Curriculum Map: Conservation Science - w/ online resources
Course: Conservation Science Sub-topic: Science, Technology, Engineering & Mathematics

Grade(s): None specified

Course Description:

Some of the topics covered will include: history of conservation, the north American model of wildlife conservation, public land and waters, private land conservation, hunting, fishing and trapping.

This course will address the following:

PDE SAS Academic Standards (big ideas) for Conservation Science:

- Living things depend on their habitat to met their basic needs
- Aquatic, terrestrial and human made ecosystems consist of diverse living and non-living components that change over time and among geographic areas.
- The survival of living things is dependent upon their adaptations and ability to respond to natural changes in and human influences on the environment.
- Humans depend upon the management and practices of agricultural systems.
- Sustainable use of natural resources is essential to provide for the needs and wants of all living things now and in the future.
- The health of all living things is directly related to the quality of the environment.
- People acting individually and/or as groups influence the environment.
- Conservation laws and regulations impact humans, the environment, and the economy in both positive and negative ways.

This course will address the following NGSS disciplinary core ideas:

- Life Science
- Earth and Space Science
- Physical Science
- Engineering and Technology

Essential Questions:

In what ways are human societies and cultures impacted by management and practices of agricultural systems?

How are the needs and wants of all living things (including humans) directly connected to successful management of natural resources?

How does the quality of the environment affect the health of all living things within it?

How do humans influence the environment?

What are the positive and negative effects of environmental laws and regulations on humans, the environment, and the economy?

Course Textbooks, Workbooks, Materials Citations:

Workbook: Sportsmen's Alliance Foundation Textbook - 2021

Course Interdisciplinary Connections:

Biology

Environmental Science

Agriculture Science

Unit: Unit A Conservation

Unit Description:

Enduring Understanding: We can use historic events to study and understand the scientific reasoning for conservation.

Chapter 1: The History of Conservation
Section 1: Pre-Colonial America
Section 2: Market Hunting
Section 3: Resource Exploitation
Section 4: Founders of Conservation

Chapter 2: The North American Model of Wildlife Conservation
Section 1: The North American Model - Pillars 1-3
Section 2: The North American Model - Pillars 4-7
Section 3: The Role of the State Game Agencies
Section 4: Important Conservation Legislation
Section 5: Funding Conservation
Section 6: Endangered Species Act

Chapter 3: Public lands
Section 1: Dispersing Land Ownership
Section 2: Federally Managed Public Lands
Section 3: Public Land Issues / Wildfires

Chapter 4: Public Waters
Section 1: Historical Use of Waterways
Section 2: Stream Access Laws
Section 3: Water Pollution Legislation
Section 4: Urbanization and Waterways
Section 5: Point and Non-Point Pollution

Unit Essential Questions:

What historical events begun the spark in the conservation movements?

How can we best balance our own lives with the interests in needs of others sharing our environment?

How can legislation play a role in protecting our environment while still providing resources humans?

Unit Materials:

Chapter 1: The History of Conservation
Section 1: Pre-Colonial America
https://www.youtube.com/watch?v=o2XjXFvruIM

Section 2: Market Hunting

https://education.nationalgeographic.org/resource/trafficking-poached-ivory
https://www.wideopenspaces.com/overhunting/

Section 3: Resource Exploitation
https://www.youtube.com/watch?app=desktop&v=RMjtmsr3CqA
https://www.youtube.com/watch?app=desktop&v=7OMxBlK46wY

Section 4: Founders of Conservation
https://www.amnh.org/explore/news-blogs/on-exhibit-posts/theodore-roosevelt-s-conservation-influences

Chapter 2: The North American Model of Wildlife Conservation
Section 1: The North American Model - Pillars 1-3

https://www.youtube.com/watch?v=G4yCr0d6LnY

Section 2: The North American Model - Pillars 4-7
https://www.youtube.com/watch?v=1Nr6GxC6z7c

Section 3: The Role of the State Game Agencies
https://www.fedagent.com/news/conservation-connect-series-law-enforcement-fws

Section 4: Important Conservation Legislation
https://www.youtube.com/watch?v=m5tXWmpNyRM
https://www.dcnr.pa.gov/outdoorcorps/pages/default.XPSA9.9

Section 5: Funding Conservation
https://www.montrosepress.com/news/outdoors/outdoors-don-t-run-afoul-of-the-lacey-act/article_a20cd2f0-348d-11ed-a524-3bd2dcae36ba.html

