



Speak the Common Language of Education and Businesses

Directions: Make these connections whenever possible in your classroom. If you are asking business people to speak with your class, be sure to encourage them to speak this common language too!

1. Make connections to specific areas on the Employability Skills List included on the next page.
2. Ask your guest speakers to refer to Math, Science, Language Arts and/or Social Studies Topics whenever possible (lists included in this document).
3. Connect as many job titles or educational paths as possible to the study of your topic.

Career and Employability Skills!

Personal Management ✓

- Responsibility and self-management
- Self-confidence
- Ethical behavior
- Respect self and others
- Demonstrate ethical behavior
- Motivating self and others
- Recognizing Quality/Not Yet Quality
- Networking

Develop and Present Information ✓

- Teaching/Tutoring
- Combining information in new ways
- Synthesizing
- Summarizing
- Using symbols, pictures, charts and graphs
- Comparing/Contrasting
- Forming a viewpoint
- Generalizing (based on information and experience)
- Presenting
- Speaking

Problem Solving ✓

- Questioning
- Investigating
- Researching
- Analyzing/Evaluating
- Appraising
- Assessing
- Estimating
- Predicting
- Setting goals
- Consider impacts
- Generate alternatives
- Planning
- Making decisions
- Taking action
- Evaluating results

Applied Academics in Work ✓

Related Situations ✓

- Reading
- Reasoning
- Thinking Critically
- Teaching/Tutoring
- Writing
- Academic Projects

Negotiation Skills ✓

- Perceiving
- Communicate to support a position
- Resolve divergent interests
- Developing insights/intuition
- Express Empathy
- Persuading

Organizational Skills ✓

- Identify, organize, plan and allocate: time, money, material, human resources.
- Categorizing
- Managing

Teamwork ✓

- Work cooperatively
- Identify group goals and values
- Exercise leadership
- Teach others
- Serve clients or customers
- Contribute ideas and effort

Understand Systems ✓

- Understand systems.
- Work with/maintain technologies
- Computing

Identify and Pursue Career Goals ✓

- Acquire, organize, interpret and evaluate career-related information.
- Interviewing

Adapted from: Michigan Career and Employability Standards and 21st Century Skills by Kristen Carreau

Employers want these skills; with them you can earn a living and advance in your career!

Math Topics

Area

Areas of Circles

Area of a trapezoid

Area under a curve

Averages/ Mean

Bar graphs

Basic math computation

Calculator skills, Graphing calculators

Calculus: Area of ellipses, area under curves, right triangle, trigonometry, volume of cones.

Central angles

Computing cost

Correlation coefficient

Critical thinking

Charts

Circles: area, diameter and radius, circumference

Circumference

Coordinate plotting

Decimals

Decimal multiplication

Density

Discounts and Mark-ups

Distance

Estimation

Excel software

Exponential and logarithmic functions

Finite Sums Integration

Flow velocity

Formulas

Fractions

Functions

Function Notation

Graphing

Graphs Equations

Integers

Length

Linear Equations

Percentages

Polar coordinates, parameterizations and conic sections.

Polynomial regression

Predicting data

Probability

Problem solving

Proportion

Pythagorean theorem

Quadratic Equations

Quadratic functions

Rates of Change

Ratios

Reasoning skills

Rectangular coordinates

Relationship between variables

Relationships direct and inverse

Right triangle

Scale

Scatter plots

Sequences, series and mathematical induction

Slope

Slope and Intercept

Slope Perimeter

Spreadsheet use

Standard, Deviations

Tables

Trapezoid rule

Trigonometry functions

Unit Conversions

Vectors, Matrices and Systems of

Equations

Velocity

Variance

Volume

Volume of cylinders

Volumes of prisms

Weight

Science Topics

Ask questions Conduct investigations Leverage resources Develop solutions Interpreting graphs, tables, pictures or other representations of scientific knowledge. Communicate findings See connections among different areas of knowledge Analyze claims for scientific merit How science and technology affect our society	Description and explanation of real world objects, systems or events Prediction Design of systems or courses of action Design and conduct scientific investigations Concepts: Uncertainty, error, range, tolerances, accuracy, precision Tools: balance, thermometer, measuring tools, electronic measuring devices, graduated cylinder
Life Science Life cycles Heredity – traits transmitted from one generation to the next. Evolution Ecosystems of parts are related and how they interact. How communities of living things change over a period of time. How materials cycle through an ecosystem and get reused in the environment Analyze how humans and the environment interact. Measurement	Knowledge of cells and functions Reproduction, growth, response, movement of animals and plants. Functions of bacteria Cost-benefit analysis Issues related to new technologies Appreciation of the balance of nature, and the effect that humans have on the natural world. Life cycles of organisms Respiration Genetics Reproduction (plants and animals) Use of science in manufacturing and production
Physical Science Forms of energy Electricity and Magnetism interactions Describe how living things and human technology change matter and transform energy. How changes in matter are related to changes in energy Motion of objects. Relate motion to energy and energy conversions. Waves and Vibrations Sound waves Light phenomena Waves and vibrations transfer energy	Earth Science Systems and subsystems Earth's surface Geological processes, Analyze effects of technology on earth's surface and resources Characteristics of water and its movement Analyze human activities with the hydrosphere Weather Relationships between human activities and atmosphere Solar system, galaxy, universe

