Students
CPET offers a variety of programs for high school students, both local and statewide. To receive updates from CPET regarding student programs please join the CPET mailing list!

- **Student Science Training Program**
  - Program Overview
  - How to Apply
  - Program Dates
  - Research, Lectures and Seminars
  - Campus and Residence Hall Life
  - Dual Credit Enrollment for SSTP
  - Previous SSTP Programs
    - SSTP 2013
  - Frequently Asked Questions
    - Fees and Financial Aid
    - Lab Assignments and Academics
    - Residence Hall and Roommates
    - Travel
    - Post SSTP FAQ
  - Downloadable Forms
  - Contact Us

- **Junior Science, Engineering and Humanities Symposium**
  - Registration Information
  - Participant Information
  - Student Research Speaker Competition
  - Symposium Activities
  - Past Symposium Speaker Competition Winners
  - Contact JSEHS

- **Dual Credit Enrollment at UF**
  - Instructions for Dual Enrolling with UF
  - Important Dates and Announcements
  - Dual Credit Enrollment Resources
  - Frequently Asked Questions
  - Downloadable Forms
  - Contact Information

- **Science Quest**
  - Schedules
  - Previous Programs
    - Science Quest Alumni
  - Participating Faculty
  - Frequently Asked Questions
  - Downloadable Forms
  - Contact Information
• STEM Immersion
  o STEM Immersion 2014
  o Participating Faculty
  o Contact
  o STEM Immersion 2013
    ▪ Arriving at the University of Florida
    ▪ Inside the Laboratory
    ▪ Exploring Engineering
    ▪ Field Trips
    ▪ Free Time
    ▪ STEM Career Projects

• Duke Talent Identification Program

Teachers
CPET offers a variety of professional development programs for middle and high school teachers. To receive updates about professional development programs please *join the CPET mailing list*!

• Biomedical Explorations: Bench to Bedside
  o Program Information
    ▪ Past Programs
  o Multimedia
  o Participating Faculty
  o Action Research Proposals
    ▪ Bench Class of 2012
    ▪ Bench Class of 2011
    ▪ Bench Class of 2010

• Interdisciplinary Center for Ongoing Research/Education (ICORE)
  o Program Information
    ▪ Past Programs
    ▪ Mass Spectrometry
  o Multimedia
  o Participating Faculty
  o Action Proposals
    ▪ ICORE Class of 2013
    ▪ ICORE Class of 2012
    ▪ ICORE Class of 2011
    ▪ ICORE Class of 2010
    ▪ ICORE Class of 2009
    ▪ ICORE Class of 2008

• Junior Science Engineering and Humanities Symposium (JSEHS)

• Mini Medical School (MMS)
  o Program Information
  o Previous Programs
- Contact Information
- Resources

- **Summer Science Institute (SSI)**
  - Emerging Pathogens
  - Evolution
  - Program Information
  - Action Plans
    - Emerging Pathogens 2014 Action Plans
    - Global Climate Change 2013 Action Plans
    - Life Sciences 2013 Action Plans
  - Previous Programs
  - Multimedia

- Science Partners in Inquiry-based Collaborative Education

- Special Explorations for Teachers and Students (SETS)
  - Explorations
  - Scheduling an Exploration
  - Contact Information

- Equipment and Visit Requests
  - Equipment Lockers
    - Bench to Bedside Activities
    - ICORE Activities
    - SSI Activities
Resources
CPET offers the following educational resources for students and teachers

- Biomedical Curriculum Series
  - The Pompe Predicament
  - The War of the 21st Century: The Cell Cycle, Cancer, and Clinical Trials
  - The Dengue Dilemma
  - Created by CPET Curriculum Fellows

- CPET Program Activities
  The following is a list of activities utilized by CPET teacher programs. For full curricular units developed by CPET Staff and Teacher Fellows, please take a look at our Biomedical Curriculum Series!

  - Shared Activities
    - Pipetting by Design
    - Gel Electrophoresis (E-Gels)
    - pGLO Bacterial Transformation
    - Restriction Digest and Analysis of Lambda DNA
    - Classroom Micro Arrays
    - Crime Scene Investigator DNA Kit
    - Strawberry DNA Extraction
    - Amazing Dyes
    - PCR Dash
    - Simulation Kits: Microarrays ELISA Southern Blot

  - Bench to Bedside Program Activities
    - Amino Acid Starter Kit
    - BLAST: Identifying Disease Genes
    - Comparative Protein Profiler
    - DNA Chips: Gene to Disease
    - “Extraordinary Measures” Video Viewing Guide
    - Mission Biotech
    - Modes of Inheritance
    - Protein Crystallization Lab
    - PV92 PCR Informatics Kit
    - Science Take Out: Diagnosing Diabetes, Genetic Testing for Huntington’s Disease, Stem Cells, From DNA to Protein: Structure and Function
    - Water Kit

  - ICORE: Emerging Pathogens Program Activities
    - Bacterial Protein Extraction and Gel Electrophoresis
    - Comparative Protein Profiler
    - Detecting Dengue in the Lab and Field (abridged ELISA)
    - Detecting Dengue in the Lab and Field (BioRad ELISA)
    - Dot Blot Simulation
    - ELISA Immuno Explorer
    - GMO Investigator Kit
    - Meet the Menacing Microbes
    - Outbreak! Fingerprinting Virus DNA
- Tomato Spotted Wilt Virus
- Cholera Conundrum, Camp Map, Vc presence Map, O1 presence Map, Google Earth IDP Map
- Project Learning Tree Vaccine and Biotechnology Unit

External Resources:
- Forest Health
- National Center for Case Study Teaching in Science

Content Clinics
- Weather and Climate Content Clinic
  - Facing the Future’s Climate Change curriculum – Middle School High School
  - Project Learning Tree PreK-8 Curricula
  - Project Learning Tree’s Water Wonders Activity
  - Weather & Climate activities
  - Streaming Chemistry
  - Stream Table
  - Sea Level Changes Increase Risk of Hurricane Flooding in Gulf
  - Sea Level Rise Panel Discussion
  - Hands-On Science and Literacy Lessons About Weather and Climate

U-FUTuRES Content Clinics
- Diagnosing Diabetes
- Light

Mass Spectrometry Lessons
The following mass spectrometry lessons were created in the summer of 2013 by ICORE alumni:
- Chemistry and the Environment – Robb Bartenslager
- How Sweet it Is – Kathryn Kehoe
- Not Just For Bugs – Jennifer Guillard
- Mysterious White Powder – Jon Benskin
- Is It Good Enough – Jacqueline Insalaco
- Cranium Convulsion Counteractive – Kathy Savage

Graduate Student Modules
The following modules were developed by graduate students in “GMS 5905: Communicating Science – Topics in Emerging Pathogens” through the ICORE program:
- Virus structure
- Using google earth and reassortment activity
- Pathogens in Shellfish Activity and Presentation
- Origin of emerging pathogens
- Mosquito biology
- Malaria Presentation and Activities
- Koch’s Postulates Presentation and Activity
- Avian Flu

Plant Phylogenetics Module
- Teacher edition
- Student handouts
- **Day 1 Powerpoint Slides**
- **Day 2 Powerpoint Slides**

- **Science Information for Teachers (SIFT)**
  - To subscribe to SIFT: E-mail sift@cpet.ufl.edu and say "subscribe"
  - To unsubscribe from SIFT: E-mail sift@cpet.ufl.edu and say "unsubscribe".

- **The Sifters Guide to Everything**

- **DNA, Genetics, Biotechnology & Others**

- **Excursions in Science**

- **Science Project Encyclopedia (RSEF)**

- **University Outreach Catalog**

- **STEM Pipeline Resources**
  - **STEM Pipeline Programs:**
    - **Annual Recruitment Conference** Middle & High School
    - **Biomedical Explorations: Bench To Bedside** High School Teachers
    - **Can You Dig It? Event** Elementary, Middle & High School Teachers
    - **Center for Catalysis "Halloween Molecular Mania"** Undergraduate Participation, Open to all
    - **Community Health REACH** Community
    - **Dental Assisting Instruction** Undergraduate - All (videos)
    - **Equal Access Clinic Network** Community
    - **Florida 4-H SET** Elementary, Middle & High School
    - **FOCUS Summer Program** Elementary, Middle & High School
    - **Gator for a Day** High School - Seniors
    - **Gator Launch Mentoring Program** Undergraduate (Sophomores, Juniors and Seniors)
    - **GeoGators** Elementary, Middle & High School Teachers
    - **Gravitational Physics International REU** Undergraduate
    - **Guided School Programs at the FLMNH** Elementary, Middle School
    - **Health Care Summer Institute** High School
    - **Interdisciplinary Center for Ongoing Research/Education (ICORE): Emerging Pathogens** High School Teachers
    - **Junior Honors Medical Program** Undergraduate (Freshmen and Sophomores only)
    - **Junior Science Engineering and Humanities Symposium** Middle and High School Students and Teachers
    - **Junior Science, Engineering, and Humanities Symposium** High School
    - **Mini Medical School** High School Teachers
    - **Plant Camp** Elementary, Middle & High School Teachers
    - **Research Experiences for Undergraduates** Undergraduate
    - **School Holiday Camps at the FLMNH** Elementary School
- Science Quest
- Scout Explorations at the FLMNH
- SNDA Impressions Program
- Spring Break Camps at the FLMNH
- STEM Immersion
- Student Science Training Program
- Summer Camps at the FLMNH
- Summer Learning Program
- Summer Research Program in the Biomedical Sciences
- Summer Science Institute
- Transition Orientation Program
- University Scholars Program
- Veterinary High School Summer Program

  - **Health Science Center Related Student Organizations**
    - Academy of Managed Care Pharmacy
    - American College of Clinical Pharmacy
    - American Holistic Veterinary Medical Association
    - American Medical Student Association
    - American Medical Women's Association
    - American Pharmacists Association
    - American Student Dental Association
    - College of Medicine Graduate Student Organization
    - College of Pharmacy Student Council
    - College of Veterinary Medicine Canine Club
    - College of Veterinary Medicine Public Health and Service Club
    - Dental Ambassadors
    - Dentistry College Council
    - Emergency Medicine Student Association
    - Equal Access Clinic Network
    - Evidence-Based Veterinary Medicine Club
    - Family Medicine Interest Group
    - Florida Global Medical Brigades
    - Florida International Society of Pharmacoepidemiology
    - Florida Student Society of Health-System Pharmacists
    - Gator Advocates for World Health
    - Gator Emergency Medical Services
    - Gator Gap Medics
    - Gator Pharmacy Wellness
    - Gator Pre-Medical Guide
    - Gators for Doctors Without Borders
    - Gators Partners in Health
    - Global Medical Training
    - Health Administration Student Association
    - Health Education through Research, Outreach, Empowerment, and Service
    - Health Occupations Students of America
    - Health Outreach Assembly
    - Health Professions College Council
    - Health Science Student Organization