Section 6: Endangered Species Act
https://www.machiasnews.com/lobsters-right-whales-and-endangered-species-act
https://oceantoday.noaa.gov/endspeciesact/

Chapter 3: Public lands
Section 1: Dispersing Land Ownership

  Section 2: Federally Managed Public Lands

https://www.youtube.com/watch?v=auwkrRjBEIQ

Section 3: Public Land Issues / Wildfires

https://www.youtube.com/watch?v=4yvyFIr1j4U https://www.onxmaps.com/onx-access-initiatives/corner-crossing-report?utm_campaign=cornerlocked-report&utm_medium=email&utm_source=brazehttps://www.onxmaps.com/onx-access-initiatives/corner-crossing-report?utm_campaign=cornerlocked-report&utm_medium=email&utm_source=braze

https://www.onxmaps.com/onx-access-initiatives/corner-crossing-report?utm_campaign=cornerlocked-report&utm_medium=email&utm_source=braze

Chapter 4: Public Waters
Section 1: Historical Use of Waterways

Section 2: Stream Access Laws

Section 3: Water Pollution Legislation

https://www.dec.ny.gov/press/123620.html

  Section 4: Urbanization and Waterways

Section 5: Point and Non-Point Pollution

Unit Assignments:

1.1 Pre-Colonial America		CCC: Cause and Effect		
1.2 Market Hunting				
1.3 Resources Exploitation		SEP: Asking Questions and Defining Problems 		
1.4 Founders of Conservation		SEP: Analyzing and Interpreting Data CCC: Patterns Systems and System Models		

2.1 The NAMWC Pillars 1-3 2.2 the NAMWC Pillars 4-7						
2.3 The Role of State Game Agencies						
2.4 Important Conservation Legislation						
2.5 Funding Conservation						
3.1 Dispersing Land Ownership		DCI: ESS3.A: Natural Resources				
3.2 Federally Managed Public Lands		SEP: Constructing Explanations and Designing Solutions CCC: Stability and Change				
3.3 Public Land Issues		CCC: Cause and Effect				
4.1 Historic Use of water Waste						
4.2 Stream Access Laws		SEP: Asking Questions and Defining Problems 				
4.3 Water Pollution Legislation		SEP: Analyzing and Interpreting Data CCC: Patterns Systems and System Models				
4.4 Urbanization and Waterways						
4.5 Point and Non-Point Pollution		<_p20_style3d_22_20_cause20_and20_effect3b_20_systems20_and20_system20_models3b_20_energy20_and20_matter3b_20_stability20_and20_change3c_2f_p3e_0d_0a_20_20_20_20_20_20_20_20_20_20_20_20_20_3c_2f_td3e_0d_0a_20_20_20_20_20_20_20_20_20_3c_2f_tr3e_0d_0a_20_20_20_20_3c_2f_tbody3e_0d_0a_3c_2f_table3e_ style="">				

Unit Key Terminology & Definitions:

**Chapter 1. The History of Conservation **

1.1 Pre-Colonial America

- landlord
- new world
- tenant farmers

1.2 Market Hunting

- market hunting
- sport hunting

1.3 Resource Exploitation

- prairies
- predators
- livestock

1.4 Founders of Conservation

- ethic
- usfs

**Chapter 2. The North American Model of Wildlife Conservation **

2.1 NAMWC Pillars 1-3

- decimation
- namwc
- nobility
- metropolitan

2.2 NAMWC Pillars 4-7

- democracy
- endangered
- species

2.3 The Roles of State Game Agencies

- enforcing
- poaching
- rescuing

2.4 Important Conservation Legislation

- act

- tax

2.5 Funding Conservation

- data
- funding
- report

2.6 Endangered Species Act

- ecological
- delisting

Chapter 3. Public Lands

3.1 Dispersing Land Ownership

- federal

3.2 Federally Managed Public Lands

- agencies
- agriculture

3.3 Public Land Issues

- landlock
- renewable
- non-renewable

Chapter 4. Public Waters

4.1 Historic Use of Waterways

- drainage
- peat
- irrigation

4.2 Stream access Laws

- navigation

4.3 Water Pollution Legislation

- pollution

4.4 Urbanization and Waterways

- impermeable
- runoff
- sediment
- watershed

4.5 Point and Non-Point Pollution

- non-point sources
- point sources

STANDARDS: **STANDARDS**

STATE: Pennsylvania State Anchors (2010)

S3.A.1.1 (Advanced)	Identify the applications of scientific, environmental, or technological knowledge to possible solutions to problems.	
S11.B.3 (Advanced)	Ecological Behavior and Systems	

This Curriculum Map Unit has no Topics to display

Unit: Unit B Hunting

Unit Description: Enduring Understanding: We can use science to study and understand the common interactions between humans and wildlife in their environments.

