



Career and Technical Education

2026 Middle School Catalog

Pathways for Learning. Skills for Life.

Middle school is an extraordinary time of curiosity, identity formation, and growing awareness of a future worth preparing for—and it's the ideal moment to begin Career and Technical Education (CTE). After all, career and technical education should start the moment students begin asking "When will I use this?" or "What do I want to be?"

Our mission is to be your partner in bringing career exploration and readiness to grades 6–8. We help students build the awareness and foundational skills, from computing applications to professional habits, that make their high school years and beyond more purposeful and fulfilling.

Research consistently shows that early exposure to CTE builds engagement, reduces dropout risk, and sets students on a more confident path. That's the motivation behind McGraw Hill's commitment to developing programs specifically for this age group. We seek to meet middle schoolers where they are, spark their curiosity, and build skills that last.

Here's what McGraw Hill brings to your middle school CTE program:

- **Early career exploration** — Our resources help students discover who they are and where they're headed, long before they set foot in a high school classroom. Career awareness and exploration are built in from day one.
- **Hands-on, relevant learning** — Middle schoolers engage best when learning feels real. Our programs are designed around activities and contexts that connect classroom content to actual careers and everyday life.
- **Soft skills, built in** — From communication and teamwork to problem-solving and responsibility, we embed professional skill-building throughout every program because these skills matter at every grade level.
- **Support for CTE educators** — We know CTE teachers at the middle school level wear many hats. Our resources are designed to be flexible, reliable, and easy to implement, no matter your background or experience level.
- **Flexible formats** — Whether your school leans on print, digital, or a blend of both, our resources are accessible and adaptable to fit your classroom environment and student needs.

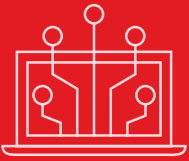
We are proud to partner with these dedications CTE organizations:



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Dynamic Learning Resources

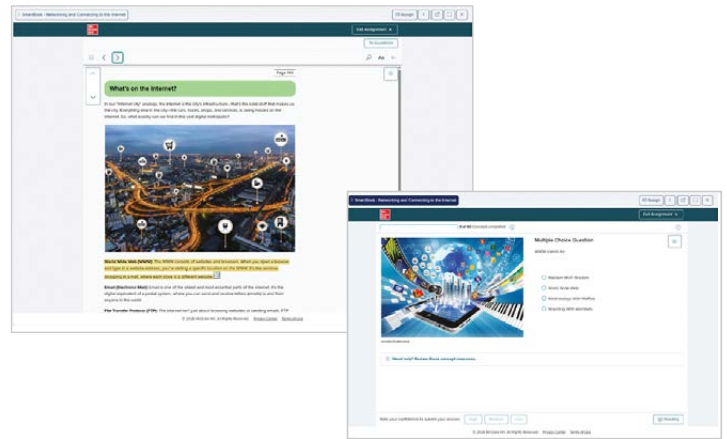
Engaging digital designed for K–12 career readiness

The online learning solution for McGraw Hill CTE programs saves teachers time and creates a streamlined student learning experience by providing the eBook, assessments, simulations, videos, soft skills, and career exploration all in one place.

Core Features that Build Skills & Confidence

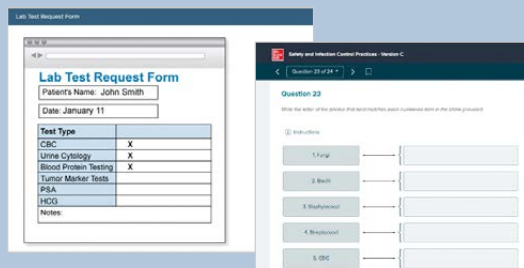
SmartBook®'s adaptive assessment personalizes student learning

- Students receive practice questions based on their progress and confidence
- eBook content for study review is individualized to student knowledge gaps
- Teachers see reports to help them support individual students or the whole class



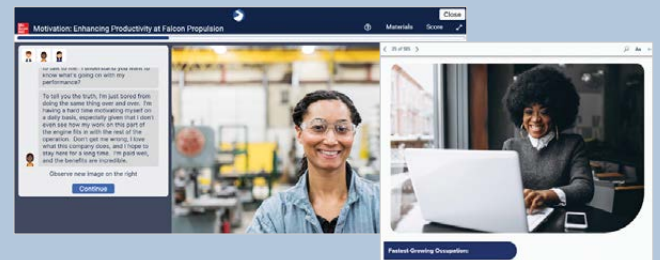
Expansive assessment sets

Customizable formative and summative practice questions, aligned to learning objectives, automatically grade and populate easy-to-use teacher reports.



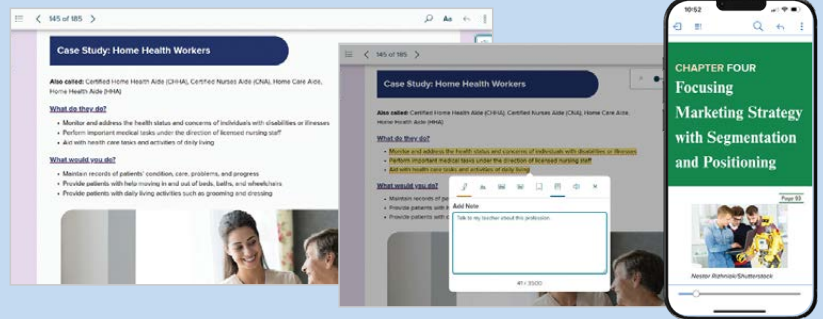
Engaging multimedia & simulations

Engaging work simulations, videos, animations, labs, flashcards, and other interactive learning tools build confidence and reinforce learning objectives.



Interactive eBook and mobile app

The eBook engages students with embedded interactive assessments and self-study tools. A mobile app called "McGraw Hill K-12 Portal" helps students study on the go.



Soft Skills Companion

Students develop employability skills in every McGraw Hill CTE course

Engaging simulations

Students practice creativity, critical thinking, and leadership by making choices in real-life scenarios.

Project-based learning

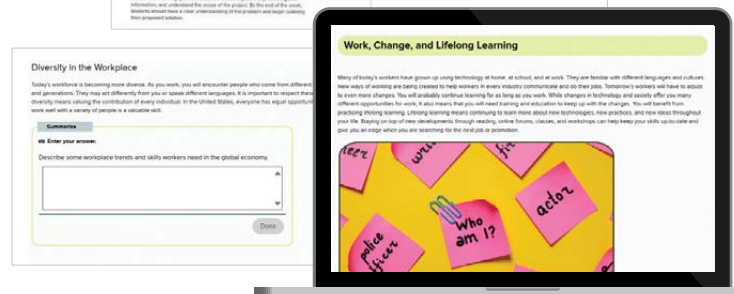
Students develop communication, problem solving, digital proficiency, interpersonal skills, and project management with expertly designed projects.