  - High School - Rising Sophomores
  - Elementary, Middle & High School
  - Undergraduate
  - Elementary School
  - High School - Rising Juniors and Seniors
  - High School - Rising Juniors and Seniors
  - Elementary, Middle School
  - Undergraduate (Freshmen and Sophomores only)
  - Undergraduate
  - Middle and High School Teachers
  - Undergraduate
  - Undergraduate
  - High School *note: cancelled for 2014
- HHP Ambassadors
- Hispanic American Medical Student Association
- Holistic Medicine Interest Group
- International Medical Outreach
- MCAT Society
- MCC Physician Assistant Student Association
- Medical College Council
- Medical Journal Society
- Medical Students for Choice
- Multicultural Association for Pre-Health Students
- Muslim Medical Student Association
- National Community Pharmacists Association
- Nursing College Council
- Nutrition in Medicine
- Orthopedic Surgery Interest Group
- PediaGators
- Pediatrics Interest Group
- Pre Students of Osteopathic Medicine Association
- Premed American Medical Student Association
- Pre-Pharmacy Society
- Pre-Physicians Assistant Society
- Public Health Student Association
- Society of Health and Medical Physics Students
- Student National Medical Association
- Student National Pharmaceutical Association
- Student Occupational Therapy Association
- Student Physical Therapy Association
- Surgery Subspecialty Interest Group
- Undergraduate Physical Therapy Association
- Young Leader's Health Professions Club

STEM Related Student Organizations
This is not an exhaustive list; for more visit UF's Organizations Directory.
- Agricultural and Biological Engineering Graduate Student Organization
- American Institute of Chemical Engineers
- American Society of Civil Engineers
- American Society of Engineering Education, Gainesville Chapter
- American Society of Mechanical Engineers
- Association of Cuban Student Engineers
- Audio Engineering Society
- Benton Engineering Council
- Biomedical Engineering Graduate Student Council
- Biomedical Engineering Society
- Chemical Engineering Peer Advisors
- Engineering Ambassadors
- Engineering Tutoring Corps
- Engineers Without Borders
- Florida Engineering Society
- Freshman Leadership Engineering Group
- Institute of Electrical and Electronics Engineers
- Institute of Industrial Engineers
- National Society of Black Engineers
- Science for Life Gator Student Research Club
- Society for Asian Scientists and Engineers
- Society of Automotive Engineers
- Society of Environmental Engineers
- Society of Hispanic Professional Engineers
- Society of Women Engineers
- STEM Club
- University Pre-Ph.D. Association
- Women in Computer Science and Engineering
- Women in Electrical and Computer Engineering

- **Teacher Contributed Best Practices**
  - Big Idea 1 – The Practice of Science
    - 7 Helpful Hints for Classroom Management (PDF, 122 kB)
    - An Introduction to Science Subjects and Graphing Student Activity (PDF, 31 kB)
    - An Invitation to Experiment with and Experiment- Promoting Student Learning Through Open Inquiry (PDF, 278 kB)
    - An Operational Definition of Science- Short Poems (PDF, 52 kB)
    - Automatic, Audience Response Technology (PDF, 51 kB)
    - Birmingham Multiple Intelligence Test (BMIT) Scientific (PDF, 126 kB)
    - Classroom expectations and consequences (PDF, 101 kB)
    - Classroom Laboratory Safety Reference Sheet (PDF, 49 kB)
    - Classroom practice on ‘Class Dollars’ example (PDF, 47 kB)
    - Contact Lens Demonstration-Evidencing the Harmful Impact Chemical Vapors and Contact Lenses on the Human Eye (PDF, 36 kB)
    - Creating Transgenic Corn Lab Activity (PDF, 485 kB)
    - Creative Alternative to a Test – Comprehensive Creation of a Poem, Song, etc (PDF, 34 kB)
    - Crime Scene Sketch Lab (PDF, 5 MB)
    - Critical Thinking Bell- Work Example (PDF, 51 kB)
    - CSI Night- Forensic Role Play Activity Bringing Teachers, Parents, and Students Together (PDF, 119 kB)
    - Demonstration Procedure Reinforces the Importance of Using Clean Glassware (PDF, 57 kB)
    - Disposal of reaction products and chemicals (PDF, 33 kB)
    - End of Class Evaluation (PDF, 124 kB)
    - Enhance critical thinking of lab results with related questions (PDF, 10 kB)
    - Exercise to Show the Spread of STD’s (PDF, 66 kB)
    - Famous Scientist Project Activity (PDF, 1 MB)
    - Forensics Document and Handwriting Analysis Lab- Student Worksheet (PDF, 40 kB)
    - General Review Game Procedure (PDF, 104 kB)
    - Guidelines for Preparing Solutions (PDF, 44 kB)
    - Hierarchy Board Game (PDF, 65 kB)
    - Household Hazardous Waste Reference Sheet (PDF, 79 kB)
    - How to Create a PowerPoint Presentation (PDF, 96 kB)
    - Icecube Addiction Project (PDF, 35 kB)
▪ Idea for a general procedure to teach in multiple forms to address all learning styles (PDF, 10 kB)
▪ Identifying Multiple Intelligences Student Self-Assessment Activity (PDF, 212 kB)
▪ Internet Resources for the Mathematics and Science Classroom (PDF, 244 kB)
▪ Introduction to Laboratory Measurement Techniques Student Activity (PDF, 136 kB)
▪ Introduction to the Mole and Avogadro’s Number Activity Brief (PDF, 50 kB)
▪ Management Strategies for 90 Minute Class Periods (PDF, 302 kB)
▪ 'Measuring Metric' Variety of Activities for Students to Practice Measuring (PDF, 713 kB)
▪ Measuring the Classroom in Metric Lab (PDF, 20 kB)
▪ Methods for disposing chemicals (PDF, 53 kB)
▪ Nature Documentary Project (PDF, 17 kB)
▪ Outline for student design of an experiment (PDF, 24 kB)
▪ Physical Assessment Activity (PDF, 23 kB)
▪ Powerpoint-Genetically Modified Plants and Animals (PDF, 787 kB)
▪ PowerPoint Presentation- Enhance your Curriculum with Science Articles (PDF, 55 kB)
▪ PowerPoint Presentation- Teaching Critical Thinking in the Classroom (PDF, 433 kB)
▪ Promoting Scientific Thinking Student Activity (PDF, 310 kB)
▪ Psychology Magazine Project (PDF, 23 kB)
▪ Reading in the Science Classroom- Graphic Organizers, Rubrics, and Internet Resources (PDF, 1 MB)
▪ Reducing the Number of Tardy Students in your Classroom (PDF, 55 kB)
▪ Reinforcing the Scientific Method With a Nine Book Classroom Game- Lesson Outline (PDF, 68 kB)
▪ Safety Contract (PDF, 57 kB)
▪ Safety Goggle Song and Demonstration Procedure- Reinforces the Importance of Wearing Safety Goggles in the Laboratory (PDF, 57 kB)
▪ Several Classroom, Biology Activities (PDF, 14 kB)
▪ Student Guidelines for Writing a Narrative Lab Report (PDF, 32 kB)
▪ Students Teaching Students Activity Procedure (PDF, 13 kB)
▪ Surgical Techniques and Infection Control using Peeps (PDF, 4 MB)
▪ 'Taking the Lead' Unit Plan for Developing Metric Measurement Skills (PDF, 1 MB)
▪ Technology integration and out of the box curriculum (PDF, 93 kB)
▪ The Importance of Humor in the Classroom (PDF, 365 kB)
▪ Thoughts on how to make science relevant to students (PDF, 9 kB)
▪ Uncertainty and Measurement- Exploring Experimental Error Student Activity (PDF, 584 kB)
▪ Who’s Ruling Who Activity- Reinforcing Measurement Skills and Significant Figures (PDF, 140 kB)

□ Big Idea 2 – The Characteristics of Scientific Knowledge
▪ Alphabet Book Project – Defining Key Terms (PDF, 30 kB)
▪ Candle Observation Demonstration– Improving Student Observation Skills (PDF, 49 kB)
▪ Chemistry Laboratory Journal and Lab Report Guidelines (PDF, 302 kB)
▪ Classroom Management Strategy- Grouping for Lab Activities (PDF, 11 kB)
▪ ‘Cookie Bake Off’ Lab– Exploring the Scientific Method and Measuring Skills (PDF, 919 kB)
▪ Design an Experiment- Learning the Scientific Method with M&Ms (PDF, 271 kB)
- Encouraging Lateral Thought- Graphic Organizer (PDF, 21 kB)
- Formal letter writing exercise (PDF, 20 kB)
- Guiding a student through the scientific process (PDF, 181 kB)
- How to Design a Controlled Experiment (PDF, 60 kB)
- Lab Practical Outline and Grading Rubric (PDF, 185 kB)
- 'Mini Metric Olympics' - Improving Measurement Skills Activity (PDF, 52 kB)
- Predict, Locate, Add, and Note (PLAN)- Reading Strategy for Introducing New Topics (PDF, 10 kB)
- ‘Scene of the Accident’ - Improving Science Process Skills Activity (PDF, 165 kB)
- Scientific Research Paper Guidelines and Checklist (PDF, 18 kB)
- ‘Sketch Vocabulary’ - Assessing the Student’s Prior Content Area Knowledge (PDF, 14 kB)
- Vocabulary Activity (PDF, 74 kB)
- Writing a Research Paper - Prewriting Guidelines (PDF, 11 kB)

**Big Idea 3 – The Role, Theories, Laws, Hypotheses and Models**
- Apple Seed Counting Activity- Teaching the Scientific Method (PDF, 27 kB)
- Cheese Candle Demonstration- Teaching Observation Skills (PDF, 43 kB)
- Conducting Research to Learn the Scientific Method- Plant Lab Activity (PDF, 57 kB)
- Experimental Design Diagram and Independent variables (PDF, 45 kB)
- ‘Milk Kaleidoscope’ - Science Process Skills Practice Activity (PDF, 64 kB)
- Mini-Mendeleev- A Discovery Exercise for the Period Table (PDF, 288 kB)
- 'Mystery Tube’ – Using the Scientific Method (PDF, 61 kB)
- Practice with the Scientific Method (PDF, 106 kB)
- ‘Scientific Method in Action’- Creating a Science Experiment and Evaluation Criteria (PDF, 655 kB)