Chapter 8: Hunting and Conservation
Section 1: Population Management Tool
Section 2: Hunters as Conservationists
Section 3: Hunters Funding Conservation

Chapter 9: State Hunting Regulations
Section 1: Scientific Management
Section 2: Seasons and Harvest Methods
Section 3: Licenses, Tags, Bag Limits and Education

Chapter 10: Related Hunting Skills
Section 1: Field Care
Section 2: Removing Game from the Field
Section 3: Selecting and Maintaining a Knife
Section 4: Land Navigation
Section 5: Hydration and Water Purification

Chapter 11: Game Animals
Section 1: Small Game Mammals
Section 2: Upland Birds
Section 3: Waterfowl
Section 4: Big Game

Chapter 12: Learn to Hunt
Section 1: Where to Hunt and Gaining access
Section 2: Sound, Movement and Scent

Chapter 13: Game Processing and Preservation
Section 1: Optimizing Game Meat
Section 2: Four-Legged Game
Section 3: Birds
Section 4: Meat Preservation

Unit Essential Questions:

How are hunters helping to act as conservationists and fund conservation programs?

What are the differences between a hunting license, tag and bag limits?

How many different game animals are there?

Why is it important to properly process and preserve after a hunt?

Unit Materials:

Chapter 8: Hunting and Conservation
Section 1: Population Management Tool
https://www.youtube.com/watch?v=Cct_KP0ghdA
https://www.tiktok.com/@useroutsideagainadventur/video/7001455445361577222?is_from_webapp=v1&item_id=7001455445361577222&lang=en

Section 2: Hunters as Conservationists
https://deltawaterfowl.org/hen-houses/

Section 3: Hunters Funding Conservation
https://www.deerassociation.com/wp-content/uploads/2020/02/WR2020.pdf

Chapter 9: State Hunting Regulations
Section 1: Scientific Management
https://www.iowadnr.gov/Hunting/Deer-Hunting/Deer-Health/Chronic-Wasting-Disease

Section 2: Seasons and Harvest Methods
https://ksoutdoors.com/Hunting/Big-Game-Information/Chronic-Wasting-Disease-CWD

Section 3: Licenses, Tags, Bag Limits and Education
https://www.youtube.com/watch?v=I03y2A9Cnqo

Chapter 10: Related Hunting Skills
Section 1: Field Care
https://tpwd.texas.gov/education/hunter-education/online-course/hunting-skills-1/field-care

Section 2: Removing Game from the Field
https://www.adfg.alaska.gov/index.cfm?adfg=hunting.meatcare

Section 3: Selecting and Maintaining a Knife
https://www.youtube.com/watch?v=RVxKOET1nFA&feature=youtu.be
https://prosharpeningsupply.com/blogs/knife-tool-sharpening/knife-sharpening-under-the-microscope
https://www.hertzmann.com/articles/2013/edges/
Section 4: Land Navigation
https://www.youtube.com/watch?v=GDjXL_97K4M

Section 5: Hydration and Water Purification
http://howtowilderness.com/water-purification/
https://www.youtube.com/watch?v=NIWQ7vFK9JE&t=7s
https://www.rei.com/learn/expert-advice/water-treatment-backcountry.html

Chapter 11: Game Animals
Section 1: Small Game Mammals
https://www.themeateater.com/listen/meateater/ep-259-the-squirrel-doctor-is-in

Section 2: Upland Birds
https://www.themeateater.com/watch/6241678004001/how-to-make-a-wingbone-turkey-call

Section 3: Waterfowl
https://www.pwrc.usgs.gov/bbl/longevity/longevity_main.cfm

Section 4: Big Game
https://www.youtube.com/watch?v=EmlEQbxvMBc

Chapter 12: Learn to Hunt
Section 1: Where to Hunt and Gaining access
https://community.legendarywhitetails.com/blog/how-to-find-and-gain-access-to-great-hunting-properties/

Section 2: Sound, Movement and Scent
https://tetrahearing.com/blogs/blog/4-sounds-deer-hunters-must-hear

Chapter 13: Game Processing and Preservation
Section 1: Optimizing Game Meat
https://extension.psu.edu/proper-processing-of-wild-game-and-fish
Section 2: Four-Legged Game
https://www.youtube.com/watch?v=reVlrkQ-rI4
Section 3: Birds
https://5.imimg.com/data5/ZH/UB/AV/SELLER-29587/preservation-of-meat-and-poultry-products.pdf
Section 4: Meat Preservation
https://www.primalsurvivor.net/preserve-meat-in-wild/#:~:text=How%20do%20you%20preserve%20meat,so%2Dcalled%20shelf%2Dlife.

