LEARNING UNDEFEATED
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TRAILS

TEACHER GUIDE

TRAILS EASTERN SHORE CAREER PROFILE

+ **Unit of Instruction:** Interdependence of Ecosystems

+ **Subject/Course:** Career Readiness/Life and Environmental Sciences

+ **Grade Level:** High School

+ **Education Standards:**

> NGSS HS-LS2-7: Design, evaluate, and refine a solution for reducing the impacts of human activities on the environment and biodiversity.

> VA LS.11: The student will investigate and understand the relationships between ecosystem dynamics and human activity.

+ **Learning Objectives:** *By the end of this lesson, students will be able to:*

> Identify multiple STEM careers involved in local industries including:
  - Academic requirements (high school, college, etc.)
  - Certifications/educational requirements
  - Technical skills requirements
> Connect careers in sustainability and environmental science to the local industries
> Understand the interdependence of the environment, the economy, and society

+ **Resources Needed:**

> Anticipation guide handout
> Career activity handout
> Research materials (laptops, articles, etc.)
> Visual representation materials (paper, magazines, etc.)
> Markers

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+ Assessment/Demonstration of Learning: *What will students do to show what they have learned?*

- Review anticipation guide misconceptions
- Review visual presentations

Class Activity: TRAILS Eastern Shore Career Profile
Total Time: 20-30 minutes

Making Connections to Prior Knowledge: 5-10 minutes

Do Now: Have students fill out anticipation guide before video is played.

Discussion: Collect class answers from anticipation guide to see class results. Answers can be collected on a smart board or just by raising hands. Invite students to volunteer why they selected their answers to start discussion.

Video: 6 minutes

Tell students they will be watching a video about a local business called The Old Skool Tackle Company located on the Eastern Shore of Maryland. Communicate to students that they should pay attention to how the video addresses any of the statements from the anticipation guide.

Play the video.

Post-Video Discussion: 5-10 minutes

Have students fill out the three questions at the end of the handout alone or as pairs.

When students are done, teachers should first lead a discussion on how the video addressed the anticipation guide statements in the video. Students should be able to give specific examples from the video and use the questions on the bottom of the handout as a guide.

Research Project: 45 minutes or longer

STEM Careers in My Community
Students will explore the careers needed in the fishing and aquaculture industries by creating a proposal for a local fishery business. Students will understand the diversity of STEM careers in local business and the importance of different STEM careers to the community. Students can work in pairs or groups and should present their activity as a video, orally, or using other visual media *See handout for details.*

+ Teacher Resources:

Aquaculture and Fishery Resources:

- Lower Eastern Shore Council: https://lesmd.net/agriculture/aquaculture-commercial-fishing
- Aquaculture (NOAA): https://www.fisheries.noaa.gov/insight/understanding-marine-aquaculture
- Aquaculture (USDA): https://www.usda.gov/topics/farming/aquaculture
- Marine Fisheries and Aquaculture (PBS): https://www.pbs.org/emptyoceans/index.html
- Atlantic States Marine Fisheries: http://www.asmfc.org/fisheries-science/fisheries-science-101
- SeaGrant (Maryland): https://www.mdsg.umd.edu/
- Aquaculture Educator Resources: https://www.fdacs.gov/Education/Aquaculture-Educator-Resources

Career Resources:

- Ag Career Explorer: https://agexplorer.ffa.org/
- NOAA Careers: https://www.fisheries.noaa.gov/insight/looking-career-marine-life-look-noaa
- Careers: https://www.careeronestop.org/Toolkit/Wages/find-salary.aspx
- Blue Economy (EU resource): https://bluegeneration.guide/