Soft skills SmartBook®

Students learn to research careers, communicate in the workplace, manage time, and think critically using SmartBook with adaptive assessment questions that personalize learning.

Practice questions

Work-oriented questions challenge students to apply math, critical reading, and graphic interpretation skills, preparing them for real-world tasks in their future careers.





Dynamic Learning Resources (cont.)

Career Exploration



Career Center helps students find their path

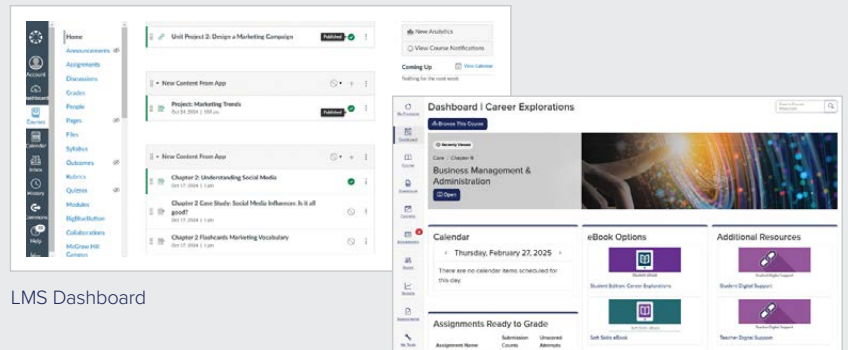
- A 60-question, five-minute survey provides a personalized RIASEC* profile with easy-to-understand descriptions.
- Students explore 900 careers and can filter by personal interests or an attribute profile after taking the survey.
- Job descriptions include required skills and knowledge, RIASEC map, income level, and much more.

*RIASEC is an acronym for six personality types identified by psychologist John Holland: Realistic (R), Investigative (I), Artistic (A), Social (S), Enterprising (E), Conventional (C).

K-12 Rostering and LMS Integration

Easy to access, easy to use

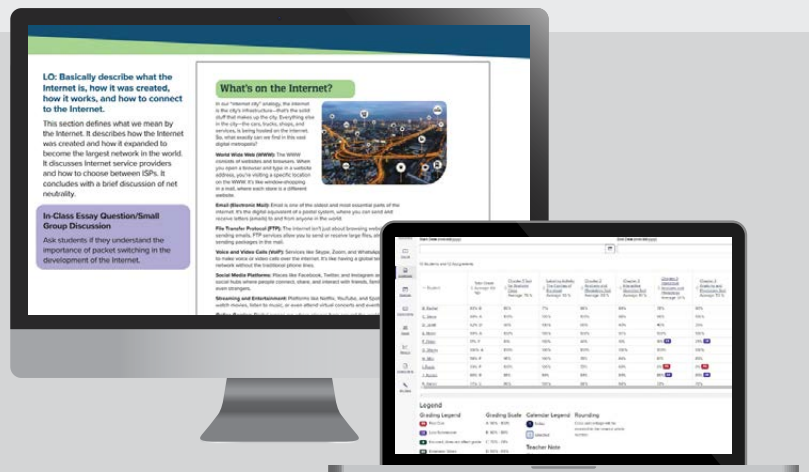
Whether you deliver activities through your learning management system (LMS), like Canvas, Schoology, or Google Classroom, or you use our easy-to-use dashboard, time is spent on learning and teaching, not searching and finding.



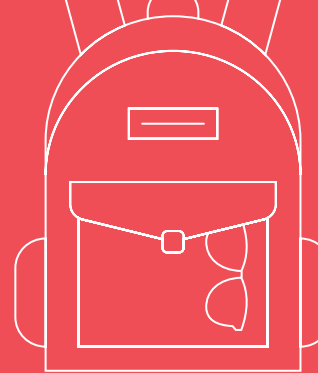
McGraw Hill Dashboard

Teacher Support and Resources

- Customizable PowerPoint presentations, lesson guides, classroom suggestions, and more support successful instruction.
- Powerful assessment reports help teachers identify gaps, make data-driven decisions, and adjust instruction.



Perkins-ready



McGraw Hill's digital CTE resources, aligned to your programs of study, enhance and supplement your CTE initiatives with measurable increases to access, employability, and career exploration.

Why McGraw Hill's 1-Year Digital CTE Solution Fits Perkins V:

- ✓ **Direct CTE improvement:** Adaptive technology, assessment reports, and interactive instructional resources enhance course instruction.
- ✓ **Employability skills built-in:** Every course delivers explicit soft skills instruction using simulations, project-based learning, adaptive readings, and auto-graded assessments.
- ✓ **Career exploration embedded:** An interest and aptitude survey, occupation profiles with updated O*NET data, and video career introductions help career discovery.
- ✓ **Easy to scope:** One-year term licenses match grant period and reporting cycles.
- ✓ **Scalable & equitable:** Web-based delivery with read-aloud functionality supports more students with consistent quality.
- ✓ **Measurable:** With LMS grade passback and SIS integration, the usage and outcomes data can be used in Perkins reporting.



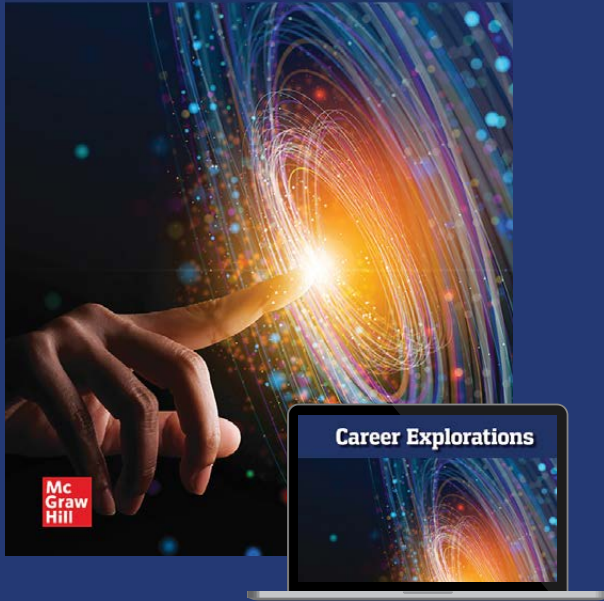
Audit-safe spending

While state-level Perkins V guidelines may permit purchasing print or multi-year licenses, particularly when expanding programs of study, a one-year digital license is nearly always aligned with your state's Perkins V rules. Above are six key reasons you can confidently use Perkins V funds to support your students' success.

