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| Week | Topics | Standards | Activities/Assessments |
| 1 | * Introduction * Safe Experiments * Ethical Behavior | |  |  | | --- | --- | | N.12.A.4 | Students know how to safely conduct an original scientific investigation using the appropriate tools and technology. E/L | | | N.12.B.1 | Students know science, technology, and society influenced one another in both positive and negative ways. E/S | | N.12.B.3 | Students know the influence of ethics on scientific enterprise. E/S | | | * Team Building Challenge (Tower: 5 straws, 5 paperclips) * Video: The Future: Body Questions |
| 2 | * Scientific Method * Process Skills | |  |  | | --- | --- | | N.12.A.1 | Students know tables, charts, illustrations and graphs can be used in making arguments and claims in oral and written presentations. E/S | | | N.12.A.2 | Students know scientists maintain a permanent record of procedures, data, analyses, decisions, and understandings of scientific investigations. I/S | | N.12.A.3 | Students know repeated experimentation allows for statistical analysis and unbiased conclusions. E/S | | N.12.A.4 | Students know how to safely conduct an original scientific investigation using the appropriate tools and technology. E/L | | | N.12.A.5 | Students know models and modeling can be used to identify and predict cause-effect relationships. I/S | | * Alice in Wonderland Investigations   + Parachute Experiment   + Sugar Dissolving Experiment   + Bean Sprout Growth Experiment * Quiz |
| 3 | * Measurement and Process Skills | |  |  | | --- | --- | | N.12.A.4 | Students know how to safely conduct an original scientific investigation using the appropriate tools and technology. E/L | | | N.12.A.5 | Students know models and modeling can be used to identify and predict cause-effect relationships. I/S | | * Measuring Volume Gizmo (Online Interactive Simulation) Students will: * Find the volume of water in a graduated cylinder by observing the bottom of the meniscus in relation to tick marks * Add a specific volume of water to a graduated cylinder using a beaker and a pipette * Measure and calculate the volume of regular solids using a ruler and calculator * Measure the volume of regular and irregular solids based on water displacement * Answer questions based on these activities |
| 4 | * Introduction * Safe Experiments * Ethical Behavior | |  |  | | --- | --- | | N.12.A.4 | Students know how to safely conduct an original scientific investigation using the appropriate tools and technology. E/L | | | N.12.B.1 | Students know science, technology, and society influenced one another in both positive and negative ways. E/S | | N.12.B.3 | Students know the influence of ethics on scientific enterprise. E/S | | | * Team Building Challenge (Tower: 5 straws, 5 paperclips) * Video: The Future: Body Questions |
| 5 | * Scientific Method * Process Skills | |  |  | | --- | --- | | N.12.A.1 | Students know tables, charts, illustrations and graphs can be used in making arguments and claims in oral and written presentations. E/S | | | N.12.A.2 | Students know scientists maintain a permanent record of procedures, data, analyses, decisions, and understandings of scientific investigations. I/S | | N.12.A.3 | Students know repeated experimentation allows for statistical analysis and unbiased conclusions. E/S | | N.12.A.4 | Students know how to safely conduct an original scientific investigation using the appropriate tools and technology. E/L | | | N.12.A.5 | Students know models and modeling can be used to identify and predict cause-effect relationships. I/S | | * Alice in Wonderland Investigations   + Parachute Experiment   + Sugar Dissolving Experiment   + Bean Sprout Growth Experiment * Quiz |
| 6 | * Cell Structure and Functions | |  |  | | --- | --- | | L.12.B.1 | Students know cell structures and their functions. E/S | | | | * Video Hidden Life of the Cell   + Questions and discussion |
| 7 | * Cell Structure and Functions | |  |  | | --- | --- | | L.12.B.1 | Students know cell structures and their functions. E/S | | | | * Cell Structure and Functions PowerPoint notes and discussion * Human Body Video discussion and questions |
| 8 | * Cell Structure and Functions | |  |  | | --- | --- | | L.12.B.1 | Students know cell structures and their functions. E/S | | | | * Osmosis * Egg Lab Activities * Yeast Growth Lab * Digestion Video discussion and questions |
| 9 | * Cell Structure and Functions | |  |  | | --- | --- | | L.12.B.1 | Students know cell structures and their functions. E/S | | | | * Cell observations using microscope |
| 10 | * Patterns of Inheritance | |  |  | | --- | --- | | L.12.A.1 | Students know genetic information passed from parents to offspring is coded in the DNA molecule. E/S | | L.12.A.5 | Students know how to predict patterns of inheritance. E/S | | * Dogs Decoded video, questions and discussion * Review Cell Unit |
