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| Week | Topics | Standards | Activities/Assessments |
| 1 | * Introduction
* Safe Experiments
* Ethical Behavior
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| 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 |
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 | * Team Building Challenge (Tower: 5 straws, 5 paperclips)
* Video: The Future: Body Questions
 |
| 2 | * Scientific Method
* Process Skills
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| 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
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| 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
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| 4 | * Introduction
* Safe Experiments
* Ethical Behavior
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| 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
 |

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| 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
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| L.12.B.1 | Students know cell structures and their functions. E/S |
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 | * Video Hidden Life of the Cell
	+ Questions and discussion
 |
| 7 | * Cell Structure and Functions
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| L.12.B.1 | Students know cell structures and their functions. E/S |
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 | * Cell Structure and Functions PowerPoint notes and discussion
* Human Body Video discussion and questions
 |
| 8 | * Cell Structure and Functions
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| L.12.B.1 | Students know cell structures and their functions. E/S |
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 | * Osmosis
* Egg Lab Activities
* Yeast Growth Lab
* Digestion Video discussion and questions
 |
| 9 | * Cell Structure and Functions
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| L.12.B.1 | Students know cell structures and their functions. E/S |
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 | * Cell observations using microscope
 |
| 10 | * Patterns of Inheritance
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| 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
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| L.12.B.1 | Students know cell structures and their functions. E/S |
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| 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
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| 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
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| 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
 |

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| 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
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| 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
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| 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
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| 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
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| 18 | * Human Body
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| 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
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| 19 | * Classroom Rules
* Human Body: Integumen-tary System (Skin)
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| 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
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| 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
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| 21 | * Human Body: Digestive System
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| 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
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| 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
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| 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
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| 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
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| 25 | * Human Body: Lymphatic

System* Respiratory System
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| 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
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| 27 | * Human Body: Respiratory System
* Excretory System
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| 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
 |

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| 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
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| 29 | * Human Body: The Endocrine System
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| 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
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| 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
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| 31 | * Ecosystems and Population Ecology
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| 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
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| --- | --- |
| 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
 |

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| --- | --- |
| 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
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| 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
 |