Unit Assignments:

Lesson	Objectives	Standards	Assessments	Resources
8.1 Population Management Tool 	Students will learn what different tools we can use to control a population.			

8.2 Hunters as Conservationists 	Students will be able to identify how hunters can also be considered conservationists.		
8.3 Hunters Funding Conservation 	Students will learn the ways that hunting can contribute to the funding of wildlife.		
9.1 Scientific Management 	Students will learn the different scientific method steps when it comes to managing an area.		
9.2 Seasons and Harvest Methods 	Students will learn the different seasons that wildlife can and cannot be hunted.		
9.3 Licenses, Tags, Bag Limits and Education 	Students will be able to recall the purposes behind hunters being required to have bag limits along with the education required.		
10.1 Field Care 	Students will get a deeper understanding behind the importance of taking care of the land one can hunt on.		
10.2 Removing Game from the Field 	Students will learn the processes behind proper removal of game animals.		
10.3 Selecting and Maintaining a Knife 	Students will be able to recall the maintenance behind caring for hunting knifes.		
10.4 Land Navigation 	Students will learn important tools when it comes to navigating.		
10.5 Hydration and Water Purification 	Students will be able to recall the steps behind what it takes to purify water to make it drinking quality.		
11.1 Small Game Animals 	Students will be able to identify the different species of small game animals.		
11.2 Upland Birds	Students will become familiar with the different species of birds found in the area.		
11.3 Waterfowl 	Students will learn about the different species of waterfowl found in their area. 		
11.4 Big Game 	Students will be able to identify the different species of large game animals.		
12.1 Where to Hunt and Gaining Access 	Students will be able to understand where one is able to gain access to hunt.		
12.2 Sound, Movement and Scent 	Students will learn the different senses when it comes to hunting.		
13.1 Optimizing Game Meat 	Students will be able to understand the different techniques when it comes to getting the most meat.		
13.2 Four-Legged Game	Students will be able to identify the different species of four-legged game animals.		

13.3 Birds 	Students will be able to identify the different species of birds found locally.		
13.4 Meat Preservation 	Students will learn the proper techniques behind meat preservation.		

Unit Key Terminology & Definitions :

Chapter 8 Hunting and Conservation

8.1 Population Management Tool

- capacity

8.2 Hunters as Conservationists

- agriculture
- predators
- prey
- preservationists

8.3 Hunters Funding Conservation

- game
- non-game
- robust

**Chapter 9 State Hunting Regulations **

9.1 Scientific Management

- birth rate
- carrying capacity
- mortality rates

9.2 Seasons and Harvest Methods

- crossbow
- muzzleloader
- modern firearm
- traditional bow
- shotgun

9.3 Licenses, Tags, Bag Limits and Education

- limited hunts
- over the counter
- small game

Chapter 10 Related Hunting Skills

10.1 Field Care

- field dressing
- gutless method
- skinning
- spoilage

10.2 Removing Game from the Field

- quartering
- travois

10.3 Selecting and Maintaining a Knife

- hardness rockwell scale
- honing
- mohs' hardness scale

10.4 Land Navigation

- declination diagram
- hydrologic maps
- topographic maps

10.5 Hydration and Water Purification

- canteens
- protozoa

Chapter 11 Game Animals

11.1 Small Game Mammals

- order

11.2 Upland Birds

- family
- species

11.3 Waterfowl

- recognized subspecies

11.4 Big Game

- ungulates

Chapter 12 Learn to Hunt

12.1 Where to Hunt and Gaining Access

- permission
- scouting

12.2 Sound, Movement and Scent

- hertz
- thermals

Chapter 13 Game Processing and Preservation

13.1 Optimizing Game Meat

- atp
- contamination
- dry aged
- microbial growth
- muscle contraction
- rigor mortis
- wet aged

13.2 Four-Legged Game

- carcass
- petite tender

13.3 Birds

- pluck

13.4 Meat Preservation

- fermentation
- freezing
- oxidation

This Curriculum Map Unit has no Topics to display

Unit: Unit C Fishing

Unit Description: Enduring Understanding: We can use science to study different techniques fisherman use to be successful in the field.

