EMPLOYABILITY PROFILE

Natural Resources

Industry Based Skill Standards

Proficiency Definitions

NA = Not Applicable **1 = Developing** **2 = Basic** **3 = Proficient** **4 = Mastery**

	9th	10th	11th	12th
History of Environmental Science and Natural Resource Use.				
Understand the origin of environmental studies and the current need for Environmental Science. Describe the changes that have occurred throughout history that have lead to changes that require conservation of our natural resources.				
Lab Safety Skills and Personal Safety				
Understand basic lab safety procedures and skills. Identify and locate proper lab safety equipment and understand when and how to use lab safety equipment. Determine how to stay safe in a lab and field setting and follow all safety rules. Become first aid certified				
Interactions Within an Ecosystem				
Understand energy relationships within an ecosystem. Describe the factors that effect an ecosystem and how ecosystems change over time. Determine how changes in an ecosystem effect all other parts of that ecosystem.				
Populations and Sampling Methods				
Understand types of population growth. Determine which type of growth is shown from data and graphs. Estimate population size using various methods. Determine the factors that effect population size.				
Use of Water, Land, Air				
Determine the uses for land, water and air resources. Describe the factors that threaten the availability of these natural resouces. Describe sustainable use of each of these natural resouces and how and why sustainable use is necessary. Determine what sustainable use of these resources is for the future.				
Mineral Use and Extraction Methods				
Identify minerals using their physical and chemical characteristics. Determine sustainable extraction methods with limited effect on the natrual environment. Explain why and how excess mineral use and extraction can be detrimental to environmental health and well being. Explain they positive and negative effects of mineral extraction and weigh those effects to determine future mineral extraction plans.				
Types of Energy				
Identify different types of energy and determine positive and negative aspects of each type of energy. Evaluate each energy source for its sustainablity potential.				
Current Issues within Environmental Science				
Idnetify and explain current issues in environmenatl science. Determine the cause and effect of each current issue and how each issue effects the natural resources available.				
Stream/Water Quality Testing and Monitoring				
Determine the factors that effect water quality and test for each factor. Use data collected to determine overall stream/water quality and health. Use data collecting techniques to measure water quality.				
Environmental Ethics				
Employ proper moral character				

	9th	10th	11th	12th
Plants				
Understand, identify, and explain the function of all main parts of a plant. Determine necessary factors for plant growth and what variables effect plant growth. Identify major tree species by sight and using key. Determine and identify cause and effect of plant diseases and explain ways to prevent and limit the spread.				
Soil				
Explain the formation of soil and major characteristics used to characterize soil. Explain features of different types of soil and determine the appropriate plants to grow in each type of soil.				
Animals				
Understand the main habitat requirements of animals and adaptations to survive different habitats. Identify animals by various types physical evidence. Explain reproduction methods of various animals.				
Wildlife Management				
Understand and explain various wildlife managements techniques. Explain the conservation efforts for various species. Determine the success rate of a wildlife management plan by using data and population information. Describe conservation efforts being used in NYS to help various populations.				
Pests and Invasive Species ID				
Identify various pests and invasive species in NYS. Determine how pests and invasive species are spread and develop a plan to stop the spread. Explain the effects of pests and invasive species on native species. Explain ways to control the spread of pests and invasive species and explain the negative and positive aspects of each type of control method.				
Agriculture and Food Science				
Describe the resources required for agriculture success. Explain the limitations of agricultural practices and explain various ways to overcome these limitations. Identify and explain the importance of NYS crops and products.				
Agriculture Biotechnology				
Understand the history and goals of agritech. Determine the positive and negative aspects of using agritech. Identify the major concerns with agritech.				
Foresty and Landscape Management				
Evaluate a forest for stability, sustainability, and determine timber resources available. Determine which plants to use to meet the needs of a landscaping job. Explain the importance of using native plants.				
Economics and Resource Allocation				
Determine how the allocation of resources effects an economy. Explain how local, state, and federal goverments make decisions regarding resource allocation. Explain the term tradeoff in terms of resources and economics.				
Sustainablity				
Explain what sustainability means, why it is important, and how it can be achieved. Determine which government agencies are involved with making decisions regarding				