If you'd like help developing Perkins V justification for your learning resources, your McGraw Hill representative is here to assist you!

Need digital review access or a sample? Pricing? More info?
mheducation.com/CTE | 800-338-3987 | **Contact your local representative**

Career Explorations



Request a
Digital Sample!



Career Explorations

1st Edition ©2024 | McGraw Hill

**Discover careers. Develop skills.
Define the future.**

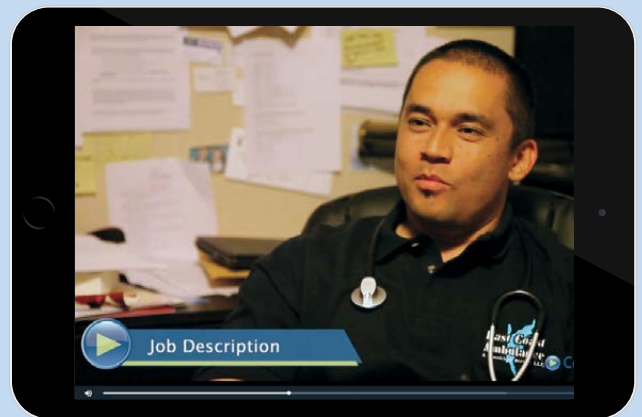
Career Explorations introduces students to hundreds of career opportunities and inspires them to build the professional skills needed for future success.

This one-of-its-kind program blends occupation and industry content with real-world case studies and application-based activities to engage students from the very first lesson. Students immerse themselves in 16 different career fields, exploring salaries, required education and credentials, day-to-day responsibilities and challenges, and the skills necessary to excel in almost any occupation.

Student Edition Sample: 978-1-26-543976-7

Using Career Explorations, students will:

- Explore hundreds of modern careers and occupations from all CTE pathways.
- Learn from authentic case studies in each chapter exploring an emerging career in detail.
- Benefit from fundamental industry data, including salaries, job growth, and education level—updated and sourced from O*NET.
- Reinforce their learning with real-world, industry-specific practice questions throughout each chapter.
- Experience project-based learning activities and classroom-friendly discussions that teachers have support in delivering.



A program designed to inspire and discover

Case Study: Veterinary Technologists & Technicians

Also called: Certified/Licensed Veterinary Technician, Veterinary Technician (Vet Tech)

What do they do?

- Perform medical tests in a laboratory environment for use in the treatment and diagnosis of diseases in animals
- Prepare vaccines and serums for prevention of diseases
- Prepare tissue samples, take blood samples, and execute laboratory tests, such as urinalysis and blood counts
- Clean and sterilize instruments and materials and maintain equipment and machines
- Assist a veterinarian during surgery



Highest Wage Occupation:

Food Scientists and Technologists

- Inspect food processing areas to ensure compliance with government regulations and standards for sanitation, safety, quality, and waste management
- Check raw ingredients for maturity or stability for processing and finished products for safety, quality, and nutritional value
- Develop new or improved ways of preserving, processing, packaging, storing, and delivering foods, using knowledge of chemistry, microbiology, and other sciences
- Test new products for flavor, texture, color, nutritional content, and adherence to government and industry standards

Fast Facts:

- Employment: 16,000 employees
- Annual Openings: 1,700
- Median Annual Wage: \$37,466 hourly, \$78,340 annually
- Education Needed: Doctoral degree
- Other: People interested in this work like activities that include ideas, thinking, and figuring things out.



Chapter 7

Agriculture, Food, & Natural Resources

Chapter Topics

- 7.1 Agriculture, Food, & Natural Resources Today
- 7.2 Agriculture, Food, & Natural Resources Jobs
- 7.3 Building a Career in Agriculture, Food, & Natural Resources
- 7.4 Education and Training for Agriculture, Food, & Natural Resources Opportunities
- 7.5 Working Conditions in the Agriculture, Food, & Natural Resources Industry
- 7.6 Trends in Agriculture, Food, & Natural Resources

Essential Questions

By the end of the chapter, you will be able to answer the following questions:

- 7.1 What types of opportunities are available in Agriculture, Food, & Natural Resources?
- 7.2 Which opportunities may be right for you?
- 7.3 How can I match my skills & interests with the right job?
- 7.4 What training & education is needed for a job in Agriculture, Food, & Natural Resources?
- 7.5 What are typical work environments in Agriculture, Food, & Natural Resources?
- 7.6 What factors affect trends in Agriculture, Food, & Natural Resources?

Practice 7-4

Skills Practice

When reading documents, such as procedures for sorting materials at a recycling plant, workers in the Agriculture, Food, & Natural Resources industry need to be able to identify the main idea. They must also find details supporting the main idea. The main idea tells what the document is about. Details provide more information that helps explain the main idea. Practice this skill!



Creating awareness: Students explore hundreds of career profiles, waking them up to options and opportunities.

Making connections: Through case studies and interview videos, students learn about occupations up close.

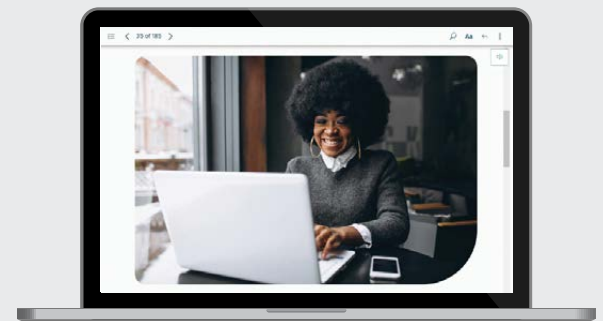
Inspiring reflection: *Essential Questions* frame a student's exploration of each career field.

Promoting active learning: Students engage in skills practice, project-based learning, group activities, and simulations.

Dynamic Resource Features

- Over 1,000 assessment questions that support student engagement and learning
- SmartBook® delivers personalized, adaptive learning tailored to student progress
- An interactive eBook with integrated questions and study support
- Over 60 video interviews highlighting people in occupations across industries as they describe their day-to-day responsibilities and what they most enjoy
- A mobile app with eBook for studying on the go
- Extensive soft skills activities and an exploratory Career Center with 900 occupations to help students become future-ready (see pages 3–4)

Access is made easy through your learning management system or single sign-on. Online teacher materials in the platform support instruction. See page 2 for more details on digital resources.



