computer and dive into the details of how words, pictures, and music are actually stored as numbers.

Unit 5: Snake Charmer

We are going to face the snake and begin learning the ins and outs of the Python programming language.

Unit 6: Flexing Our Python Muscles!

Now that you've whet your appetite for more coding challenges, get ready to take your Python skills to the next level!



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