| 11 | * Cell Structure and Functions * Human Body: Skeletal System | |  |  | | --- | --- | | L.12.B.1 | Students know cell structures and their functions. E/S | | | | L.12.B.2 | Students know the human body has a specialized anatomy and physiology composed of an hierarchical arrangement of differentiated cells. E/S | | * Cell Unit Quiz * Human Locomotion Notes and discussion * Major bones * Cut and Paste Skeleton * Skeleton Question/Fact sheets for notebook |
| 12 | * HSPE Testing Week | |  |  | | --- | --- | | L.12.B.2 | Students know the human body has a specialized anatomy and physiology composed of an hierarchical arrangement of differentiated cells. E/S | | * Plastic Skeleton Models |
| 13 | * Human Body: Skeletal System | |  |  | | --- | --- | | L.12.B.2 | Students know the human body has a specialized anatomy and physiology composed of an hierarchical arrangement of differentiated cells. E/S | | * Human Locomotion Notes and discussion * Human Body video * Review Human Locomotion |
| 14 | * Human Body: Skeletal System | |  |  | | --- | --- | | L.12.B.2 | Students know the human body has a specialized anatomy and physiology composed of an hierarchical arrangement of differentiated cells. E/S | | * Quiz on Skeletal System * How to make bones stronger |
| 15 | * Human Body | |  |  | | --- | --- | | L.12.B.2 | Students know the human body has a specialized anatomy and physiology composed of an hierarchical arrangement of differentiated cells. E/S | | * Video Nova: Marathon   (physiological changes that occur while training for a marathon) |
| 16 | * Human Body | |  |  | | --- | --- | | L.12.B.2 | Students know the human body has a specialized anatomy and physiology composed of an hierarchical arrangement of differentiated cells. E/S | | * Microscope activity (looking at bone and muscle cells) * Microscope history article and questions |
| 17 | * Human Body | |  |  | | --- | --- | | L.12.B.2 | Students know the human body has a specialized anatomy and physiology composed of an hierarchical arrangement of differentiated cells. E/S | | * Bone Weight activity   (percentage of body mass)   * Review |
| 18 | * Human Body | |  |  | | --- | --- | | L.12.B.2 | Students know the human body has a specialized anatomy and physiology composed of an hierarchical arrangement of differentiated cells. E/S | | * Quiz on Musculoskeletal System * Make-up work |
| 19 | * Classroom Rules * Human Body: Integumen-tary System (Skin) | |  |  | | --- | --- | | L.12.B.2 | Students know the human body has a specialized anatomy and physiology composed of an hierarchical arrangement of differentiated cells. E/S | | * Integumentary System PowerPoint Notes and discussion * Skin Sensitivity Lab * Label and color Skin Diagram |
| 20 | * Human Body: Muscular System | |  |  | | --- | --- | | L.12.B.2 | Students know the human body has a specialized anatomy and physiology composed of an hierarchical arrangement of differentiated cells. E/S | | * Voluntary versus Involuntary Muscle Activity * Muscular System PowerPoint notes and discussion |
| 21 | * Human Body: Digestive System | |  |  | | --- | --- | | L.12.B.2 | Students know the human body has a specialized anatomy and physiology composed of an hierarchical arrangement of differentiated cells. E/S | | * Digestive System PowerPoint notes and discussion * Digestion Lab * Digestive System model (paper tape) |
| 22 | * Human Body: Digestive System | |  |  | | --- | --- | | L.12.B.2 | Students know the human body has a specialized anatomy and physiology composed of an hierarchical arrangement of differentiated cells. E/S | | * Gizmo on Digestive System (interactive computer model) * Go over questions and Gizmo results |
| 23 | * Human Body: Digestive System * Circulatory System | |  |  | | --- | --- | | L.12.B.2 | Students know the human body has a specialized anatomy and physiology composed of an hierarchical arrangement of differentiated cells. E/S | | * Digestive System Review * Digestive System Quiz * Circulatory System video “Cut to the Heart” questions and discussion |
| 24 | * Human Body: Circulatory System | |  |  | | --- | --- | | L.12.B.2 | Students know the human body has a specialized anatomy and physiology composed of an hierarchical arrangement of differentiated cells. E/S | | * “Hemo the Magnificent” video discussion and questions * Circulatory System PowerPoint notes, discussion and questions * Diagram circulatory System |
| 25 | * Human Body: Lymphatic   System   * Respiratory System | |  |  | | --- | --- | | L.12.B.2 | Students know the human body has a specialized anatomy and physiology composed of an hierarchical arrangement of differentiated cells. E/S | | * Lymphatic System PowerPoint notes, discussion and questions * Respiratory System PowerPoint notes discussion and questions * Videos of tobacco’s effect on lungs * Lung Capacity Lab Activity |
| 26 | * HSPE Testing Week |  |  |