Available in print and 1- to 8-year digital and bundle subscriptions

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- | | | |
|---|--|--|
| Chapter 1: Exploring Your Future | Chapter 6: Architecture and Construction | Chapter 12: Transportation, Distribution, and Logistics |
| Chapter 2: Science, Technology, Engineering, and Math (STEM) | Chapter 7: Agriculture, Food, and Natural Resources | Chapter 13: Hospitality and Tourism |
| Chapter 3: Manufacturing | Chapter 8: Government and Public Administration | Chapter 14: Health Science |
| Chapter 4: Information Technology (IT) | Chapter 9: Business Administration and Management | Chapter 15: Human Services |
| Chapter 5: Arts and Media | Chapter 10: Finance | Chapter 16: Education and Training |
| | Chapter 11: Marketing | Chapter 17: Law, Public Safety, Corrections, and Security |

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Exploring Digital and Information Technology

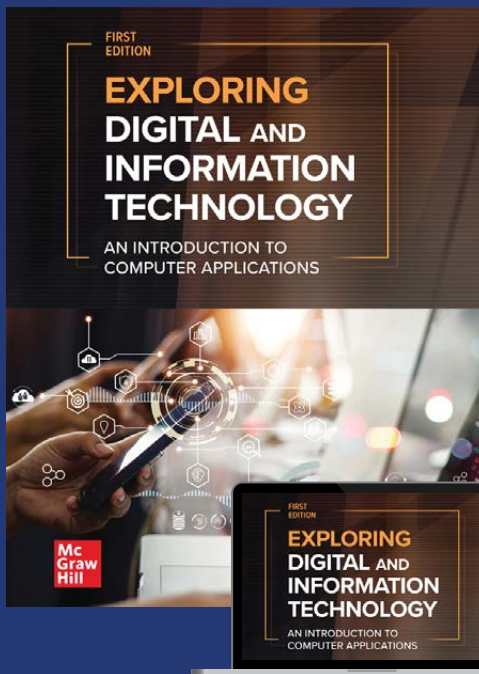
1st Edition ©2025 | McGraw Hill

Explore the world of computing

Exploring Digital and Information Technology brings order to the ever-evolving world of computing by giving students foundational experience in the technology essential to their futures: computer hardware, operating systems, common business applications, digital citizenship, artificial intelligence, and more. Students explore the vast landscape of computing while doing hands-on activities to start building foundational skills.

- **Modular design:** Content is scaffolded, organized in a logical progression, and modular to provide teachers with great flexibility.
- **Future-proof content:** Students gain a deep understanding of the technology they use every day and what they will use for career success.
- **Teaching support:** Teachers have exemplary support with a Teacher’s Edition, presentation materials, discussion prompts, and more.

Student Edition Sample: 978-1-26-631861-0



Request a Digital Sample!



Dynamic Resource Features

- SmartBook® delivers personalized, adaptive learning tailored to student progress
- Authentic simulations provide instant feedback on core concepts
- Interactive multimedia and robust assessments reinforce learning objectives
- Extensive soft skills activities and an exploratory Career Center make students future-ready (see pages 3–4)
- A mobile app with eBook for studying on the go

Access is made easy through your learning management system or single sign-on. Online teacher materials in the platform support instruction. See page 2 for more details on digital resources.

Table of Contents

- Chapter 1:** Computer Hardware
- Chapter 2:** Computer Software
- Chapter 3:** Computer Input
- Chapter 4:** Computer Output
- Chapter 5:** Computer Storage
- Chapter 6:** Windows 10
- Chapter 7:** Windows 11

- Chapter 8:** Mac OS
- Chapter 9:** Networking and Connecting to the Internet
- Chapter 10:** Internet Research
- Chapter 11:** Digital Citizenship
- Chapter 12:** Computer Security
- Chapter 13:** Computers in Business
- Chapter 14:** File Management

- Chapter 15:** Databases
- Chapter 16:** Spreadsheets
- Chapter 17:** Programming
- Chapter 18:** Web Design and Development
- Chapter 19:** Emerging Technologies
- Chapter 20:** Artificial Intelligence



Available in print and 1- to 8-year digital and bundle subscriptions

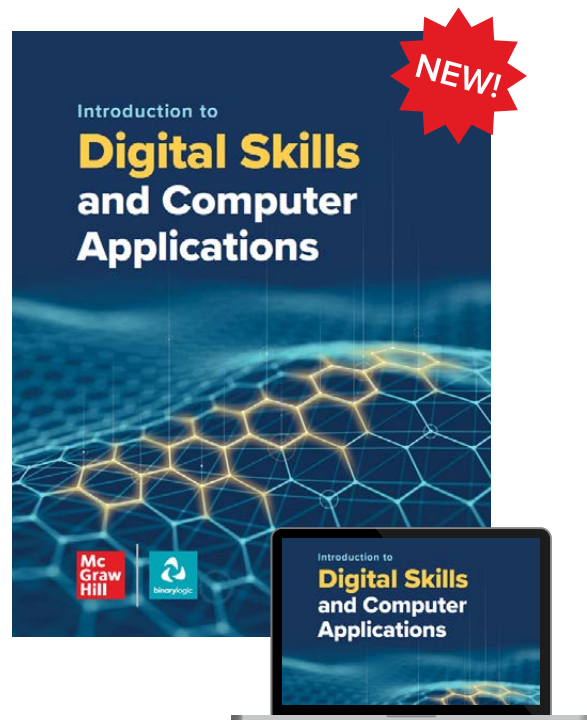
Introduction to Digital Skills and Computer Applications

1st Edition ©2026 | Binary Logic and McGraw Hill

Building digital confidence and essential productivity skills

This hands-on program guides students through essential computer concepts and practical digital workflows used across school, careers, and daily life. Beginning with how computers work and progressing into Microsoft Office and other productivity tools, data organization, and digital communication, students build confidence using technology purposefully and responsibly.

- **Skill building:** Students develop computer fundamentals, file management, online research skills, and productivity workflows. They create documents, spreadsheets, charts, and presentations while learning responsible technology use and digital citizenship.
- **Real-life active learning:** Learners apply skills through hands-on projects that encourage creativity, collaboration, and critical thinking using real-world digital tools and scenarios.
- **Emerging technology awareness:** Students are introduced to concepts such as cloud-based tools and generative AI, with an emphasis on ethical, safe, and purposeful use.



Student Edition Sample: 9781265095666
 Print Teacher's Edition: 9781266090554

Request a Digital Sample!