**Big Idea 4 – Science and Society**
- ‘40 Devils’- A List of Hazardous Chemicals Found in Science Classrooms (PDF, 68 kB)
- ‘Average Size Student’ Unit Plan- A Variety of Lessons to Teach Measurement, Mathematical, and Collaborative Learning Skills (PDF, 668 kB)
- Biology in the Media – Current Events Project (PDF, 10 kB)
- Classroom practice in which students are aware of science in the news (PDF, 295 kB)
- Determining if a Career in the Medical Field is Right for You- Informative Handout (PDF, 27 kB)
- Disaster Simulation- Teaching the Scientific Method (PDF, 44 kB)
- Ethics in Science- Classroom Debate Scenarios (PDF, 242 kB)
- ‘Flowers for Algernon’- A Multidisciplinary Unit Plan that Addresses the Ethical Issues Associated with Genetically Engineered Organisms (PDF, 702 kB)
- Genetics – Bioethics and My Sisters Keeper (PDF, 115 kB)
- Guest Speakers on Science Careers (PDF, 19 kB)
- ‘Importing a Bright Future’ Article How American High School Student Rank Internationally (PDF, 107 kB)
- Medical Careers Questionnaire (PDF, 16 kB)
- Medical Ethics Debate (PDF, 12 kB)
- Medicinal Herb Garden- Students Ponder Alternative Remedies (PDF, 12 kB)
- Physical Disability Awareness Activity (PDF, 5 kB)
- Procedure and results for the study of perceptions of scientists (PDF, 339 kB)
- Roberts rules of Order used to guide bioethical debate (PDF, 8 kB)
- Science Career Presentation- Guidelines and Grading Checklist (PDF, 32 kB)
- Science Fair Information Handbook (PDF, 2 MB)
- Scientists in Our Community- Project to Familiarize Students with the Role and Importance of Scientists within their Community (PDF, 17 kB)
- Student debate on recreational water contamination and beach closure (PDF, 31 kB)
- The History of Medicine- Book Review Project (PDF, 16 kB)
- Thinking Map- A Graphic Organizer to Assist Students in Providing Textual Support for Multiple Choice Answers (PDF, 43 kB)
- 'Women in Science'- Project Information (PDF, 42 kB)
- Writing Across the Curriculum Topic Idea- Letter to a Loved One Regarding Heart Health Risks (PDF, 8 kB)

**Big Idea 5 – Earth in Space in Time**
- Agriculture on the Moon Project Guidelines- Construct and Operate an Agricultural Center on the Moon (PDF, 201 kB)
- ‘Alien Adaptations’ Activity- Create an Alien Adapted for Life on Another Planet (PDF, 43 kB)
- Earth Science Course Evaluation (PDF, 76 kB)
- Educator Resource- How To Obtain a Space Shuttle Tile for Classroom Demonstrations (PDF, 54 kB)
- Exploring the Solar System on Earth Article (PDF, 346 kB)
- ‘Indoor Scale Model Solar System’ Lesson Plan- Constructing the Solar System in the Classroom (PDF, 451 kB)
- ‘Jurassic Eggs’ Activity- Exploring Life in the Jurassic Period (PDF, 228 kB)
- Making a Comet in the Classroom Activity (PDF, 161 kB)
- ‘Model Solar System’ Lesson Plan- Construct a To Scale Solar System (PDF, 116 kB)
- ‘NASA Connect Lesson Guide- The X-Planet Generation’- Creating Appropriately Scaled Spacecrafts (PDF, 466 kB)
- Space Link- Aeronautics and Space Resources for Education from NASA Science Links (PDF, 90 kB)
- ‘Spacecraft and Gravity’- Lab Discovering the Effects of Gravity (PDF, 269 kB)

**Big Idea 6 – Earth Structures**
- 3-D Model Earth Project Guidelines (PDF, 23 kB)
- Brief description of a microscopic soil investigation (PDF, 46 kB)
- ‘Classroom Volcanology’- Using Constructivism to Teach Students about Volcanic Eruptions (PDF, 282 kB)
- Discovering the Origin of the Devil’s Tower National Monument Project- Analyzing Geological Information (PDF, 220 kB)
- Earth and Space Science Activity Ideas- Geological (Well Drilling Location and Composition) and Seasonal Weather Patterns Storms (PDF, 318 kB)
- ‘Experimenting with Craters’ Activity- Investigating how Craters are Created on the Moon (PDF, 627 kB)
- ‘Impact Craters- Holes in the Ground’ Lab- Modeling the Impact of Crater Formation (PDF, 488 kB)
- Interdisciplinary Unit Plan- ‘Hawai’i- A Living Laboratory’ (PDF, 749 kB)
- ‘Mapping the Ocean Floor’ Worksheet and Lab Activity (PDF, 258 kB)
- Modeling the soil horizon with dessert (PDF, 9 kB)
- ‘Plates on the Move’ Activity- Teach Tectonic Plate Movement by Creating Models (PDF, 355 kB)
- ‘Puzzles in the Earth’s Crust’- Analyzing Geological Formations Using Fossil Evidence (PDF, 119 kB)
- ‘Rock and Roll’- Exploring Earthquake Wave Movement with Slinkies (PDF, 58 kB)
- ‘What’s in that Limestone on the Road’ Activity- Analyzing the Geological Origin of the Components of Limestone (PDF, 97 kB)
- ‘Why do Rocks Smell’ Activity- Discovering the Origin and Composition of Rocks (PDF, 84 kB)

Big Idea 7 – Earth Systems and Patterns
- ‘A Sustainable Future- Meeting the Energy and Fuel Needs of a Sustainable Planet’ – AP Environmental Webquest Activity (PDF, 270 kB)
- ‘American Meteorological Society DataStream Project’- Weather Education Teacher Resource (PDF, 389 kB)
- ‘Beach Profile Study’- Analyzing the Dynamics of a Beach Ecosystem (PDF, 85 kB)
- ‘Car Exhaust Analysis Lab’- Air Pollution Laboratory Exercise Procedures (PDF, 192 kB)
- ‘Earth Science Demonstrations’- Mechanical, Chemical, and Surface Area Weathering (PDF, 47 kB)
- ‘Ecosystems Investigation’- Create an Ecosystem Using 2-Liter Bottles (PDF, 209 kB)
- El Nino Project (PDF, 15 kB)
- Environmental activity explained, students test for cleanliness by measuring bacteria (PDF, 53 kB)
- ‘Environmental Impact Study’ Project Procedures (PDF, 84 kB)
- ‘Farmers and Fishermen’ Role Play Lesson Plan- Teaching Sustainable Natural Resource Management (PDF, 919 kB)
- ‘How to Build a Cloud Chamber’ Activity Procedure (PDF, 275 kB)
- ‘Investigating a Flood’- Using Storm Data to Interpret and Predict Regional Flooding (PDF, 110 kB)
- ‘Investigating Climates of an Imaginary Continent’- Evaluating Environmental Conditions to Determine Climate (PDF, 65 kB)
- Meteorology instruction ideas from an instructor (PDF, 10 kB)
- Ocean Water Density Lab Lesson Plan (PDF, 40 kB)
- Oceans Unit Plan- Teach about the Marine Environment, Marine Organisms and Man-Made Transportation and Navigational Machines (PDF, 418 kB)
- ‘Oil Spill Clean-up’ Activity- Understanding the Intricate Connection Between Humans and the Environment (PDF, 69 kB)
- ‘Plate Tectonics Worksheet’- Applying the Theory of Plate Tectonics to Explain the Presence of Geologically Active Sites (PDF, 663 kB)
- ‘Rock Recycle Wheel’- Teach the Rock Cycle with a Moving Graphic Organizer (PDF, 232 kB)
- ‘Soil Experiment’ Lab- Determining the Absorption of Different Types of Soil (PDF, 59 kB)
- ‘Tectonic Plate Movement’- Interactive Plate Boundary Movement Lesson (PDF, 245 kB)
- ‘The Continental Dance- Putting Plate Tectonics in Motion’ Demonstration Lesson Plan (PDF, 154 kB)
- **The Rainstick Activity**- Introduction Activity into Water Resource Use and Scarcity (PDF, 712 kB)
- **The Rock Cycle** Lab- Teach the Rock Cycle Using Crayon Shavings (PDF, 141 kB)
- **Three Clouds** Lab- Investigating Cloud Formation (PDF, 96 kB)
- **Tradeoffs** Worksheet- Computing the Devastating Impacts of Rainforest Destruction (PDF, 27 kB)
- **Water as a Resource and Properties of Water** Demonstration- Evidencing the Polarity of Water Molecules (PDF, 78 kB)
- Water cycle activity described, students become water droplets and visit each stage of the cycle (PDF, 32 kB)
- **Water Quality and Environmental Assessment Project** (PDF, 59 kB)
- **Why We Celebrate Earth Day**- Student Worksheet (PDF, 196 kB)

