Arkansas CTE

Managing Our Natural Resources: Grades 10, 11, 12

Adopted 2008

Introduction to Natural Resources

1.1 Define terms

1. Match terms with definitions 1.1.1

1.2 List natural resources and how they are utilized by humans

1. Identify natural resources used in your area 1.2.1
2. Write a report on how you personally use natural resources 1.2.2

1.3 Identify careers in natural resources

1. Research a career in natural resources to determine educational requirements, working conditions, and salary 1.3.1

1.4 Discuss FFA opportunities available to students interested in natural resources

1. Use FFA resources to identify CDEs, SAEs, and Proficiency awards related to the natural resources area 1.4.1

Safety in Natural Resources

2.1 Define terms

1. Match terms to their definitions 2.1.1

2.2 Discuss the meaning and importance of safety and safe work with natural resources

1. Relate examples of safety hazards associated with natural resources. 2.2.1
2. Have students name examples of accidents that have occurred locally in natural resources work 2.2.2

2.3 Identify hazards in natural resources

1. Survey hazardous situations in local natural resources facilities and prescribe the appropriate safety measures to be taken and propose ways of eliminating or reducing the risk of these hazards 2.3.1
2. Develop a list of practices to reduce risk when working with natural resources 2.3.2

Skip to main content

Describe the importance of personal safety in natural resources

1. Identify and properly use appropriate personal protective equipment (PPE) with natural resources 2.4.1
2. Calculate the cost of personal protective equipment (PPE) for an individual involved with natural resources 2.4.2
3. Work together with others to promote safety in natural resources 2.4.3
4. Take a test on natural resources safety before beginning work 2.4.4

Soil Management

3.1 Define terms

1. Match terms to their definitions 3.1.1

3.2 List the components of soil

1. Conduct a soil sedimentation test 3.2.1
2. Examine soil under a microscope 3.2.2

3.3 Differentiate between natural and accelerated erosion

1. Identify examples of erosion in the local area 3.3.1

3.4 Explain methods used in controlling erosion

1. Differentiate between rural erosion control and urban erosion control 3.4.1

3.5 Discuss factors used to determine land capability classes

1. Evaluate local sites to determine land capability classes 3.5.1

Water Management

4.1 Define terms

1. Match terms to their definitions 4.1.1

4.2 Identify and discuss the users of water (e.g., agricultural, municipalities, industry)

1. Invite a representative from a local plant to discuss its water use and the environmental regulations it must follow 4.2.1

4.3 List the types of water pollutants (e.g., pesticides, animal waste, sewage, sediment)

1. Identify local sources of water pollution 4.3.1
2. Identify various water testing methods 4.3.2

4.4 Discuss the procedures for treating water for use

1. Invite local water department employees to explain local treatment procedures 4.4.1
2. Tour a wastewater treatment plant to observe the procedures used 4.4.2

Skip to main content

Explain the importance of planning for future water needs

1. Debate water rights issues in the United States 4.5.1

Energy Resources and Management

5.1 Define terms

1. Match terms to their definitions 5.1.1

5.2 Discuss the use of energy resources in the United States

1. Report on energy consumption in the United States. 5.2.1

5.3 Identify sources of energy

1. Research an energy source (coal, oil, gas, nuclear energy, solar, geothermal, biofuels, hydropower, or wind), and present a group report to the class 5.3.1

5.4 Discuss concerns related to the use of fossil fuels

1. Research the effect of fossil fuel emissions on the environment 5.4.1

5.5 List and discuss ways to conserve energy

1. Develop a plan to reduce energy consumption 5.5.1

5.6 Discuss farm-raised energy alternatives

1. Research the present and future uses of biofuels 5.6.1
2. Debate the advantages and disadvantages of biofuels 5.6.2
3. Demonstrate the process of making biodiesel 5.6.3

5.7 Explain how global warming influences living systems

1. Cite examples of species endangered by global warming 5.7.1

Mineral and Metal Resources

6.1 Define terms

1. Match terms to their definitions 6.1.1

6.2 Identify uses of various minerals and metals

1. List examples of ferrous and nonferrous metals 6.2.1

6.3 Explain procedures for extracting minerals and metals from the earth

1. Report on the procedures use to extract minerals and metals from the earth 6.3.1

6.4 Discuss the availability and management concerns of nonfuel minerals and metals

1. List known reserves of different minerals 6.4.1

Forestry Management

7.1 Define terms

1. Match terms to their definitions 7.1.1

Skip to main content

7.2 Determine the percentage of forest land in Arkansas and the different types of ownership

1. Determine forest ownership in your county 7.2.1

7.3 Identify forest products and how they impact our daily lives

1. Create a poster, PowerPoint presentation, or other visual that identifies forest products and their uses. 7.3.1

7.4 List practices used to manage forests

1. Demonstrate ways to measure timber 7.4.1
2. Identify different types of cuttings 7.4.2
3. Discuss ways to enhance a forest stand 7.4.3

7.5 Identify forest disorders and their control

1. Collect samples showing different types of forest damage 7.5.1

7.6 Identify and discuss environmental concerns associated with forestry

1. Prepare a report on an environmental issue related to forestry 7.6.1

7.7 Identify tools and equipment used in forestry

1. Conduct a safety demonstration on the use of tools 7.7.1

Fish and Wildlife

8.1 Define terms

1. Match terms to their definitions 8.1.1

8.2 Identify species of fish and wildlife found in Arkansas

1. Do reports about wildlife and fish found in Arkansas 8.2.1
2. Take photographs and make videos of wildlife in Arkansas 8.2.2

8.3 Discuss how wildlife populations declined and how they have been brought back to present populations

1. Compare the current populations of various species to those populations 100 years ago 8.3.1
2. Report on the recovery of certain species that had declined 8.3.2

8.4 List the components of habitat

1. Do a survey of personal property to determine ways to improve wildlife habitat 8.4.1
2. Use a web diagram to show the relationship between all the components of a habitat 8.4.2
3. Construct a food plot on school grounds 8.4.3

Skip to main content

8.5 Explain how hunting can be beneficial to some wildlife populations

1. Complete a Hunter Safety Course `8.5.1`

8.6 Discuss freshwater fish management

1. Identify different types of freshwater fish `8.6.1`
2. Demonstrate ways to measure freshwater fish populations `8.6.2`
3. Discuss ways to enhance a freshwater fish habitat `8.6.3`

8.7 Discuss the role climate plays on habitat types

1. List climatic factors for the major habitat types `8.7.1`

8.8 Discuss the role plant life plays in wildlife habitat

1. Create a web diagram showing the interrelationships between plants and wildlife for a local ecosystem `8.8.1`

Planning for the Future

9.1 Define terms

1. Match terms to their definitions `9.1.1`

9.2 Identify concerns about the future availability of natural resources

1. Discuss natural resources that could be depleted in the near future `9.2.1`

9.3 Explain how recycling can be better used to conserve natural resources

1. Visit a local recycling business `9.3.1`

9.4 Discuss current issues regarding the use of natural resources

1. Debate issues regarding the use of natural resources, using the class as a forum `9.4.1`

9.5 Explain the role of government agencies in planning for natural resource management (e.g., NRCS/County Soil and Water Districts, EPA, ADEQ)

1. Invite a representative from a government agency to address the class on the agencies role in natural resource management `9.5.1`
2. Create a chart showing the role of various government agencies in natural resource management `9.5.2`

9.6 Determine ways students can be involved in planning for natural resource management

1. Develop a recycling program for your school or community as a SAE or a community development project `9.6.1`