Dynamic Resource Features

- SmartBook® delivers personalized, adaptive learning tailored to student progress
- Short videos instruct students on specific tasks in the application
- Extensive auto-graded assessment supports each learning objective
- Rich soft skills activities and an exploratory Career Center help make students future-ready (see pages 3–4)
- A complete online Teacher's Edition and other resources support instruction
- A mobile app with eBook for studying on the go

Access is made easy through your learning management system or single sign-on. Online teacher materials in the platform support instruction. See page 2 for more details on digital resources.

Table of Contents

- Chapter 1:** Learning the Basics (Windows, etc.)
- Chapter 2:** Getting Online (Multiple Apps)
- Chapter 3:** Exploring Cloud Tools (Google Forms, Sheets, Drive)

- Chapter 4:** Working with Numbers (Excel)
- Chapter 5:** Collecting Information (Excel)
- Chapter 6:** Advanced Imaging (GIMP)
- Chapter 7:** Creating a Document (Word)



Available in print and 1- to 8-year digital and bundle subscriptions

- Chapter 8:** Designing a Document (Word)
- Chapter 9:** Presenting Your Ideas (PowerPoint)
- Chapter 10:** Documents for a Purpose (Microsoft Office, Canva)

Level Up Through Digital Discoveries NEW



A fun, easy-to-use, standards-aligned approach to teaching computing and AI literacy across grades!

Grades K–12 | ©2026 | Binary Logic

Make computer science a natural part of your students' learning in every grade using a curriculum aligned with the AI Literacy Framework, ISTE, and CSTA K-12 CS Standards.

- **A multi-grade approach:** Uses a comprehensive, progressive development to build ever-stronger understanding through each grade, moving students from foundational skills to advanced concepts.
- **Active learning:** Engages students through well-defined learning goals, hands-on activities, and project-based learning.
- **Modern and relevant:** Incorporates AI literacy, coding, cybersecurity, and robotics.
- **Digital literacy:** Students will explore the use and impacts of AI and cybersecurity, developing critical thinking for informed, responsible digital citizenship.

Level Up Spirals Curriculum Across the Following Domains and Topic Areas:

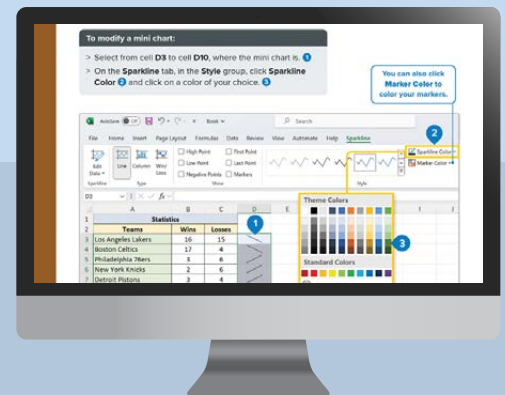
Domains Data & Analysis Productivity & Design Topic Areas Information Technology Artificial Intelligence Data Science	Computing Fundamentals Communication & Collaboration Computational Thinking Computer Science Networking	Coding & Programming Digital Literacy Cybersecurity Ethical & Social Implications
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Optional Robotics Lessons in Each Grade!

Beyond the textbook, each grade also provides age-appropriate support lessons for robotics kits (i.e., VEX, LEGO, HP, Edison) and microcontrollers (i.e., Micro:bit, Arduino), all delivered as eBooks via the online platform.

Dynamic Resource Features

- SmartBook® delivers personalized, adaptive learning tailored to student progress (for Grades 6–12)
- Videos help students build computer application skills
- Extensive self-grading assessment reinforces learning objectives
- A complete online Teacher's Edition and other teaching support resources
- Rich soft skills activities and an exploratory Career Center help make students future-ready (see pages 3-4; Grades 6–12)
- A mobile app with eBook for studying on the go



Available in print and 1- to 8-year digital and bundle subscriptions

Age-appropriate consumable work texts with a rich online experience prepares students for the digital AI-enabled world of tomorrow.

A flexible approach: Levels 6 through 8 can be used on their own, or as part of the full series.

- **Grades K–5:** Fun short lessons, easy to teach, and standards-aligned
- **Grades 6–8:** The right combination of exploration and skill-building for middle grades
- **Grades 9–12:** Deepening computing, programming, and AI skills to become career-ready



Table of Contents

LEVEL 6

- Unit 1:** Learning the Basics
- Unit 2:** Exploring Cloud Tools
- Unit 3:** Getting Online
- Unit 4:** More Coding with Scratch
- Unit 5:** 3D Design
- Unit 6:** Introduction to Artificial Intelligence

LEVEL 7

- Unit 1:** Creating a Document
- Unit 2:** Working with Numbers
- Unit 3:** Getting Started with Physical Computing
- Unit 4:** Presenting Your Ideas
- Unit 5:** Introduction to Python
- Unit 6:** The Evolution of Technology

LEVEL 8

- Unit 1:** Collecting Information
- Unit 2:** Python Programming Basics
- Unit 3:** Advanced Projects with micro:bit
- Unit 4:** Designing a Document
- Unit 5:** Multimedia Presentations
- Unit 6:** Communicating Online



Introduction to Agricultural Careers

Careers and Basics of Agriculture

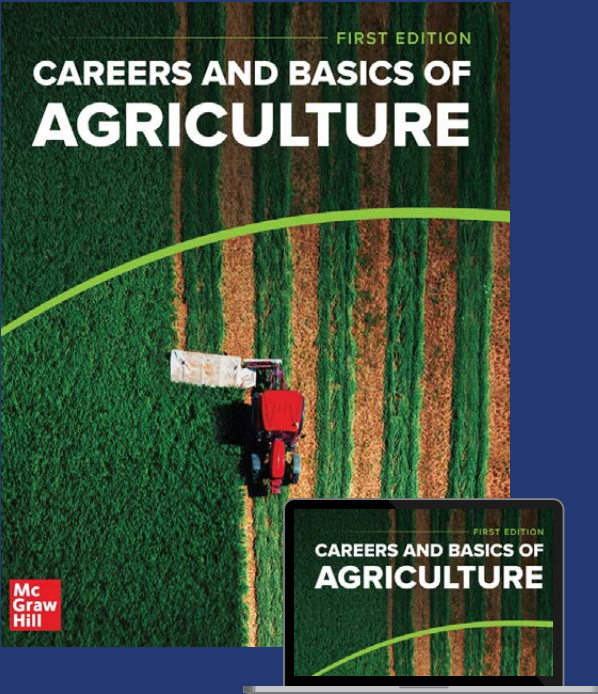
1st Edition ©2027 | McGraw Hill

Growing careers in the world of agriculture

This newly built program inspires students to explore agricultural careers while developing professional and technical skills to become tomorrow's industry leaders. *Careers and Basics of Agriculture* provides:

- Up-to-date content aligned to the National Agriculture, Food, and Natural Resources (AFNR) standards.
- Explicit preparation for a successful Supervised Agricultural Experience (SAE).
- Support for National FFA Organization agriculture and leadership activities.
- Rich coverage of the vital role agriculture plays in the world as they explore global food needs, resource conservation, and economic development.