| 27 | * Human Body: Respiratory System * Excretory System | |  |  | | --- | --- | | L.12.B.2 | Students know the human body has a specialized anatomy and physiology composed of an hierarchical arrangement of differentiated cells. E/S | | * Respiratory System Review * Quiz * Excretory System PowerPoint notes, discussion and questions * Lab activity |
| 28 | * Human Body: Reproduc-tive System | |  |  | | --- | --- | | L.12.B.2 | Students know the human body has a specialized anatomy and physiology composed of an hierarchical arrangement of differentiated cells. E/S | | * Reproductive System PowerPoint notes, discussion and questions * Video discussion and questions |
| 29 | * Human Body: The Endocrine System | |  |  | | --- | --- | | L.12.B.2 | Students know the human body has a specialized anatomy and physiology composed of an hierarchical arrangement of differentiated cells. E/S | | * Endocrine System PowerPoint notes, discussion and questions * Endocrine System Diagram, color and label |
| 30 | * Human Body: Nervous and Sensory Systems | |  |  | | --- | --- | | L.12.B.2 | Students know the human body has a specialized anatomy and physiology composed of an hierarchical arrangement of differentiated cells. E/S | | * Nervous System PowerPoint notes, discussion and questions * Lab Activity on reaction time * Video on the Brain with discussion and questions |
| 31 | * Ecosystems and Population Ecology | |  |  | | --- | --- | | L.12.C.1 | Students know relationships of organisms and their physical environment E/S | | | L.12.C.2 | Students know how changes in an ecosystem can affect biodiversity and biodiversity’s contribution to an ecosystem’s stability. E/S | | | L.12.C.3 | Students know the amount of living matter an environment can support is limited by the availability of matter, energy, and the ability of the ecosystem to recycle materials. E/S | |  |  | | L.12.C.4 | Students know the unique geologic, hydrologic, climatic, and biological characteristics of Nevada’s bioregions. E/S | | * Ecosystem PowerPoint notes, discussion and questions * “Oh Deer” population simulation game * Nevada Ecosystem Travel Brochure |
| 32 | * Ecosystems and Population Ecology | |  |  | | --- | --- | | L.12.C.1 | Students know relationships of organisms and their physical environment E/S | | | L.12.C.2 | Students know how changes in an ecosystem can affect biodiversity and biodiversity’s contribution to an ecosystem’s stability. E/S | | | L.12.C.3 | Students know the amount of living matter an environment can support is limited by the availability of matter, energy, and the ability of the ecosystem to recycle materials. E/S | | * Ecosystem Vocabulary Exercise * Population Ecology PowerPoint notes, discussion and questions * Food Web, Energy Pyramid * Population Vocabulary Comic Strip |
| 33 | * Ecosystems and Population Ecology | |  |  | | --- | --- | | L.12.C.1 | Students know relationships of organisms and their physical environment E/S | | | L.12.C.2 | Students know how changes in an ecosystem can affect biodiversity and biodiversity’s contribution to an ecosystem’s stability. E/S | | | L.12.C.3 | Students know the amount of living matter an environment can support is limited by the availability of matter, energy, and the ability of the ecosystem to recycle materials. E/S | | * Population Ecology PowerPoint notes, discussion and questions * Relationships among organisms mini-book * Interactive: Life Returns to Mt. St. Helens |
| 34 | * Ecosystems and Population Ecology | |  |  | | --- | --- | | L.12.C.1 | Students know relationships of organisms and their physical environment E/S | | | L.12.C.2 | Students know how changes in an ecosystem can affect biodiversity and biodiversity’s contribution to an ecosystem’s stability. E/S | | | L.12.C.3 | Students know the amount of living matter an environment can support is limited by the availability of matter, energy, and the ability of the ecosystem to recycle materials. E/S | | * Video: Nova: Rat Attack   <http://www.pbs.org/wgbh/nova/nature/rat-attack.html>   * Review Ecosystems and Population Ecology * Quiz |
| 35 | * Evolution and Natural Selection | |  |  | | --- | --- | | L.12.D.4 | Students know the extinction of species can be a natural process. E/S | | L.12.D.5 | Students know biological evolution explains diversity of life. E/S | | L.12.D.6 | Students know the concepts of natural and artificial selection. E/S | | * Evolution and Natural Selection PowerPoint notes, discussion and questions * Gizmo: Rainfall and Bird Beaks |
| 36 | * Evolution and Natural Selection | |  |  | | --- | --- | | L.12.D.4 | Students know the extinction of species can be a natural process. E/S | | L.12.D.5 | Students know biological evolution explains diversity of life. E/S | | L.12.D.6 | Students know the concepts of natural and artificial selection. E/S | | * PBS Lesson: How Evolution Works * Review and Quiz |