- **Big Idea 8 – Properties of Matter**
  - 3-D Models of Covalent Molecules- Activity Exploring Covalent Bonding (PDF, 164 kB)
  - 3-D Molecular Shapes Project- Activity and Evaluation Guidelines (PDF, 49 kB)
  - A model to teach the Bohr Model (PDF, 303 kB)
  - 'Acid and Base Indicators in Flowers' Lab Exercise Procedure (PDF, 37 kB)
  - Acid and Base Lab Procedure (PDF, 69 kB)
  - Acid Rain Lesson Plans- The pH Scale – Activities, Diagrams, and Worksheets (PDF, 866 kB)
  - Acids and Bases Lab- Determining the pH of Common Household Items (PDF, 68 kB)
  - ‘Ammonia Fountain’ demonstration of the solubility of gases and ammonia (PDF, 52 kB)
  - An explanation and an abbreviated procedure for the determination of Ka from half neutralization (PDF, 198 kB)
  - ‘Antacid Analysis’ Lab Procedure- Determining the Neutralizing Effectiveness of a Commercial Antacid (PDF, 329 kB)
  - ‘Auto Diver- The Cartesian Scam’ Classroom Demonstration- Teaching the Principles of Buoyancy (PDF, 111 kB)
  - ‘Behind the Scenes with Chemistry’ Lab- Exploring Conductors and Insulators (PDF, 47 kB)
  - ‘Cabbage Colors & Acid Rain- Connecting pH to the Growing Problem of Acid Rain’ Lesson Plan (PDF, 55 kB)
  - Cartesian Divers Lab Procedure- Exploring Boyle’s Law (PDF, 235 kB)
  - **Chemical Formula Puzzles** (PDF, 224 kB)
  - **Chemical List** (PDF, 84 kB)
  - **Chemistry Board Game** (PDF, 333 kB)
  - **Chemistry Classroom Activities and Demonstrations- Acids and Bases, Solubility of Gas, and pH Scale** (PDF, 202 kB)
  - **Chemistry Scavenger Hunt Clues- Indentifying Household Chemicals** (PDF, 71 kB)
  - ‘Chromatography Color Burst’ Student Instruction and Data Sheet- Evidencing the Physical Properties of Water (PDF, 299 kB)
  - ‘Clay Boats’- Exploring Water Density and Displacement (PDF, 324 kB)
  - Constructing and Using a Hydrometer Lab- Exploring Water Density (PDF, 197 kB)
  - ‘Demonstrations to Brighten Your Life’- Chemistry Classroom Demonstration (PDF, 472 kB)
  - **Density and Specific Gravity Lab and Worksheet** (PDF, 89 kB)
• 'Density- Floating Golf Ball’- Why Objects Float Demonstration (PDF, 35 kB)
• Density Lab- Determining the Chemical Composition of a Penny (PDF, 34 kB)
• 'Density- Saltwater Column Lab’- Exploring Water Density Activity (PDF, 82 kB)
• 'Designer Drugs’ Lab Procedure- Distinguishing Between Various Types of Aspirin (PDF, 49 kB)
• 'Determination of a Chemical Formula’ Lab Activity and Worksheet (PDF, 277 kB)
• 'Determination of Iron in Cereals’ Laboratory Activity (PDF, 77 kB)
• 'Determination of Oxygen in Magnesium Oxide’ Laboratory Activity (PDF, 106 kB)
• Determining the Density of an Unknown Substance- Laboratory Lesson Plan (PDF, 18 kB)
• Determining the Impact of Superfund Site Trace Metals (PDF, 465 kB)
• Determining the Molecular Mass of Gas Lab Procedures and Student Worksheet (PDF, 161 kB)
• Determining the pH of Water Lab Procedure- Using Chemical Indicators to Measure pH (PDF, 90 kB)
• 'Drops on a Penny- Surface Tension Lab’- Exploring the Physical Properties of Water (PDF, 11 kB)
• 'Dry Lab- Inorganic Nomenclature of Binary Compounds’ Activity Procedures (PDF, 236 kB)
• 'Dry Lab- Molecular Geometry’ Procedure- Constructing Molecular Models (PDF, 599 kB)
• Electron Configuration Board Game Assignment- Guidelines and Grading Requirements (PDF, 11 kB)
• 'Empirical Formula of a Hydrate’- Determining the Empirical Formula of a Hydrate Laboratory Lesson Plan (PDF, 229 kB)
• Experiment to Observe Physical Properties Lab Procedures and Student Worksheet (PDF, 65 kB)
• 'Exploring the Properties of the Elements- Creating Element Trading Cards’- Activity Procedures and Grading Guidelines (PDF, 150 kB)
• Flame Lab Activity (PDF, 131 kB)
• Gas Chemistry & Hot Air Balloons (PDF, 80 kB)
• 'Got Milk’ – Separation of Organic Compounds in Food (PDF, 58 kB)
• Half titration of a weak acid as a means of quickly calculating pKa (PDF, 38 kB)
• 'How Atoms Combine’- Making Molecular Models Activity (PDF, 104 kB)
• How toxic are chemical compounds question is answered in this table with accompanying description (PDF, 79 kB)
• Identifying Macromolecules Lab (PDF, 887 kB)
• Identifying Organic Compounds (PDF, 47 kB)
• Ionic Compound and Double Replacement Activity (PDF, 791 kB)
• 'Is Household Vinegar Really 5%’- Titration Laboratory Activity (PDF, 342 kB)
• 'Is It Really 3% Hydrogen Peroxide’ Chemical Analysis Lab (PDF, 163 kB)
• Lab description in which students separate a mixture and determine the percent composition of each component (PDF, 41 kB)
• List of physical and chemical properties and some labs to demonstrate them (PDF, 18 kB)
• 'Love Always, Francium’- Fictional Love Letter Teaching the Chemical Properties of Francium (PDF, 88 kB)
• Marker Chromatography Activity Worksheet (PDF, 71 kB)
• 'Meet the Elements’- Classroom Activities to Introduce the Elements (PDF, 581 kB)
• Melting point labs of a solid and a liquid (PDF, 282 kB)
- 'Metal Reactivities’ Lab Activity- Determining the Reactivity of Common Metal (PDF, 127 kB)
- ‘Micro- Mixture Separation Lab’ Inquiry Activity- Students Create Original Mixture Separation Procedure (PDF, 69 kB)
- 'Molar Mass of a Gas Determined Experimentally' Lab Procedures and Worksheet (PDF, 38 kB)
- 'Molecular Weight of Butane Gas’ Laboratory Experiment- Applying the Ideal Gas Law (PDF, 71 kB)
- 'Paper Chromatography’ Activity Procedure- Water as a Solvent (PDF, 94 kB)
- Periodic Table assignment and element project (PDF, 42 kB)
- Polyatomic Compounds Flashcard Template (PDF, 45 kB)
- Powerpoint- Biochemistry Jeopardy Game (PDF, 911 kB)
- Properties and nature of some common laboratory compounds are hazardous, be informed (PDF, 137 kB)
- 'Properties of Acids and Bases’ Lab Procedures (PDF, 85 kB)
- ‘Puzzling Powders’ Activity- Identifying Unknown Chemical Substance Based on Chemical and Physical Properties (PDF, 388 kB)
- 'Qualitative Analysis I’- Determining a Material Through the Identification of Cations and Anions (PDF, 300 kB)
- Quick Review Idea- Entrance to Class Question (PDF, 34 kB)
- ‘Rubber Stopper Lab’- Density Calculation Activity Procedures (PDF, 32 kB)
- Sea ice vs. land ice melting examination lab (PDF, 13 kB)
- Search and Rescue- Balancing Chemical Equations Activity (PDF, 382 kB)
- Sell Your Element Project (PDF, 110 kB)
- 'Stoichiometry Notes’- Student Reference Handout (PDF, 20 kB)
- Teacher Resource Manual- Introduction to Physical Science Inquiry Activities (PDF, 379 kB)
- 'The Acid- Catalyzed Iodination of Acetone’ Laboratory Exercise Procedures (PDF, 176 kB)
- ‘The Atoms Family Song’- Teach about Atoms by Singing (PDF, 12 kB)
- ‘The Hydrogen Balloon’ Demonstration- Showing the Reaction that occurs Between Hydrogen and Oxygen (PDF, 37 kB)
- ‘The Little Screamer Conductivity Probe’- Procedures for Constructing a Conductivity Probe (PDF, 47 kB)
- ‘The Trial of Sodium (A One Act Play)’- An Introduction to Sodium and Other Elements (PDF, 210 kB)
- Using Physics to Determine Building Height (PDF, 9 kB)
- Vinegar Analysis Lab- Determining the Percent by Mass of Acetic Acid in Vinegar (PDF, 197 kB)
- Vsepr Bonding Theory Modeled with Marshmallow Molecules (PDF, 214 kB)
- Water lab determines the relationship between mass and volume experimentally (PDF, 30 kB)
- ‘What is the pKa of Acetic Acid’ Laboratory Activity (PDF, 146 kB)

○ Big Idea 9 – Changes in Matter
- 'Bobbing Raisins’ Lab Activity- Investigating Chemical Reactions and Density (PDF, 42 kB)
- ‘Borax Bead Test’ Lab Procedure- Determining the Presence of a Metallic Ion (PDF, 53 kB)
- ‘Boyle’s Law by the Book’ Lab Activity- Discovering Boyle’s Law by Operating a 
Boyle’s Law Apparatus  (PDF, 357 kB)
- ‘Burnin’ Ice- Spectacular Reaction Between Burning Magnesium and Dry Ice’ –
Chemical Reaction Classroom Demonstration (PDF, 118 kB)
- Differentiating between physical and chemical changes (PDF, 12 kB)
- ‘Double Replacement Reactions and Solubility’ Lab Activity (PDF, 314 kB)
- ‘Equilibrium Studies’ Lab Experiment- Exploring Le Chantelier’s Principle  (PDF, 204 
kB)
- ‘Flubber- Making a Polymeric Compound out of Sodium Tetra Borate and Lactated 
Glue’ (PDF, 78 kB)
- Gummi Bear Diffusion (PDF, 168 kB)
- ‘Kinetic Study of Thiosulfate In Acid’ Lab Activity- Exploring Acid Catalyzed Reactions
(PDF, 174 kB)
- Molar Solutions and Tonicity (PDF, 84 kB)
- “Nine Solution’ Problem Sets’- Identifying Unknown Chemical through Observation of 
Chemical Reactions (PDF, 165 kB)
- ‘Solubility of a Salt’- Constructing a Solubility Curve for Potassium Nitrate in Water
(PDF, 305 kB)
- ‘Solubility Product Constant, Ksp’ Demonstration Procedure (PDF, 46 kB)
- ‘Solubility Product Constant’ Lab Activity- Determining the Solubility Constant for a 
Slightly Soluble Salt (PDF, 321 kB)
- ‘The 7-Solution Problem’ Lab Activity- Identification of Unknown Solutions through 
Observation of Chemical Reactions (PDF, 124 kB)

- **Big Idea 10 – Forms of Energy**
  - ‘A Demonstration to Aid in Differentiating The Concepts of Heat and Temperature’
Activity Procedure (PDF, 59 kB)
  - Alternate Fuel Source Brochure Project Guidelines (PDF, 53 kB)
  - ‘Electricity from the Sun’- Information and Lab Procedures (PDF, 3 MB)
  - ‘Energy Town Meeting’ Lesson Plan (PDF, 9 kB)
  - ‘Inhibition of Hydrogen Peroxide’ Demonstration- Exploring Effects of Inhibitors on 
Chemical Reactions (PDF, 45 kB)
  - ‘Junior Solar Sprint’- Construct a Solar-Powered Car Competition Guidelines  (PDF, 2 
MB)
  - ‘Laser Beam’ Activity- Analyzing Diffraction Patterns (PDF, 78 kB)
  - Measuring Enthalpy Changes of Ice, Water, and Steam to understand properties of 
Matter and Energy (PDF, 47 kB)
  - Measuring Heat Energy and Calories Lab Activity (PDF, 103 kB)
  - ‘Seeing Magnetic Field Patterns in 3-D’- Constructing an Electric Field Viewing Bottle
(PDF, 174 kB)
  - Showing the Effects of Varying Resistance within a Circuit Lab (PDF, 72 kB)
  - Spectroscope Lab Activity- Exploring the Emission Spectrum of an Atom (PDF, 122 
kB)