Student Edition Sample: 978-1-26-484551-4



Request a Digital Sample!

A supportive digital experience

For students and teachers, engaging resources are easy to access and easy to use.

Question 7 Agriculture: Locating Information

Match the following acts with their contributions to agriculture.

US Monthly Average Corn Prices (per metric ton)

	January	February	March	April	May	June
2016	102.92 (-81.32)	100.89 (-91.25)	104.89 (-82.29)	97.62 (-84.03)	792.57 (-13.18)	103.55 (-16.09)
2017	166.51 (492.42)	177.82 (512.73)	169.32 (498.63)	162.16 (494.19)	168.44 (495.97)	164.50 (494.08)
2018	206.53 (-48.42)	219.95 (-42.66)	233.85 (-44.33)	246.67 (-54.06)	243.46 (-67.52)	287.71 (-52.49)
2019	173.24 (33.27)	163.91 (58.82)	164.52 (69.33)	162.72 (77.98)	160.31 (63.19)	178.84 (108.28)
2020	167.71 (-67.8)	164.63 (-13.9)	176.50 (-15.9)	163.66 (-16.06)	163.77 (-16.56)	162.87 (-16.98)

Auto-graded practice and assessment help students build knowledge and skills, and save teacher grading time.

Section 1.2 US: Soybean Production

Figure 1.12 Crop Production

Classroom Activities and Discussions

INDIVIDUAL OR GROUP ACTIVITY: Historical Agriculture Timeline Creation
Use information in The Evolution of Agriculture on pages 10-13 with a printed set of key milestones and dates, such as the first farming practices, the Industrial Revolution, and modern technologies like GMOs and drones, to create a timeline in chronological order.

DISCUSSION: Historical Impact of Agricultural Legislation
Discuss how the Homestead Act of 1862 and the Morrill Act of 1862, found on page 16, shaped the agricultural development of the United States. How did these laws impact farming communities and education?

INDIVIDUAL OR GROUP ACTIVITY: Researching Prevalent Crops in Your Area
Research the types of crops most commonly grown in your city or state and connect your findings to farming regions in the United States found on pages 18-19. Explore how geographical factors such as climate, soil type, and water availability influence crop production in your area and make comparisons to major farming regions across the country.

INDIVIDUAL OR GROUP ACTIVITY: Exploring Agricultural Technologies
Research one emerging agricultural technology mentioned on page 24, such as AI or drones, and present how it impacts crop production, livestock management, or environmental sustainability.

DISCUSSION: The Role of Technology in Modern Agriculture
Discuss how emerging technologies like GPS-guided tractors, crop sensors, and drones, mentioned on page 24, impact farming efficiency and sustainability. Consider the benefits and challenges of adopting these technologies.

INDEPENDENT PRACTICE ACTIVITY: Mapping Agricultural Challenges
Research local, state, national, or global agricultural challenges, such as urban sprawl,

A Teacher Manual provides pacing, activities, overviews, and full exercise explanations, while a presentation deck enriches classroom discussion.

6.2 Animal Biology

Basics of Animal Anatomy

How are the body systems and processes of animals similar to and different from one another?

Agricultural animals are very important for the nation's economy. Keeping animals healthy is essential for livestock productivity. Understanding the major body systems helps maintain animal health. The body systems differ for various species of animals, yet the body systems have important similarities.

Before learning the details of animal anatomy, let's compare plant and animal cells. Chapter 3: Plant Systems covered plants in more detail, including a discussion about plant cells. Cells are the building blocks of life, so understanding them allows us to better understand anatomy. Examine the cells pictured in Figure 6.2.

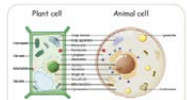


Figure 6.2 Cell Comparison: A plant cell on the left and an animal cell on the right. What parts of the plant cell are not included in the animal cell, and what parts does the animal cell have that the plant cell does not have?

Plant cells have a cell wall, chloroplasts, and vacuoles. Chloroplasts and vacuoles are cell organelles needed for photosynthesis. This is the process that allows plants to gain energy from sunlight. Animal cells don't gain energy from sunlight, so some parts of animal cells are different. Animal cells use cellular respiration to make ATP for energy. Their energy is gained from the breakdown of molecules in food. In animal cells, the byproducts remain waste products from the cell. The components of animal cells are involved in cell division.

200 Chapter 6 | Introduction to Animal Science

- Vocabulary**
- Content Vocabulary**
- biology
 - cellular muscle
 - cellulose
 - central nervous system
 - connective tissue
 - digestion
 - diaphragm
 - epithelium
 - epithelial tissue
 - excretion
 - external fertilization
 - fermentation
 - fish
 - gamete
 - germination
 - hazard
 - internal fertilization
 - ligament
 - muscle tissue
 - nervous tissue
 - oskeleton
 - periplasmic reticulum system
 - placenta
 - skeletal muscle
 - sinoatrial muscle
 - tail vertebrae
 - testis
- Academic Vocabulary**
- You will use this content vocabulary in your reading. Find its meaning in the Glossary in the back of the book.
- periplasmic

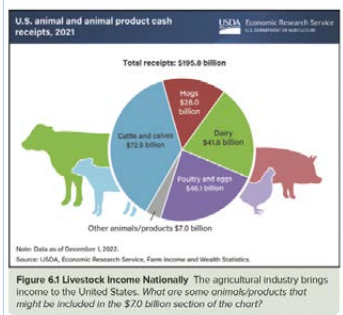


Figure 6.1 Livestock Income Nationally The agricultural industry brings income to the United States. What are some animals/products that might be included in the \$70 billion section of the chart?

Learning at a glance: Engaging charts, images, and graphics help students visualize content and bring agriculture to life.

Reading Check

List two differences between plant and animal cells.

Cell Division

Plant cells make more cells by dividing into two cells through the processes of mitosis and meiosis. Animal cells also use these two processes. However, in animals, only the gametes (the egg and sperm cells) divide by meiosis. During meiosis, the cell divides in half. The cell copies half of its genetic material (chromosomes) equally with each new cell. Then, those two cells divide again. Four new daughter cells are created in meiosis. Each new cell is **haploid**, meaning it has only one set of chromosomes.