Chemistry Motion, forces Magnets, energy the atom, chemical formula writing Acids and bases Carbon compounds Chemical bonding The relationship between atomic structure and chemical properties Chemical and physical properties of elements and compounds and reactions	Biology Cells Microscope use Heredity Ecology, ecosystems Living things – including all five kingdoms Anatomy and physiology
Physics Mechanics and heat Force and motion Matter and energy Machines Temperature, heat and change of phase. Light, electricity, and sound Wave nature and wave interactions Study of light Sound and electricity	Anatomy and Physiology Structures and functions of the human body Body systems
Microbiology Metabolism, Growing and culturing bacteria Gram staining, Petri plates and sterile technique Microbial diseases, viruses Protozoa, fungi Sterilization and disinfection Epidemiology, microbial STD's, AIDs. Biosphere 2 Common micro-life on and in the human body Bioluminescence Planet seeding and exobiology Microbes Bugs that kill bugs	Genetics Cloning, genetic engineering, genetic fingerprinting Molecular human development Nature vs. nurture Mutations Genetically modified foods The genetics of race Molecular clocks & evolution Immunity, and medical technology Blood typing Color blindness Transgenic organisms

Social Studies Topics

<u>Civics</u> Branches: Legislative, Executive, Judicial Careers in government (and How to get them) Charters of Freedom (Declaration of Independence, Constitution and Bill of Rights) Economy Election process Federalism Foreign Policy Government Structure and Processes Interest groups and Media Ideologies International Relations Individual Rights Law Local government Origins of Government Politics State Government Purposes Political parties Voting Working Poor, War on Drugs and impact on the economy	<u>US History</u> Presidents New Deal Civil Rights movement Military War – WW I, WWII, Cold War, Korean War, Vietnam War and Counter Culture Roaring 20s Expansion of U.S. Industrial Age/Revolution Immigration 1950's The Great Depression Progressive Movement/Era Environmental Movement Social Movements Historical Figures Turbulent 60's Civil Rights Foreign Policy Domestic Policy Watergate Women's Suffrage 1980s Reaganomics Progressive Era Closing of Frontier Gilded Age Great Society Post 9/11 War on Terrorism	<u>World History</u> Prehistory Ancient Civilizations Middle Ages, Reinassance Absolutism Revolutions Enlightenment World War I, World War II Cold War Various population placement Establishment of countries Culture Geography, maps, ceraphs, charts History of China/Asia, Africa, Europe (Middle Ages, French Revolution, Enlightenment etc.) South Asia/Southeast Asia, Middle East <u>Advanced Psychology</u> Emotions Interviewing Various psychological studies Study of Brain Individual Behavior Theories on changing Behavior Environment vs. Heredity <u>Sociology</u> Study of Groups of People Behavior Effects of Family Unit Factors that change personality: education, religion, ethnic background
<u>Economics</u> Supply and Demand Scarcity and Limited Resources Job Skills Decision Making Public and Private Sectors Entrepreneurship Competition Credit Wages Production: schedules, possibilities factors of production Trade Banking, Financial Institutions Micro and Macro Economics Trade Labor Influence of Advertising Price systems graphs	Economics cont. economic systems macro economics Mortgages Auto Insurance Economic Goals Monetary Policy Financing Business Types, Globalization (World Markets) unemployment inflation GDP: indicators, business cycle Types of Systems World economy Global economy Personal finance Role of Government Opportunity Cost Taxes	<u>World Geography</u> Economy Resources Map Skills Other Cultures <u>8th Grade American History</u> American History Learning Support Time period from last Ice Age through reconstruction Geography of the Americas Civilization of North and South America US History from Independence through reconstruction Constitution Revolutionary and Civil Wars

Language Arts Topics

Writing in a variety of patterns or genres that will be published such as:

- informational report
 - persuasive essay
 - newspaper article / headline
 - historical fiction, science fiction or realistic fiction
 - posters: to illustrate metaphors, scenes, or many other useful literary areas.
 - career research paper
 - fairytale
 - mystery
 - comic strip
 - advertisement
 - sensory writing
 - autobiography
 - memoir
 - poetry
 - fables
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- Writing in various styles to use in "real life" such as a letter of compliment or complaint.
 - Distinguish facts from opinions and question their validity when listening to or viewing a variety of speeches and presentations.
 - Speaking and Listening such as learning and practicing speeches: Impromptu, Extemporaneous, and Memorized. This teaches so many important skills such as preparing, delivering and presenting material to an audience.
 - Communicate effectively with a variety of audiences and for different purposes by using specialized language related to a topic and selecting words carefully to achieve precise meaning when presenting.
 - Speak effectively using slang, dialect, and colloquial language suitably to create interest and drama in narrative and informational presentations.
 - Listen to or view critically while demonstrating appropriate social skills of audience behaviors (e.g., eye contact, attentive, supportive); critically examine the verbal and non-verbal strategies during speeches and presentations.
 - Writing responses to human behaviors within literary works.

Traits of Writing

1. Ideas: The content or main theme. This can be looked at as the heart of the message.
2. Organization: The internal structure of the writing.
3. Voice: The personal voice of author comes through. This gives a sense of a real person speaking.
4. Word Choice: The use of precise, colorful and rich words to communicate. Also proper use of synonyms, homonyms,
5. Sentence Fluency: The writing flows together often with a rhythm or cadence
6. Conventions: Mechanical correctness, including spelling and grammar.