- **Big Idea 11 – Energy Transfer and Transformations**
  - ‘A Chemiluminescent Ammonia Fountain Demonstration’- Converting Chemical 
Energy to Light Energy (PDF, 77 kB)
  - ‘A Hand Held Explosion- A Teacher Directed Activity’- Investigating Chemical 
Reactions (PDF, 34 kB)
  - ‘A Simple Demonstration of Ion Migration’ (PDF, 95 kB)
• **Analyzing Temperature by Making Ice Cream** (PDF, 46 kB)
• ‘Circuit Quiz Boards’ Activity- Investigating Electrical Circuits** (PDF, 101 kB)
• **Constructing a Conductivity Indicator Procedures** (PDF, 43 kB)
• **Creative vocabulary definitions** (PDF, 9 kB)
• **Determining the Efficiency of a Solar Module Lab- Applying Ohm's Law** (PDF, 438 kB)
• ‘Electrochemical Cells’ Lab- Converting Electrical Energy to Chemical Energy** (PDF, 92 kB)
• ‘Electrolysis of Potassium Iodide’ Lab- Observing Oxidation-Reduction Reactions** (PDF, 124 kB)
• **Energy and Heat Transfer Activities** (PDF, 381 kB)
• ‘Exploding Egg Demonstration’- Exploring Exothermic Chemical Reactions** (PDF, 54 kB)
• **Factors Affecting Reaction Rates’- Chemical Kinetics** (PDF, 590 kB)
• ‘Galvanic Cells’ – Oxidation- Reduction Reactions Activity** (PDF, 274 kB)
• ‘Loud and Clear’ Activity- Exploring Sound by Creating Megaphones** (PDF, 213 kB)
• ‘Oxidation of Tungsten’ Demonstration- Exploring Inert Gases** (PDF, 51 kB)
• **Rates of Reaction’ Lab Activity** (PDF, 373 kB)
• ‘Redox- Oxidation-Reduction Reactions’ Lab Activity** (PDF, 372 kB)
• ‘Solar Box Cookers’- Investigating Solar Energy Activity** (PDF, 236 kB)
• ‘Sound Waves and Pitch’ Lab Activity** (PDF, 119 kB)
• ‘Sunset Kinetics’- Reaction Rates Demonstration** (PDF, 187 kB)
• ‘The Big Bang’ Chemical Reaction Demonstration** (PDF, 61 kB)
• ‘The Exploding Flask’ Demonstration- Illustrating Chemical Catalysts and Thermochemical Principles** (PDF, 55 kB)
• ‘The Inside Out Balloon’ Demonstration- Exploring the Effects of Temperature, Volume, and Pressure Changes on Gases** (PDF, 43 kB)
• ‘Thermodynamics of Homemade Ice Cream’ Lab Activity** (PDF, 297 kB)
• ‘Walkman Demonstration’- Converting Sounds Signals to Electrical and Light Signals** (PDF, 64 kB)
• **Waves- Energy in Motion Classroom Activities** (PDF, 265 kB)

**Big Idea 12 – Motion of Objects**

• **Aerodynamics Classroom Activity- Exploring Pressure, Air and Drag** (PDF, 135 kB)
• **Balloon Falling Acceleration Demonstrations** (PDF, 27 kB)
• **Build a catapult with simple and compound machines** (PDF, 19 kB)
• ‘Building a Model Rocket’- Demonstrating Newton’s Third Law of Motion** (PDF, 250 kB)
• **Constructing a Simple Kite Procedures** (PDF, 44 kB)
• **Creating a Ping Pong Launcher- Exploring Gravity, Momentum, and Motion** (PDF, 62 kB)
• **Creating ‘Copters’ Activity- Observing Vertical Motion** (PDF, 44 kB)
• **Designing a Cantilevered Structure** (PDF, 38 kB)
• **Designing and Making a Paper Glider** (PDF, 49 kB)
• **Eagle Paper Plane Template** (PDF, 359 kB)
• ‘Getting Pushy’ Interactive Activity- Exploring Newton’s Second Law** (PDF, 250 kB)
• ‘Hang Gliding’ Activity- Constructing HangGliders to Explore Aerodynamics** (PDF, 165 kB)
• ‘Introduction to Speed Velocity and Acceleration’ Activity** (PDF, 45 kB)
• ‘Is It a Bird Is It a Plane’ Activity- Illustrating Thrust** (PDF, 51 kB)
- 'That’s the Way the Ball Bounces’- Practicing Prediction and Estimation (PDF, 66 kB)
- ‘The Whole Kite and Kaboodle’- Exploring the Flight Characteristics of Kites (PDF, 688 kB)
- 'What Goes Up Must Come Down' Activity- Using Quadratic Functions as Model of Projectile Motion (PDF, 204 kB)

- Big Idea 13 – Forces and Changes in Motion
  - ‘Alka-Seltzer Rockets’ Activity- Illustrating Newton’s Third Law of Motion (PDF, 91 kB)
  - ‘Anti-Conservation of Angular Momentum Demonstration’ Procedure (PDF, 118 kB)
  - Ball Drop Activity- Calculating Velocity and Distance Worksheet (PDF, 74 kB)
  - ‘Blood Splatter Detectives’ Activity- Exploring the Scientific Method and Measurement (PDF, 125 kB)
  - Chemistry teacher website (PDF, 37 kB)
  - ‘Crazy Coasters!!’ Classroom Activity- Designing A Roller Coaster (PDF, 66 kB)
  - Creating ‘Buoyancy Boats’ Lesson Plan- Applying Archimedes Principle (PDF, 223 kB)
  - Description of an activity for AP physics class, examining and riding theme park rides (PDF, 40 kB)
  - Design a Roller Coaster- Forces in Motion Project Guidelines (PDF, 524 kB)
  - Design challenge to create an air foil wing which will attain the most lift (PDF, 30 kB)
  - FIRST Competition description (PDF, 429 kB)
  - Introduction to Force and Acceleration Demonstration Procedure (PDF, 21 kB)
  - Islands of Adventure Theme Park Physics Worksheet (PDF, 83 kB)
  - Motion and forces dry lab to solve the problem of ‘how much room is needed for a basket ball player to stop at the out of bounds line (PDF, 10 kB)
  - Multidisciplinary Balloon & Kite Extravaganza Contest- Project Criteria, Procedure, and Rubric (PDF, 872 kB)
  - NASA Paper Rockets Lab- Practicing Measurement and Prediction (PDF, 69 kB)
  - ‘Newton’s Balloon Rocketry’ Activity Lesson Plan- Investigating Newton’s Laws of Motion (PDF, 25 kB)
  - Physical Science Demonstrations- Force and Motion, Weightlessness, and Paired Forces (PDF, 102 kB)
  - ‘Ring- Vortex Launchers- Make Smoke Rings’ Demonstration Procedures (PDF, 36 kB)
  - Technology challenge - build a brick platform (PDF, 34 kB)
  - Technology challenge – build a tall paper tower (PDF, 45 kB)
  - Technology challenge – construct a paper bridge (PDF, 36 kB)
  - Technology lab- design the tallest tower to support the most weight (PDF, 21 kB)
  - ‘Up, Up, and Away’ Activity- Demonstrating Bernoulli’s Principle (PDF, 57 kB)
  - ‘Water Bottle Cannon’- Demonstrating Physical Science Concepts (PDF, 85 kB)
  - ‘What a Drag’ Activity- Investigating How the Surface Area of an Object Impacts its Speed (PDF, 50 kB)
  - ‘What Goes Up Must Come Down’ Activity- Explore the Principles of Gravity (PDF, 53 kB)
  - ‘What Makes an Airplane Fly’ Activity- Exploring Bernoulli’s Principle (PDF, 285 kB)
  - Yagi Antenna description and testimonial (PDF, 53 kB)

