

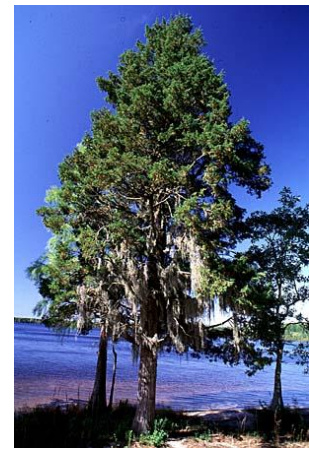
**ACTIVITY: PUT THE ECHO BACK IN ARLINGTON ECHO**

**EXTENSION OF:** Atlantic White Cedar Transplant

**GRADE LEVEL:** All grades

**PROGRAM INDICATOR**

The student will transplant an Atlantic White Cedar seedling and examine the importance to the environment that this species has.



**STUDENT OUTCOMES:**

The student will:

1. Experience proper technique of transplanting an Atlantic White Cedar
2. Understand the role of Atlantic White Cedars in a riparian forest
3. Be able to make decisions that will have a positive impact on the Chesapeake Bay

**BRIEF DESCRIPTION:**

In this activity, students will first transplant an Atlantic White Cedar seedling and then explore the importance of a riparian forest. Students will get hands on experience that allows them a context of learning to relate the role of AWC to helping improve the water quality in the Chesapeake Bay. Students will have an understanding of how they can leave a legacy here at Arlington Echo by helping to restore the “Echo” once heard by the mature cedars.

**CLASSROOM READINESS:**

1. Introduce vocabulary:  
Riparian forest    Keystone species    Legacy    Watershed
2. Discuss the characteristics of a riparian forest and the role of AWC
3. Introduce the Chesapeake Bay Watershed map and your location on it

**PROCEDURE:**

**Materials:**

- |                                |                 |
|--------------------------------|-----------------|
| Atlantic White Cedar seedlings | soil mixture    |
| Empty pots for transplanting   | aquarium filter |
| Large board of AWC             |                 |

**ENGAGE**

**Activity A: Transplanting seedlings**

Begin the lesson by engaging the students, gather them around without having them sit down. This is a time for the students to get their hands dirty first then talk about the significance later. Each student will be able to transplant their own tree.

*Please see **Supplement A** for planting techniques.*

**EXPLORE**

**Activity B: Riparian Forest.**

Hold up the aquarium filter, “**Who can tell me how this works?**” Allow students some time to discuss their ideas.

The carbon filter traps particles of pollutants and allows only the clean water to run through.

Demonstrate with a seedling that has abundant roots in a small pot. Remove the plant from the pot so that the roots are visible to the students. Create a slope from your shoulder down your arm to a student, holding the plant in your hand that meets the student. You are the high land, the student is the water. As a part of a watershed, all waters runs downhill (above ground or below ground) and eventually makes its way to a stream or river which all flows to the Chesapeake Bay.

**“Water that flows down my arm will have to pass the Atlantic White Cedars before getting to the water. What will happen to any pollutants that are in the water?”**

**“The roots of the AWC will act just like the carbon filter. The riparian forests catch all the storm-water before it gets to the river or stream.”**

AWCs are the keystone species that supports the ecosystem in a Riparian Forest. Other plants that grow alongside the AWC add to the good organic matter in the soil that contributes to the carbon filter.

## **EXPLAIN**

### **Activity C: Putting It All Together**

Knock on the board so the students can hear the echo.

**“It has been said that long ago when you called out over the land here, that you heard yourself echoing back. That is how Arlington Echo got its name. We need your help to PUT THE ECHO BACK IN ARLINGTON ECHO!”**

**“Who can tell me what a legacy is?”** *something that we leave behind*

**“How can you leave a legacy that will have a positive impact on the Chesapeake Bay?”** By planting these Atlantic White Cedars you are helping to restore a natural environment and help us get the “Echo” back here at Arlington Echo.

### **Activity D: Wrap Up**

1. **“What have you learned about Atlantic White Cedars that will help the Chesapeake Bay?”**

Allow them time to summarize and recap what they have learned.

- *The most beneficial thing you can do for the environment and Chesapeake Bay is PLANT A TREE.*
- *Riparian forests are buffer zones that filter and clean our water*
- *Atlantic White Cedars are a very important species that is in a Riparian Forests*

# **FACT SHEET: Atlantic white cedar**

## Vocabulary:

**Riparian Forest-** a forest that meets the water's edge (Riparian is a greek word for near water)

**Keystone Species-** a particular plant that is a vital part of the ecosystem

**Legacy-** something that we leave behind

**Watershed-** the land, area, and wildlife surrounding a body of water

- **Atlantic white cedars can be found from central Maine down to northern Florida, never growing more than 130 miles from the coast.**
- **In New Hampshire, the oldest existing cedar swamp is 4,000 years old!**
- **Atlantic white cedars usually grow 80-100 feet tall!**
- **Cedars are highly water tolerant and resist rotting.**
- **Cedar seed casings can withstand extreme heat. After a forest fire, the dried but not harmed seed casings pop open and release the seed.**
- **A French explorer learned from Native Americans how to use the trees' foliage to treat scurvy.**
- **Less than 1,000 are alive on the western side of the Chesapeake Bay, making them a threatened species.**
- **The United States has lost more than half of its wetlands since 1780. Habitat destruction and logging are the main reason for the decline in numbers.**
- **For over 2 years at Arlington Echo, students, campers and volunteers have helped to propagate over 1,500 cedars. That's 1 ½ times the number of existing trees in the area!**
- **Rumor has it that Arlington Echo was so named because of sounds bouncing off trees, many of which are Atlantic white cedars. (Find a fully-grown cedar and knock on its trunk!)**