All other animal cells divide through mitosis. During mitosis, the cell divides in half, producing two new cells of the same type as the original. These cells are **diploid**. The cells have two sets of chromosomes. One set of chromosomes came from the mother, and the other set was inherited from the father. Mitosis is used by cells to make more of that cell for animal growth. This process is also used to replace body cells that need to be replaced. For instance, when you have a paper cut, your skin cells around the cut divide in half to create the new skin cells that cover the cut. Examine Figure 6.3 to see the details of these two cell division processes.

Reading Check

Describe the differences between the processes of mitosis and meiosis.

200 Chapter 6 | Introduction to Animal Science

6.2 Animal Biology Review

After You Read

- Make a table that lists and describes the primary functions of the 10 systems in an animal's body.
- Describe differences in the skeletal systems of mammals, birds, and fish.
- Explain what happens during proestrus, estrus, metestrus, and diestrus.
- Describe the fertilization process and explain how it differs in mammals and birds.
- Describe what happens during each of the four phases of mammalian birth.
- Describe the six phases of poultry hatching.

Online Explorations

Sharpen Your Animal Observation Skills. Look for online animal anatomy tutorials or free practice content to sharpen your anatomy and physiology identification skills.

Spaced review and practice: Exercises and review draw from cumulative topics and connect to real life.

Active engagement: Short questions before, during, and after topic segments deepen learning.

Dynamic Resource Features

- SmartBook® delivers personalized, adaptive learning tailored to student progress
- Vocabulary activities, flash cards, and assessments support learning objectives
- Note-taking guides and graphic organizers keep students focused
- Extensive soft skills activities and an exploratory Career Center make students future-ready (see pages 3-4)
- An interactive eBook provides study tools, assessments, and a read-aloud feature, and the mobile app enables students to study on the go

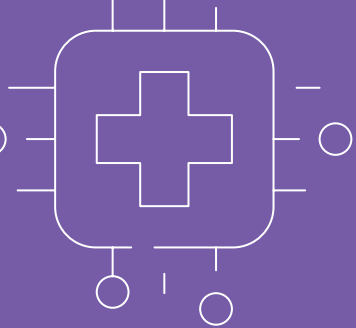
Access is made easy through your learning management system or single sign-on. Online teacher materials in the platform support instruction. See page 4 for more details.



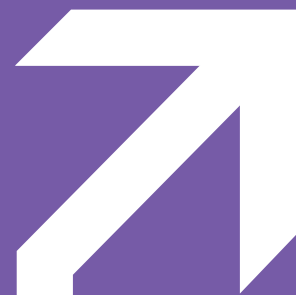
Figure 3.5 Members Participating in an FFA Event These students are showing sheep that they have raised for their SAE project. What are three ways that these students are demonstrating the FFA Code of Ethics?

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- Chapter 1:** Introduction to Agriculture, Food, and Natural Resources
- Chapter 2:** Supervised Agricultural Experience (SAE) Program
- Chapter 3:** Agricultural Leadership and Communication
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- Chapter 7:** Animal Production
- Chapter 8:** Ethical Considerations and Managing Animal Welfare
- Chapter 9:** Food Science and Technology
- Chapter 10:** Power, Structural, and Technical Systems
- Chapter 11:** Information Technology in Agriculture, Food, and Natural Resources
- Chapter 12:** Environmental and Natural Resources
- Chapter 13:** Exploring Careers in Agriculture
- Chapter 14:** Interpersonal and Business Skills for Agricultural Professionals



Introduction to Health Science



Careers and Basics of Health Science

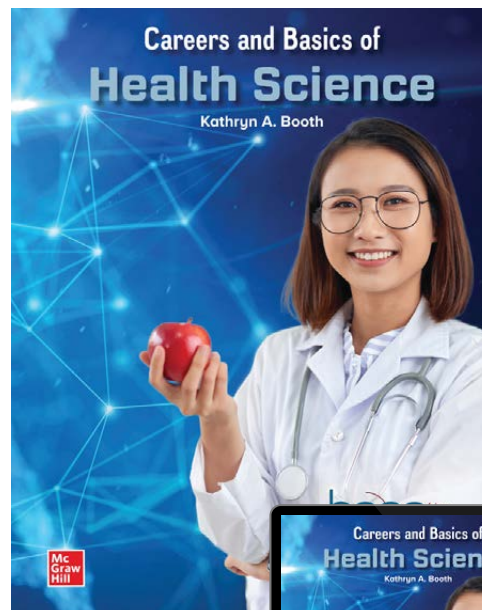
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Take the first step into health science

The *Careers and Basics of Health Science* program inspires students to explore careers and build foundational skills in the exciting world of healthcare. Renowned expert Kathryn Booth uses years of experience, straightforward language, and proven learning design to ensure students learn, apply, and retain skills and knowledge they will use in their careers.

- **Approachable learning design:** Reading checks, reviews, and real-world activities check students for understanding and ask them to apply newly learned skills in authentic situations.
- **Career support:** Healthcare occupation profiles include daily responsibilities, education requirements, certifications, and job outlook.
- **Reviewed by experts:** Content is reviewed and endorsed by the National Consortium for Health Science Education and HOSA Future Health Professionals.

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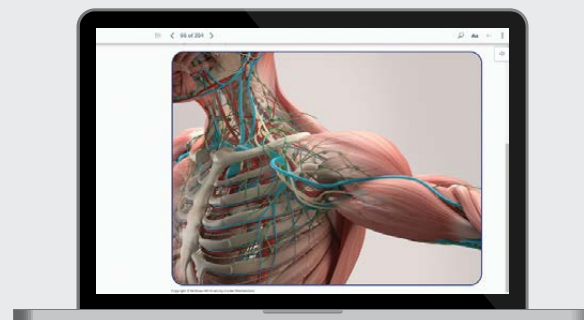


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Dynamic Resource Features

- SmartBook® delivers personalized, adaptive learning tailored to student progress
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- Rich interactive videos and assessments support the learning objectives
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Available in print and 1- to 8-year digital and bundle subscriptions

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Unit 1: Healthcare Foundations (13 chapters)



Unit 3: Careers in Diagnostic Services (4 chapters)



Unit 5: Careers in Support Services (2 chapters)



Unit 2: Careers in Therapeutic Services (11 chapters)

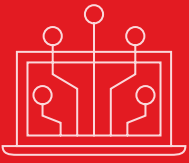


Unit 4: Careers in Health Informatics (2 chapters)