- Big Idea 14 – Organization and Development of Living Organisms
- 'A Cell is a Small City' Online Activity- Teaching the Functions of Cell Organelles (PDF, 56 kB)
- 'A Hairy Situation'- Growing Lima Beans to Explore Plant and Root Growth (PDF, 78 kB)
- Adopt-A-Tree worksheet (PDF, 44 kB)
- 'Advanced Body Building by Dr. Frankenstein’ Group Project- Exploring the Systems of the Human Body (PDF, 345 kB)
- Alternative Health and Healing Methods Paper- Writing Rubric (PDF, 24 kB)
- An Introduction to Medical Terminology- Classroom Activities (PDF, 1 MB)
- An Introduction to the Nervous System- Student Activities (PDF, 33 kB)
- Anatomy Activities- Building muscles with clay & Researching Diseases (PDF, 10 kB)
- Anatomy and Physiology Classroom Activity Briefs (PDF, 11 kB)
- Anatomy and Physiology Disease Research Project and Presentation Guidelines (PDF, 44 kB)
- Anatomy and Physiology Skeletal Rearticulation Project (PDF, 82 kB)
- Anatomy and Physiology Website Development (PDF, 410 kB)
- Anatomy of the Heart using Clay Models (PDF, 239 kB)
- Anatomy&PhysiologyIdeas-Clay Modeling of Cells and Diet Book Investigation (PDF, 404 kB)
- 'Around the World in Just a Few Days' Lesson Plan- Exploring Disease Transmission (PDF, 36 kB)
- ATP- Exploring the Chemical Structure of ATP Activity (PDF, 7 kB)
- Autopsy of a Dill Pickle Activity- Learning Anatomical Directional Terms (PDF, 87 kB)
- 'Bacteria Most unWanted Poster Research Project Guidelines (PDF, 589 kB)
- Bacteria & Viruses class discussion (PDF, 18 kB)
- 'Bags of Bones’- Exploring Bone Density Activity (PDF, 151 kB)
- Balloon as a Membrane Demonstration (PDF, 27 kB)
- Biological macromolecules Class Activity #2- Food Journal Worksheet (PDF, 18 kB)
- 'Biological Macromolecules-Teaching About Carbohydrates, Lipids, Proteins, and Nucleic Acids’ Activity Brief (PDF, 19 kB)
- Blood Test Analysis Activity (PDF, 234 kB)
- Blood Typing Lab Activity Brief (PDF, 41 kB)
- Body Organ Assembling Activity (PDF, 35 kB)
- Body Suits Project (PDF, 116 kB)
- Body Systems Group Presentations (PDF, 10 kB)
- 'Body Systems T-Shirt Project’ Guidelines (PDF, 65 kB)
- Body systems t-shirt Project write up (PDF, 12 kB)
- Brain Mobile Project (PDF, 18 kB)
- 'Build a Skeleton Project’- Construction Guidelines (PDF, 57 kB)
- Cancer Cartoon Project (PDF, 35 kB)
- Cardiovascular webquest activity tasks (PDF, 13 kB)
- Cardiovascular webquest iActivity (PDF, 65 kB)
- ‘Cell Analogy Poster’ Activity Summary- Teaching Cell Organelles (PDF, 10 kB)
- Cell City Student Project (PDF, 10 kB)
- Cell Membrane Characteristics and Permeability Activity (PDF, 92 kB)
- Cell Organelles Cookie- Activity Summary (PDF, 412 kB)
- Cell Organelles Student Worksheet (PDF, 198 kB)
- Cell Project Ideas and Grading Rubric (PDF, 28 kB)
- ‘Cell Size Lab’ Activity and Worksheet (PDF, 93 kB)
- Cell Structure and Function (PDF, 461 kB)
- **Chicken Leg Lab** (PDF, 69 kB)
- **Clinical Case Study on the Nervous System** (PDF, 94 kB)
- **Create a Digestive System Storybook Activity Summary** (PDF, 23 kB)
- **Create microbes to understand the relative sizes** (PDF, 21 kB)
- **Creating a Digestive System Model Activity Summary** (PDF, 454 kB)
- **Creating Candy DNA Activity Procedures** (PDF, 51 kB)
- **Creating 'Jumpy Dolls' Activity Summary- Exploring the Muscular and Skeletal System** (PDF, 10 kB)
- **Creating Mobiles Activity- Investigating the Levels of Structural Organization in Living Organisms** (PDF, 14 kB)
- **Crime Scene Investigation Activity Summary- Practicing Science Process Skills** (PDF, 10 kB)
- **'Design-a-Cell' Project Guidelines** (PDF, 34 kB)
- **'Diffusion and Osmosis in an Animal Cell'- Investigating Hypertonic and Hypotonic Solutions** (PDF, 112 kB)
- **‘Disarticulated Skeleton Study’ Activity Summary** (PDF, 374 kB)
- **Edible Cell Classroom Activity** (PDF, 502 kB)
- **Exoskelton Investigation** (PDF, 369 kB)
- **Explain the major events that occur during muscle contraction** (PDF, 27 kB)
- **Exploring Cell Membranes with Bubbles** (PDF, 72 kB)
- **Exploring Kingdom Animalia Worksheets** (PDF, 635 kB)
- **Exploring the Human Body Introduction Activity and Song** (PDF, 141 kB)
- **Exploring the Immune System through Game Creation- Student Project Guidelines** (PDF, 21 kB)
- **Exploring the Respiratory and Circulatory Systems- Interactive Activity Summary** (PDF, 39 kB)
- **Exploring What Triggers Aggressive Behavior in Siamese Fighting Fish- Student Inquiry Activity** (PDF, 153 kB)
- **Forensics Book Review** (PDF, 28 kB)
- **Full-Size Model Skeleton Project** (PDF, 157 kB)
- **Germs among us** (PDF, 331 kB)
- **Group Presentations on the Senses- Project Guidelines** (PDF, 15 kB)
- **‘Histology Project’- Creating a Histology Journal** (PDF, 171 kB)
- **Homeostasis and Stress Project Overview** (PDF, 320 kB)
- **‘Hominoid Skull Investigation’ Lab Activity** (PDF, 68 kB)
- **'How Do Restriction Enzymes Work’- Student Activity** (PDF, 986 kB)
- **Human Body Cells Research Assignment** (PDF, 502 kB)
- **Human Body Systems Project and Rubric** (PDF, 24 kB)
- **Human dysfunctions and diseases Research Project** (PDF, 9 kB)
- **Idea and Activities for Teaching Honors Biology 9th Grade** (PDF, 64 kB)
- **Ideas for Teaching Anatomy and Physiology- Summary** (PDF, 13 kB)
- **Identify, describe, and tell the function of the six types of neuroglial cells** (PDF, 44 kB)
- **Identify the major muscles of the upper extremity and their function** (PDF, 43 kB)
- **'Integumentary Problem’ Lab Activity- Exploring the Effects of Temperature Change on the Integumentary System** (PDF, 17 kB)
- **Integumentary System lab** (PDF, 52 kB)
- **'Integumentary System Project- Skin Disorders’- Brief Project Summary** (PDF, 13 kB)
- **Introduction to Classification and Dichotomous Keys- Activity Summaries** (PDF, 86 kB)
- Introduction to Skeletal System Activity Brief (PDF, 19 kB)
- 'Introduction to the Cell' Group Project Guidelines (PDF, 107 kB)
- Introduction to the Nervous System- Measuring Reaction Time Lab (PDF, 184 kB)
- Life Size Body System Classroom Activity (PDF, 25 kB)
- Life-Size Skeleton Drawing Classroom Activity (PDF, 331 kB)
- 'Math In Medicine'- Metric Conversion Activities (PDF, 586 kB)
- Measuring the Surface Area of Your Skin- Student Activity Procedure (PDF, 11 kB)
- Microbial Growth Lab with Petri Dishes and Agar (PDF, 9 kB)
- Mitosis Song- Learn the Phases of Mitosis by Singing (PDF, 9 kB)
- Mullet Classroom Dissection Instructions (PDF, 203 kB)
- Mullet Dissection Lab Described (PDF, 40 kB)
- Muscle Fatigue Lab (PDF, 24 kB)
- Muscle T-Shirt Project Guidelines- Learning the Muscles of the Body (PDF, 117 kB)
- 'Nervous Reflex Lab'- Exploring Nervous System Reflex Arcs (PDF, 26 kB)
- Nervous System Classroom Demonstrations (PDF, 30 kB)
- Nervous System webquest (PDF, 85 kB)
- Nucleic Acid Powerpoint Notes (PDF, 136 kB)
- Online Immunology Research Activity (PDF, 25 kB)
- Organ Group Research Project (PDF, 115 kB)
- Owl Pellet Lab Student Worksheet (PDF, 160 kB)
- Parts of the Brain Book Project (PDF, 140 kB)
- Prion Disease project (PDF, 214 kB)
- Rat Dissection Lab procedures and ideas (PDF, 14 kB)
- 'Role Play- The History of Disease and Cell Theory' Classroom Activity (PDF, 23 kB)
- 'Room Sized Cell Project' Student Guidelines (PDF, 24 kB)
- 'Sell Your Organelle' and 'Cell Skit Presentation' Activities (PDF, 76 kB)
- Simple Organic Compounds Lab with a CSI Twist (PDF, 37 kB)
- 'Skeletal Muscle Scrapbook' Project Guidelines (PDF, 44 kB)
- Slide Presentation on Human Immunity Cells (PDF, 329 kB)
- Sliding Filament Project (PDF, 11 kB)
- Stem Cell Group Research Project Brief (PDF, 10 kB)
- Studying a Body System- Student Final Project Guidelines (PDF, 44 kB)
- 'Taking a Road Trip in the Digestive System- A PB&J Sandwich’s Journey in Timeline Format' Activity (PDF, 84 kB)
- 'The Carbon Cycle Game'- Exploring the Carbon Cycle (PDF, 325 kB)
- 'The Incredible Egg!'- Investigating Osmosis in Cells (PDF, 35 kB)
- 'The Jello Cell' Activity Summary- Exploring Cell Organelles (PDF, 46 kB)
- 'The Nerve' Activity- Measuring the Reaction Time and Velocity of Nerve Impulses (PDF, 50 kB)
- 'The Organelle Advertising Campaign’ Project Guidelines- Exploring the Cell Organelles (PDF, 66 kB)
- The plasma membrane and diffusion lab (PDF, 16 kB)
- Three models of a cell help students learn cell structure and function (PDF, 13 kB)
- To understand Osmosis, the diffusion of water through the cell membrane (PDF, 12 kB)
- Tour de cell essay grading sheet (PDF, 309 kB)
- 'Tour de’ Cell Essay’ Guidelines and Rubric- Learning Cell Organelles (PDF, 361 kB)
- 'Travel Brochure of the Urinary System' Student Project Guidelines and Rubric (PDF, 213 kB)
- Travel Brouchure of the Body Systems (PDF, 106 kB)
- ‘Two Point Discrimination Test’ Activity- Exploring the Nervous System’s Response to Stimuli (PDF, 43 kB)
- Using Playdough to understand Cells and Human Anatomy (PDF, 10 kB)
- Using Store-Bought Chicken Legs to Teach Tissue Types (PDF, 62 kB)
- ‘Where Does Digestion Begin’ Demonstration Procedure (PDF, 34 kB)