Chapter 15: Fishing and Conservation
Section 1: Fishing as a Population Management Tool
Section 2: Invested Conservationists
Section 3: Fishing Funds Conservation

Chapter 16: State Fishing Regulations
Section 1: Scientific management of Fishing
Section 2: Fishing Regulations and Licenses
Section 3: Harvest Restrictions and Bag Limits

Chapter 17: Related Fishing Skills
Section 1: Fish Care and Storage
Section 2: Fishing Line
Section 3: Presentation Options
Section 4: DIY Bait and Tackle

Chapter 18: Aquatic Species Identification
Section 1: Sunfish and Perch
Section 2: Salmonids
Section 3: Pike, Catfish and Suckers
Section 4: Frogs and Turtles

Chapter 19: Learn to Fish
Section 1: Location and Timing
Section 2: Bank, Float and Trot Lines
Section 3: Ice, Spear and Bow Fishing
Section 4: Essential Fishing Gear

Chapter 20: Processing Aquatic Species
Section 1: Processing Fish
Section 2: Preserving with Smoke
Section 3: Preservation by Canning

Unit Essential Questions: What different kinds of ways can people catch fish?

What are the steps to properly preserve fish?

What are some essential fishing gear to be a successful fisherman?

Unit Materials: Chapter 15: Fishing and Conservation

Section 1: Fishing as a Population Management Tool
https://reefresilience.org/management-strategies/coral-reef-fisheries-module/reef-fisheries-management/fishery-management-tools/
Section 2: Invested Conservationists
Section 3: Fishing Funds Conservation
https://wildlifeflorida.org/13981-2/?utm_source=google%20ads&utm_medium=ppc&utm_campaign=fawff%20general&gclid=CjwKCAiA76-dBhByEiwAA0_s9Zn02ZO2ViyS7ltEGiBT9yM5bi8J-WBKacu-APmIWya2UNH_cZCxqBoCJYUQAvD_BwE

Chapter 16: State Fishing Regulations
Section 1: Scientific management of Fishing
https://theoceanproject.org/science-based-fisheries-management/
Section 2: Fishing Regulations and Licenses
https://www.tu.org/?gclid=CjwKCAiA76-dBhByEiwAA0_s9QWeoRwexGBvCRRV82KZzI1ejaVYCkoYkbxeR7Xn3CMztJhLt1HeABoC_mMQAvD_BwE
Section 3: Harvest Restrictions and Bag Limits
https://www.fishandboat.com/Fish/FishingRegulations/Pages/default.XPSA9.9

Chapter 17: Related Fishing Skills
Section 1: Fish Care and Storage
https://www.dec.ny.gov/docs/administration_pdf/ifnyfdlp.pdf
Section 2: Fishing Line
https://sportsmensalliance-my.sharepoint.com/personal/calvin_sportsmensalliance_org
Section 3: Presentation Options
https://www.netknots.com/fishing_knots/baja-knot
Section 4: DIY Bait and Tackle
https://www.youtube.com/watch?v=DGuWgHsBK7E&feature=youtu.be
https://www.youtube.com/watch?v=Yvgv33ByA_Y&feature=youtu.be
https://www.youtube.com/watch?v=JpnC2ySFehI&feature=youtu.be
https://www.youtube.com/watch?v=3dgizrO0ZZU&feature=youtu.be

Chapter 18: Aquatic Species Identification
Section 1: Sunfish and Perch
https://www.youtube.com/watch?v=OQbJdBHmPAo
Section 2: Salmonids
https://www.youtube.com/watch?v=Wq48opvHsNI
Section 3: Pike, Catfish and Suckers
https://www.youtube.com/watch?v=yx_Wrbl_5ks
Section 4: Frogs and Turtles
https://www.paherps.com/herps/turtles/
https://www.paherps.com/herps/frogs-toads/

Chapter 19: Learn to Fish
Section 1: Location and Timing
Section 2: Bank, Float and Trot Lines
https://www.youtube.com/watch?v=NQniBbcpEwM
Section 3: Ice, Spear and Bow Fishing
https://www.themeateater.com/watch/6167019167001/s1-e01-spearfishing-with-steven-rinella-and-janis-putelis
Section 4: Essential Fishing Gear