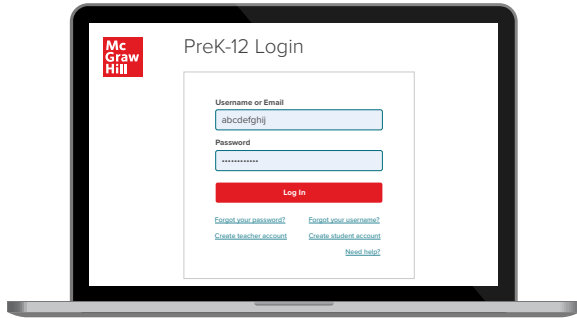


Unit 6: Careers in Biotech Research and Development (2 chapters)

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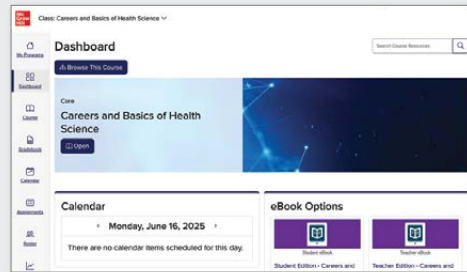
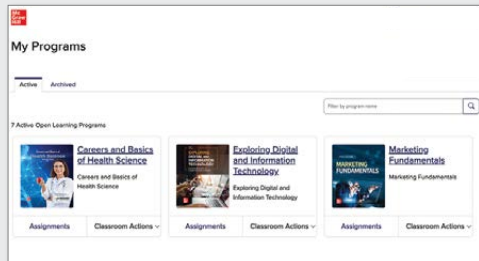
Locate and click on the course you wish to review.

Note: All courses function similarly. You can explore any title within the demo account.

View Your Course Dashboard

This is the **Digital Dashboard**. It's your home base for resources, such as:

- Teacher Manual/Instructor Guide
- Quick eBook Access
- Assignment Calendar
- Digital Teacher Support
- Digital Student Support

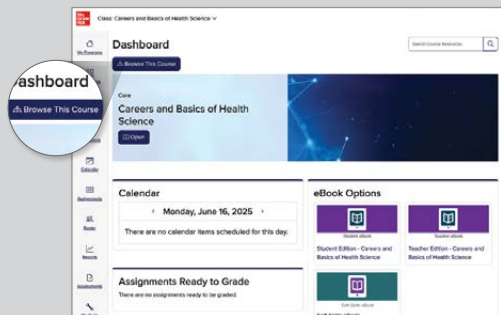


Browse Your Course

Click **Browse This Course** to expand the menu and explore chapters, assignments, activities, assessments, and more.

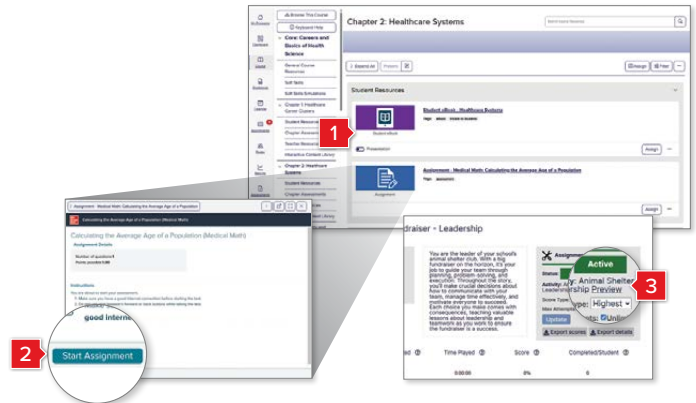
Browse Chapter Contents

1. Select **Expand All** to open all of chapter contents for both students and teachers.
2. You can also click on each section individually to see resources or activities.



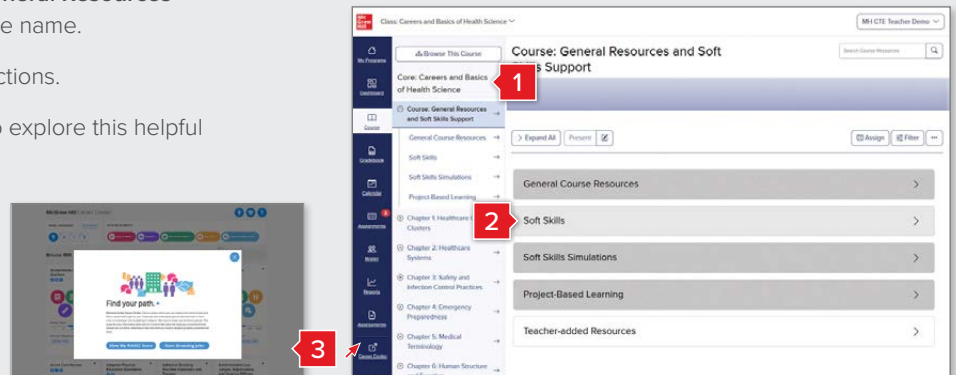
View Resources and Activities

1. Click on a resource or activity to view it.
2. For **Assignments** or **Assessments**, click the **Start Assignment** button on the lower left.
3. For **Simulations**, click on **Preview** in the gray box to the right.



Explore Soft Skills Activities and Career Center

1. Click on the first section called **Course: General Resources and Soft Skills Support** followed by the title name.
2. Explore the resources in the **Soft Skills** sections.
3. Click on **Career Center** on the lower left to explore this helpful student resource.

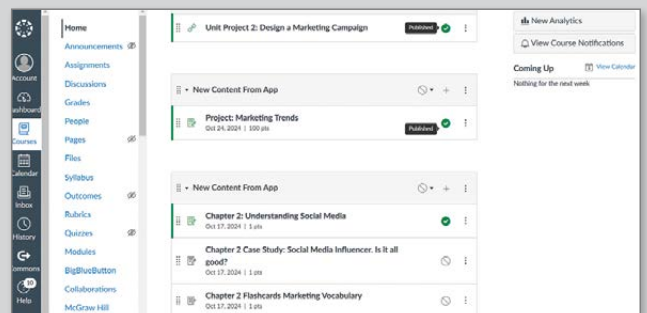


Integrate Into Your Learning Management System (LMS)

While this guide shows our easy-to-use platform, you can deliver activities through an LMS like Canvas, PowerSchool (formerly Schoology), or Google Classroom. You can also see your students' results and progression in the LMS gradebook.



Google Classroom





We appreciate what you do as middle school educators to help young people explore and prepare for future careers. With gratitude, we humbly strive to support you in this essential work.

Coaching for student competitions

Growing local college partnerships

Grading and giving feedback

Participating in educator associations

Supporting colleagues

Guidance counseling

Providing career exploration

Being a leader—day in, day out

Refining teaching skills

Creating work-based learning programs

Building up professional skills in young people

Securing quality learning materials

Inspiring and motivating young people

Setting up internship opportunities

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