- Big Idea 15 – Diversity and Evolution of Living Organisms
  - 12 Most Unwanted Bacteria with Individual Descriptions Assignment (PDF, 1 MB)
  - ‘A Blast from the Jurassic Past’ covers dinosaurs and Florida fossils (PDF, 167 kB)
  - ‘A Simulation of Natural Selection’ Lab Activity (PDF, 249 kB)
  - ‘Adaptation Artistry’ Activity- Exploring the Importance of Adaptation to Birds (PDF, 78 kB)
  - After learning about bacteria and viruses students made an advertisement promoting immunizations (PDF, 10 kB)
  - ‘Alien Adaptations Project’- Exploring Evolutionary Adaptations (PDF, 42 kB)
  - Anatomy and Physiology Joints Movement Poster (PDF, 13 kB)
  - Anatomy students produce an ‘Elementary Education Day’ where they teach k-5 students about body systems (PDF, 500 kB)
  - Bacteria Wanted Poster Project (PDF, 87 kB)
  - Biodiversity and Island Biogeography Activity (PDF, 13 kB)
  - Biotechnology Research Project Guidelines (PDF, 253 kB)
  - Body Systems Foldable Project (PDF, 61 kB)
  - Building a Demonstrative Knee Joint with PVC Pipe, Rubber Bands, and Other Everyday Items (PDF, 493 kB)
  - Cardiac Output Lab Activity (PDF, 19 kB)
  - Cartoon Guide Biology Project (PDF, 111 kB)
  - CDC investigation studying microarrays and electrophoresis with blood plasma samples (PDF, 40 kB)
  - Chromatography and R-values of vegetables explored with TLC plates and chromatography chambers (PDF, 289 kB)
  - Chromosomal Karyotyping Student Activity (PDF, 2 MB)
  - Classroom Insect Collection Activity (PDF, 443 kB)
  - ‘Cross Creek Collaboration’ Activity Students Teaching Students about Environmental Issues (PDF, 384 kB)
  - Current events ‘science in the media’ summary idea for an anatomy class, adaptable to other subjects (PDF, 10 kB)
  - Current Issues in Healthcare Project Guidelines (PDF, 24 kB)
  - Description of a teacher’s lesson plans on herat diseas; materials referenced, not included (PDF, 41 kB)
  - Dichotomous Key pictures 2of2 files for this activity (PDF, 163 kB)
  - Dichotomous Key Scavenger Hunt 1of2 files for this activity (PDF, 18 kB)
  - Dichotomous Key Scavenger Hunt Activity (PDF, 222 kB)
  - ‘Disease Detectives’ Simulation Activity- Determining the Origin of an Infectious Agent (PDF, 90 kB)
  - Disease Infomercial-Project with Written and Oral Reports (PDF, 33 kB)
  - DNA and genetic disorders project description (PDF, 34 kB)
  - DNA isolation from strawberries and Bacterial transformation with PFG gene (PDF, 102 kB)
  - Earthworm reactions left to the student’s hypothesis and observations to be recorded in a lab report (PDF, 19 kB)
- 'Edible Earth Parfaits'- Create an Edible Model of the Aquifer (PDF, 107 kB)
- 'Environmental Limnology Activity' Summary- Conducting Water Quality Tests (PDF, 49 kB)
- 'Exotic Species Activity- Wanted Dead or Alive'- Poster Creation Guidelines (PDF, 32 kB)
- Exploring the Anatomy and Physiology of the Blue Crab Lab Activity (PDF, 181 kB)
- Fetal Alcohol Syndrome- Unit Plan Outline (PDF, 11 kB)
- Germination Lab Activity- Determining the Environmental Conditions Needed for Germination (PDF, 33 kB)
- Giant squid internet quest (PDF, 133 kB)
- Graphically organizing facts on poster board (PDF, 26 kB)
- Health related ideas (PDF, 9 kB)
- Heart disease education through exercise emphasis and risk factor evaluation (PDF, 7 kB)
- 'How Does a Medical Lab Identify Bacteria' Lab Activity (PDF, 188 kB)
- 'How Does an Epidemic Spread' Lab Activity- Exploring the Spread of Pathogens (PDF, 251 kB)
- 'How Safe Are We' Activity- Investigating Prevalence of Microbes in Your School (PDF, 12 kB)
- Human Disease Research Paper Guidelines (PDF, 15 kB)
- Ideas to increase student interest in science curriculum (PDF, 537 kB)
- Identifying Bacterial Unknowns using Biochemical Tests (PDF, 203 kB)
- Immune System on ActivBoard (PDF, 1 MB)
- Immunology video recommendation (PDF, 369 kB)
- Impact of Smoking on Lungs Simulation (PDF, 27 kB)
- Infectious disease student-created brochures (PDF, 9 kB)
- Intro to epidemiology unit overview (PDF, 10 kB)
- Investigating Bear and Panda Ancestry Activity (PDF, 106 kB)
- Investigating the Impact of Exotic Species on Ecosystems- Project Guidelines (PDF, 402 kB)
- Live Earthworm Lab (PDF, 103 kB)
- Living organisms and the abiotic environment student research presentations (PDF, 74 kB)
- 'Making Learning Meaningful- Teaching Osmosis and Diffusion' (PDF, 463 kB)
- 'Mapping the Senses Lab'- Exploring the Nervous System (PDF, 56 kB)
- 'Marty the Mutating Marcasen'- Exploring Genetic Mutations (PDF, 27 kB)
- McArthur-Wilson Island Biogeography Simulation (PDF, 28 kB)
- Micro identification of the 12 most unwanted bacteria and 'Bacteria Personals' (PDF, 264 kB)
- 'Migration of the Tufted Talley Tern' Game- Exploring the Challenges of Migration (PDF, 283 kB)
- 'Monocots vs. Dicots Problem' Lab Activity (PDF, 40 kB)
- Nature exploration guide encourages creative observation (PDF, 28 kB)
- New Disease Web Quest and Assignment (PDF, 26 kB)
- Nutrition Project Involving a Food Log (PDF, 8 kB)
- 'Oh Deer!' Activity- Exploring Ecological Systems and Components (PDF, 5 MB)
- Organism and plant scavenger hunt (PDF, 69 kB)
- 'Parking Lot Biodiversity' Activity- Investigating Biodiversity and Invasive Species (PDF, 43 kB)
- 'Pass It On- Disease Transmission Simulation'- Exploring the Spread of Disease through Populations  (PDF, 851 kB)
- Pathogen Activity- Researching Infectious Diseases  (PDF, 6 kB)
- 'Peppermint 'X' Virus' Activity Summary- Exploring the Transmission of Infectious Diseases  (PDF, 10 kB)
- Persuasive paper assignment to address a problem in health care and propose a solution  (PDF, 257 kB)
- 'Photochromic Glass’ Project- Exploring solid state chemistry, activation energy, and reaction rates  (PDF, 449 kB)
- Population Diversity Activity- Determining Population Density using Simpson’s Index  (PDF, 80 kB)
- Population Sampling and Categorization Activity  (PDF, 368 kB)
- 'Predator-Prey Lab'- Simulating and Analyzing Interactions between Predators and Prey in an Environment  (PDF, 83 kB)
- Progression of classification concepts taught in grades 4-8  (PDF, 84 kB)
- Project rubric for a biodiversity assignment, may be adapted for other subjects  (PDF, 37 kB)
- Reading related questions on Ebola, Jaxx and biocontaminants, reading not included  (PDF, 359 kB)
- Restriction mapping problems  (PDF, 91 kB)
- 'Restriction Analysis'- Reading Activity and Questions  (PDF, 140 kB)
- Sarasota’s floating classroom, ‘The Carefree Learner‘ and related activity ideas  (PDF, 11 kB)
- Scenario Worksheet on Exponential Growth  (PDF, 62 kB)
- Sea turtle and coastal patrol education program  (PDF, 49 kB)
- Sea Turtle Survival Simulation Activity  (PDF, 359 kB)
- Seagrass Survey Activity- Exploring the Marine Environment Through Observation  (PDF, 205 kB)
- Simulation activity or game that demonstrates the transmission or spread of a disease  (PDF, 108 kB)
- Skin Disorders Project Guidelines  (PDF, 26 kB)
- Socratic seminars and debate structure used in class  (PDF, 5 kB)
- Sports medicine program  (PDF, 481 kB)
- STD Transmission Simulation  (PDF, 66 kB)
- Stomatal Adaptations to Environmental Pollution Lab  (PDF, 59 kB)
- Streaming video from Discovery Education  (PDF, 30 kB)
- Student teaching introduces class to disease and immunology  (PDF, 164 kB)
- Student Teaching Project on Heart Diseases  (PDF, 31 kB)
- Summary of Urinalysis Lab and Case Study  (PDF, 62 kB)
- The Evolution of Candy Bars  (PDF, 101 kB)
- The Genetics of Sickle Cell Disease class results table  (PDF, 23 kB)
- ‘The Travels of a Monarch’ Activity- Exploring Migration  (PDF, 326 kB)
- UnWanted Bacteria Poster  (PDF, 86 kB)
- Vertebrates and Invertebrates Flip Book- Vocabulary Review  (PDF, 82 kB)
- ‘What Factors Influence Termite Behavior’ Lesson Plan  (PDF, 314 kB)
- ‘Who’s Infected’ Activity- Simulating the Spread Diseases in a Community  (PDF, 59 kB)
- Wildlife conservation project  (PDF, 10 kB)
- ‘Yummy Bacteria’ Activity- Examining Bacteria in Yogurt Cultures  (PDF, 119 kB)
- Zoo Animal Diversity Worksheet- Classifying Animals  (PDF, 104 kB)
• Zoology questionnaire, answers not included (PDF, 40 kB)

  o Big Idea 16 – Heredity and Reproduction
    • 6th Grade Genetics Activities (PDF, 504 kB)
    • Activity centers on the concepts of Mendelian genetics, patterns of inheritance, dominant and recessive alleles, and the laws of probability (PDF, 10 kB)
    • Alien genetics determined by the flip of a coin (PDF, 31 kB)
    • ‘Altering Genes’-Student Research Project and Presentation (PDF, 46 kB)
    • Biotechnology Worksheet- Genetics of ABO Blood Types (PDF, 59 kB)
    • Blood and Sperm Cell Comparison Lab- Blood ID Lab (PDF, 12 kB)
    • Breeding rebops genetic papers (PDF, 314 kB)
    • Camouflage Activity- Exploring PredatorPrey Relationships and Natural Selection (PDF, 48 kB)
    • Camouflage Exercise- Exploring Natural Selection (PDF, 49 kB)
    • Chalk Art Mitosis (PDF, 735 kB)
    • Chi-Square Analysis- Brief Introduction Activity (PDF, 12 kB)
    • Chromosome genetics makes a face activity (PDF, 189 kB)
    • Codon BINGO- Game Summary (PDF, 351 kB)
    • Creating A DNA Model Activity (PDF, 81 kB)
    • Creating ‘Paper Pets’ Activity- Exploring Mendelian Genetics (PDF, 41 kB)
    • Creating ‘Reebop’ Babies Lab- Exploring Genetic Inheritance (PDF, 88 kB)
    • Cut-Out 3-D DNA Model (PDF, 468 kB)
    • DNA and Genetic Diseases Student Worksheet (PDF, 65 kB)
    • DNA Fragment Scavenger Hunt (PDF, 144 kB)
    • DNA goes to the races activity (PDF, 161 kB)
    • DNA Investigations Simulating Modern Lab Techniques (PDF, 2 MB)
    • ‘DNA is How Long!’- DNA Discovery Activity (PDF, 782 kB)
    • DNA Mutations Activity Summary (PDF, 48 kB)
    • DNA Profiling Simulation Activity (PDF, 104 kB)
    • ‘DNA Quest- In Search of Innocence’ Research Activity (PDF, 98 kB)
    • DNA Structure, Chromosome Structure, and DNA Replication (PDF, 90 kB)
    • Dolly facts and discussion topics (PDF, 229 kB)
    • Dragon Genetics Lab- Principles of Mendelian Genetics (PDF, 307 kB)
    • ‘Dragon Genetics’- Science Scope Article and Activity Idea (PDF, 331 kB)
    • ‘Extract DNA from Anything Living’ Lab Activity (PDF, 114 kB)
    • ‘Extracting DNA from a Fruit’ Lab Activity (PDF, 24 kB)
    • Fetal Alcohol Syndrome unit, 9 day description (PDF, 12 kB)
    • Genetic abnormalities idea (PDF, 57 kB)
    • Genetic Disease Case Study Articles and Questions (PDF, 675 kB)
    • Genetic Disease Research Project Guidelines (PDF, 10 kB)
    • Genetic Disorders PowerPoint Presentation Guidelines (PDF, 63 kB)
    • ‘Genetic Gumbo’ activity for reflection (PDF, 190 kB)
    • Genetically Modified Foods Role Play Lesson Plan (PDF, 149 kB)
    • Genetics introduction questionnaire (PDF, 500 kB)
    • Genetics lesson ‘dog recipe’, create your own dog using genetics principles, website included (PDF, 13 kB)
    • Genetics webquest (PDF, 44 kB)
    • ‘Genetics With a Smile’- Mendelian Genetics Activity (PDF, 73 kB)
    • Genetics with a smile Punnet Squares (PDF, 19 kB)
- Genetics with a smile worksheet and activity explores heritability of traits (PDF, 42 kB)
- Genetics with Sponge Bob and aliens (PDF, 788 kB)
- Grading rubric for dragon genetics album (PDF, 29 kB)
- Half Life Candy Activity and Worksheet (PDF, 83 kB)
- Heredity Jeopardy (PDF, 374 kB)
- ‘How Does DNA Communicate’ - Exploring DNA’s Role in the Cell (PDF, 442 kB)
- ‘How Does Electrophoresis Work’ Lab Activity (PDF, 112 kB)
- ‘I Ain’t Your Baby’s Daddy’ - Problem Solving with Punnett Squares (PDF, 85 kB)
- Inheritance activity – ‘Build a Baby Workshop’ (PDF, 91 kB)
- Inserting a human growth hormone gene into a bacterial plasmid (PDF, 9 kB)
- Instructions for a Genetic Disorders Research Paper (PDF, 23 kB)
- Invertebrate (Echinoderms) Fertilization Lab Activity (PDF, 222 kB)
- Karyotyping lesson idea (PDF, 10 kB)
- List of Skin diseases and disorders for a paper and presentation (PDF, 256 kB)
- ‘Lord of the Flies’ lab on genetics and fruit flies (PDF, 6 kB)
- Marshmallow Genetics Lab (PDF, 272 kB)
- ‘Marshmallow Meiosis’ Activity (PDF, 323 kB)
- Measuring DNA activity (PDF, 443 kB)
- Meiosis and Mendosis Activity (PDF, 492 kB)
- Mendel Punnett Squares Practice - Student Worksheet (PDF, 22 kB)
- Mitosis and Macaroni - Exploring the Phases of Mitosis (PDF, 375 kB)
- Mitosis research activity (PDF, 464 kB)
- Notes to a Darwin lecture (PDF, 80 kB)
- Online Teaching Resources for Mitosis and Meiosis (PDF, 17 kB)
- Paper DNA Models - Simulating Replication, Transcription and Translation (PDF, 225 kB)
- Plant Propagation Lesson Plan (PDF, 157 kB)
- Position paper on genetic testing (PDF, 10 kB)
- PowerPoint Slides - Unit on Evolution (PDF, 564 kB)
- Protein Synthesis Simulation Activity (PDF, 412 kB)
- Protein Synthesis with Words (PDF, 40 kB)
- ‘Recombinant Paper Plasmids’ Activity (PDF, 342 kB)
- ‘Simple Thymus DNA Extraction’ Lab Activity (PDF, 14 kB)
- Solving Crimes with Science - Unit Plan (PDF, 501 kB)
- Sponge Bob Genetics Activities and Quiz (PDF, 95 kB)
- Strawberry DNA Extraction Lab (PDF, 35 kB)
- ‘The Cell Cycle Portfolio’ Lesson Plan (PDF, 125 kB)
- ‘The Genetics of Sickle Cell Disease’ - Reading and Worksheet (PDF, 24 kB)
- The Human Genome Project introduction guide (PDF, 26 kB)
- ‘Tools of the Genetic Engineer’ lab recommendation (PDF, 9 kB)
- ‘Transcription and Translation Sequencing Puzzle’ Student Activity (PDF, 446 kB)
- Virus Story Guidelines (PDF, 51 kB)
- Visualizing Mitosis & Meiosis using Rope (PDF, 453 kB)
- Web quest on diseases allows students to diagnose symptoms based on internet research (PDF, 28 kB)