Chapter 20: Processing Aquatic Species
Section 1: Processing Fish
When are curing salts necessary Video2.Salt and meat preservation Video (1 of 4) 3.Curing salts and meat preservation Video (2 of 4) 4.Celery juice powder and meat preservation Video (3 of 4) 5.Nitrosamines, human health and meat preservation Video (4 of 4) 6.USDA information on E Coli Websitehttps://www.youtube.com/watch?v=m4OuOZuiHUQ
Section 2: Preserving with Smoke
https://extension.umn.edu/preserving-and-preparing/preserving-fish-safely#:~:text=Put%20fish%20in%20smoker%20when,kept%20there%20for%2030%20minutes.
Section 3: Preservation by Canning
https://www.youtube.com/watch?v=2YiSrPpIZhY

Unit Assignments:

Lesson	Objectives	Standards	Assessments	Resources
15.1 Fishing as a Population Management Tool 	Students will learn how to manage the population of fish.			
15.2 Invested Conservationists 	Students will learn about the different types of invested conservationists.			
15.3 Fishing Funds Conservation 	Students will be able to recall the different funding opportunities in conservation.			
16.1 Scientific Management of Fishing 	Students will understand the different management tools when it comes to fishing.			
16.2 Fishing Regulations and Licenses 	Students will learn about the different requirements when it comes to fishing.			
16.3 Harvest Restrictions and Bag Limits 	Students will understand the reasoning behind harvesting restrictions and bag limits for fishing.			

17.1 Fish Care and Storage 	Students will learn the proper steps to fish care and storage.		
17.2 Fishing Line 	Students will be able to recall the steps to assembling a proper fishing line.		
17.3 Presentation Options 	Students will be able to recall the different types of presentations of fish.		
17.4 DIY Bait and Tackle 	Students will be able to make their own bait and tackle step by step.		
18.1 Sunfish and Perch 	Students will be able to identify the difference between sunfish and perch species.		
18.2 Salmonids 	Students will learn more about the salmonids species in fishing.		
18.3 Pike, Catfish and Suckers	Students will be able to identify the different between fish species.		
18.4 Frogs and Turtles 	Students will be able to identify the different species of frogs and turtles in outside research. 		
19.1 Location and Timing 	Students will learn about the proper location and timing when it comes to fishing.		
19.2 Bank, Float and Trot Lines 	Students will learn the differences between a bank, float and trot lines.		
19.3 Ice, Spear and Bow fishing. 	Students will be able to recognize the different sounds, movements and scents required when it comes to fishing.		
19.4 Essential Fishing Gear 	Students will be able to recall the different gear required for fishing.		
20.1 Processing Fish	Students will become familiar with the steps of processing a fish.		
20.2 Preserving with Smoke 	Students will learn about the method of preserving a fish using smoke.		
20.3 Preservation of Canning 	Students will learn about the steps required to preserve a aquatic animal using canning methods.		

Unit Key Terminology & Definitions :

**Chapter 15: Fishing and Conservation **

15.1 Fishing as a Population Management Tool

- acoustic
- cooperate
- spearfishing
- walleye hatch

15.2 Invested Conservationists

- greenback
- native fish

15.3 Fishing Funds Conservation

- restoration

**Chapter 16: State Fishing Regulations **

16.1 Scientific management of Fishing

- adequate
- angler
- mdc

16.2 Fishing Regulations and Licenses

- required kill
- snagging

16.3 Harvest Restrictions and Bag Limits

- possession limits

Chapter 17: Related Fishing Skills

17.1 Fish Care and Storage

- dissolved

17.2 Fishing Line

- abrasion resistance
- buoyancy
- diameter
- fluorocarbon
- memory

17.3 Presentation Options

- bait
- bobbers
- jigging
- lures
- rigs
- sinkers
- swivels

17.4 DIY Bait and Tackle

- nightcrawler
- setae

**Chapter 18: Aquatic Species Identification **

18.1 Sunfish and Perch

- perch
- sunfish

18.2 Salmonids

- cisco
- lake trout

18.3 Pike, Catfish and Suckers

- spines

18.4 Frogs and Turtles

- invasive

**Chapter 19: Learn to Fish **

19.1 Location and Timing

- hatches
- spawning

19.2 Bank, Float and Trot Lines

- banklines
- floatlines
- trotlines

19.3 Ice, Spear and Bow Fishing

- bowfishing
- gigging
- spearfishing

19.4 Essential Fishing Gear

- baitcast
- fly fishing
- spincast
- spinning

Chapter 20: Processing Aquatic Species

20.1 Processing Fish

- deboning
- entrails

20.2 Preserving with Smoke

- brine
- plasmolysis

20.3 Preservation by Canning

- atmospheric pressure
- retort

This Curriculum Map Unit has no Topics to display

Unit: Unit D Trapping

Unit Description:

Enduring Understanding: We can use science to study different historical ways trappers would make a living and compare it to careers we have in this field today.

Chapter 22: Trapping and Conservation
Section 1: A Vital Management Tool
Section 2: Invested Conservationists

Chapter 23: Furbearer Identification
Section 1: Semi-Aquatic Furbearer
Section 2: Terrestrial Furbearer

Chapter 24: Learn to Trap
Section 1: Where to Trap
Section 2: Types of Traps
Section 3: Scent Control and Attractors

Chapter 25: Preparation and Use
Section 1: Fur Preparation
Section 2: Using the Whole Animal

Unit Essential Questions:

What is the different steps to trapping a semi-aquatic animal or terrestrial animal?

What scents or attractors are commonly used to trap certain organisms?

How can you properly use the whole animal?

Unit Materials:

Chapter 22: Trapping and Conservation
Section 1: A vital Management Tool
http://bowhunting.net/2016/12/trapping-the-other-management-tool/
Section 2: Invested Conservationists
https://wildthingsinitiative.com/trappers-poachers-or-conservationists/

Chapter 23: Furbearer Identification
Section 1: Semi-Aquatic Furbearer
https://www.bassresource.com/fish_biology/aquatic-furbearers.html
Section 2: Terrestrial Furbearer
https://dc.statelibrary.sc.gov/handle/10827/41253

Chapter 24: Learn to Trap
Section 1: Where to Trap
https://www.pennlive.com/life/2020/01/trapping-in-pennsylvania-whats-legal-whats-not.html#:~:text=According%20to%20the%20Pennsylvania%20Game,the%20permission%20of%20the%20occupants.%E2%80%9D
Section 2: Types of Traps
https://www.nationaltrappers.com/bmp.html
Section 3: Scent Control and Attractors
https://www.youtube.com/watch?v=mt8aMeWcQXM

Chapter 25: Preparation and Use
Section 1: Fur Preparation
Section 2: Using the Whole Animal
https://www.themeateater.com/watch/6240713992001/how-to-make-a-raccoon-baculum-toothpick-with-clay-newcomb

Unit Assignments:

Lesson	Objectives	Standards	Assessments	Resources
22.1 A Vital Management Tool 	Students will understand the reasoning behind trapping being a management tool in nature.			
22.2 Invested Conservationists 	Students will learn about how conservationists invest into the trapping industry.			
23.1 Semi-Aquatic Furbearer 	Students will be able to recognize the differences between a semi-aquatic and terrestrial furbearer.			

23.2 Terrestrial Furbearer 	Students will be able to recognize the differences between terrestrial and semi-aquatic furbearers.		
24.1 Where to Trap 	Students will learn about methods on where to trap certain species.		
24.2 Types of Traps 	Students will be able to recognize the different types of traps.		
24.3 Scent Control and Attractors 	Students will learn about the scent control and attractors needed to be a good trapper.		
25.1 Fur Preparation 	Students will learn the steps it takes to prepare fur.		
25.2 Using the Whole Animal	Students will learn the importance behind using the whole animal captured.		

Unit Key Terminology & Definitions :

**Chapter 22: Trapping and Conservation **
22.1 A Vital Management Tool

- feral
- nutria
- niche

22.2 Invested Conservationists

- hogs
- relocating

**Chapter 23: Furbearer Identification **
23.1 Semi-Aquatic Furbearer

- carnivores
- rodents

23.2 Terrestrial Furbearer

- retractable

Chapter 24: Learn to Trap
24.1 Where to Trap

- recreation

24.2 Types of Traps

- conibear traps
- lethal
- restraint

24.3 Scent Control and Attractors

- lures

Chapter 25: Preparation and Use
25.1 Fur Preparation

- fleshing
- skinning
- tanning

25.2 Using the Whole Animal

- glands

This Curriculum Map Unit has no Topics to display