- Big Idea 17 – Interdependence
  - Adaptations Game (PDF, 336 kB)
  - Advanced Marine Science course information (PDF, 10 kB)
- Bioassessment - Using Bugs as Indicators of Water Quality Activity (PDF, 255 kB)
- Bioethics Debate Topics and Guidelines (PDF, 37 kB)
- Bioethics Overview with group presentations (PDF, 296 kB)
- Biological Organisms Scavenger Hunt - Activity Guidelines (PDF, 40 kB)
- Biome Project Guidelines (PDF, 35 kB)
- Biotechnology Newscast - Assignment Guidelines and Rubric (PDF, 65 kB)
- Biotechnology Unit Overview and Lesson Plans (PDF, 635 kB)
- Cedar Key field trip activities (PDF, 169 kB)
- Cellular Biology, Ethics, and Sociology - Critical Thinking Classroom and Research Activity (PDF, 81 kB)
- 'CHOMP' Game - Exploring the Eating Habits and Relationships of Animals (PDF, 87 kB)
- Creating a Biotechnology Quilt Activity (PDF, 174 kB)
- Creating a Rainstick to learn about the Water Cycle (PDF, 707 kB)
- Disease transmission simulation with lifestyle cards (PDF, 45 kB)
- DNA Microarray Lab - 'Using Gene Chips to Study the Genetics of Lung Cancer' (PDF, 1 MB)
- Energy and Radiation Lab Activity and Background Information (PDF, 6 MB)
- Environmental Science Activities - Landfills, Water Pollution, and Hazardous Wastes (PDF, 1 MB)
- Environmental Science Public Service Announcements (PDF, 235 kB)
- Epidemic lab with 'bodily fluid' cups (PDF, 22 kB)
- Estimating Grasshopper Population Size - Using the Lincoln-Peterson Index (PDF, 50 kB)
- 'Everything is Connected' Activity - Exploring the Connections Between the Environment and Humans (PDF, 993 kB)
- Exploring Lead Contamination in Soil Activity (PDF, 483 kB)
- Exploring the Coastal Environment - Marine Life Adaptations Lab (PDF, 84 kB)
- Exploring the Nitrogen Cycle - Classroom Simulation Activity (PDF, 1 MB)
- Field Ecology Sampling Methods Activity (PDF, 247 kB)
- Fish-Killing bloom could harm humans article (PDF, 326 kB)
- Food Safety Bacteria in Shellfish (PDF, 7 kB)
- Geology looking at a variety of earth's resources (PDF, 206 kB)
- Honors Biology oral report on a scientist (PDF, 12 kB)
- 'How Many Bear Can Live in This Forest' Activity - Exploring Limiting Factors in an Environment (PDF, 167 kB)
- Human and Environment Interactions - Classifying Household Waste (PDF, 51 kB)
- Human Population Studies Activity (PDF, 313 kB)
- 'Influencing an Ecosystem' Activity - Investigating the Effect of Non-Living Objects on the Ecosystem (PDF, 340 kB)
- Investigating A Flood (PDF, 74 kB)
- Lesson on bacteria and viruses introduced with _Hot Zone_ and investigated with a transmission lab (PDF, 38 kB)
- Lesson plan for _Hot Zone and-or Demon in the Freezer_ (PDF, 18 kB)
- Marine Conservation (PDF, 99 kB)
- 'Miracle at Adobe Creek' - Newspaper Article on Water Pollution (PDF, 634 kB)
- NorwalkVirus (PDF, 2 MB)
- Nova Pass it On Activity (PDF, 16 kB)
- Nuclear Technology Company Presentation (PDF, 10 kB)
• **Nutrient Cycle Stories- Exploring the Water, Phosphorus, Sulfur, Nitrogen, and Carbon Cycles** (PDF, 18 kB)
• **Nutrition and Wellness Web Lesson** (PDF, 22 kB)
• **Nutrition for Middle School Students** (PDF, 9 kB)
• ‘Outdoor Awareness'- Practicing Observation Skills Activity (PDF, 47 kB)
• Project description for a biology class (PDF, 12 kB)
• 'Propagation of Landscape Plant'-Methods and Information Sheet (PDF, 824 kB)
• **Science Vocabulary BINGO** (PDF, 40 kB)
• **Stages of Life Poster Guidelines** (PDF, 16 kB)
• **Students Teaching Students Activity- Exploring Environmental Issues and Catastrophes** (PDF, 137 kB)
• **Teen Health Issues Brochure Project Guidelines** (PDF, 62 kB)
• ‘The Incredible Journey’ Activity- Exploring the Water Cycle (PDF, 221 kB)
• ‘To Zone or not to Zone’ Role Play Activity- Exploring Land Development in Florida (PDF, 449 kB)
• **Viruses and HIV introduction and information Power Point** (PDF, 1 MB)
• Water Cycle & Enviroscape Presentation- Lecture Outline (PDF, 154 kB)
• **Water Filter Lab** (PDF, 67 kB)
• **Water Filter Lab Teacher Supplemental Sheet** (PDF, 60 kB)
• **Water Filtration Lab** (PDF, 114 kB)
• **Water Quality Unit- Lesson Plans, Labs and Activities** (PDF, 175 kB)
• **Wetland Metaphor Activity and Worksheet** (PDF, 214 kB)
• What environmental factors determine the climate of an area (PDF, 69 kB)

**Big Idea 18 – Matter and Energy Transformations**
• ‘Ace Muncho Food Detective’- Investigating Chemical Ingredients in Processed Foods (PDF, 50 kB)
• **Calorie Counter Lab Activity Summary** (PDF, 10 kB)
• Classification of Chemical Reactions and Balancing Equations- Lab Exercise (PDF, 267 kB)
• Diet book report asks students to review a diet book and produce a report on the nutritional value of the diet (PDF, 18 kB)
• Drunken Blood worms behavior Experiment (PDF, 129 kB)
• **Electron Transport Chain Role Play- Activity Summary** (PDF, 9 kB)
• **Enzyme Efficiency Lab Using Applesauce** (PDF, 8 kB)
• ‘Enzyme Electrophoresis’ Lab Activity (PDF, 291 kB)
• Enzyme lab activity uses liver – cooked and raw – to examine the role of enzymes (PDF, 83 kB)
• **Enzyme Lecture Notes** (PDF, 170 kB)
• **Exploring Food Production, Safety, Preservation, Diseases and Nutrition- Brief Lesson Plans** (PDF, 26 kB)
• **Fast Food Nutrition Analysis** (PDF, 42 kB)
• Fermentation Lab (PDF, 64 kB)
• ‘Food for Thought’ Activity- Identifying Impacts of Inequitable Resource Distribution (PDF, 503 kB)
• ‘Gelatin Salad’ Lab Activity Summary- Exploring the Effect of Temperature on Enzymes (PDF, 12 kB)
• **Grants for Nutritional Training, two described** (PDF, 260 kB)
• Heart rate, respiration, and blood pressure varies with exercise, caffeine, and temperature (PDF, 19 kB)
- **Helpful Hints for Teaching Cellular Processes- Brief Summary** (PDF, 9 kB)
- **Icecream lab described, discuss the transformation of matter** (PDF, 45 kB)
- **Lab to investigate the the nutritional value or 'healthiness' of fast food, described** (PDF, 28 kB)
- **Nutrition activity with food log and pyramid** (PDF, 9 kB)
- **'Nutrition Through Art Project' Guidelines** (PDF, 607 kB)
- **Nutritional awareness unit described in general** (PDF, 337 kB)
- **Oxygen Availability in Water Lab Activity- Determining Water Quality by Measuring Dissolved Oxygen** (PDF, 165 kB)
- **Photosynthesis Review Song** (PDF, 13 kB)
- **Predicting the Patterns and Characteristics of Surface Ocean Currents Activity** (PDF, 905 kB)
- **'Stoichiometry of a Reaction' Lab Activity- Analysis of a Copper Reaction** (PDF, 181 kB)
- **'The Carbon Girls Go Into the Mitochondrion'- Teaching the Citric Acid Cycle through Story** (PDF, 57 kB)
- **The Effects of Alcohol on Blood Worms** (PDF, 22 kB)
- **Weight Loss Program Research Project Guidelines** (PDF, 17 kB)

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