

Soundside Learning

This Week On Core Sound

“Current” Events At Core Sound

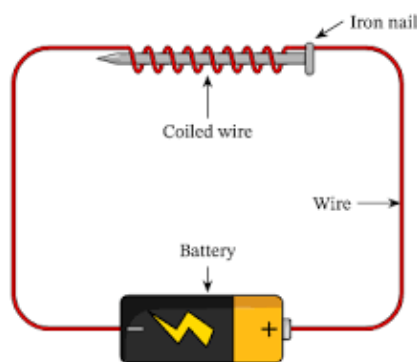
Students Harness Power of Electricity!

Over the course of the past year, students from our Down East schools have tackled subjects like boatbuilding and buoyancy, local flora and fauna identification, waterfowling history and traditions, and now, electrical engineering!

Over the past week, our students have learned how electrical current flows, the difference between open and closed circuits, and how to install a circuit breaker, or switch, within a circuit! Furthermore, these young engineers were able to successfully craft their own, working, electromagnets from supplies that can be purchased at any dollar store. But how?

Using a simple D-battery, a wooden dowel rod, a single copper wire, and an iron nail or bolt our students created electromagnets that were capable of picking up small metal objects such as paperclips, nails, or staples. These devices are similar in function to a doorbell found on most front doors, which relies on a tiny electromagnet to engage a metal “clapper” against the bell. The wire and the D-battery are used to make an electrical circuit that can be turned “on” to close the circuit, or “off” to open the circuit. The middle of the wire is then wrapped around the iron nail or bolt which will become magnetized when an electrical current circulates about it (see diagram above).

Students competed against each other to determine who had devised the most efficient electromagnet by attempting to pick up the greatest number of paperclips within a one minute time period. The students found that variables such as an increased number of wraps around the nail, and using sandpaper to remove rust from the nail increased efficiency. Our winning team amassed 105 paper clips over one minute!



A student uses their electromagnet to pick up paperclips.

Photo: CSWM&HC Collection



Sound Reading
Material For You &
Your Child

The Wright Brothers
By: Quentin Reynolds

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Young Orville and Wilbur Wright loved building things. From the fastest sled in town to the highest-flying kite, the Wright brothers' creations were always a step ahead of everyone else's. They grew up learning all about mechanics from fixing bicycles and studied math and physics. On December 17, 1903, Orville took off in the world's first flying machine!

The Longleaf Pine

A Tree Dependent Upon...Fire?

Much like the entirety of North Carolina, Down East does not lack for its fair share of pine trees. The loblolly, shortleaf, and longleaf species grow in abundance throughout the Down East area. All three of these species are valuable to the lumber industry where they are classified as “yellow pines.”

The vast longleaf pine forests of the southeastern United States were once heavily depended upon as a source for turpentine, resin, and tar. These products, derived from the distillation of the trees’ sap, were commonly used to coat the hulls of wooden ships in order to prevent rot from sea worms; an early anti-fouling paint!

The longleaf pine is especially unique among the pines due to its unusual dependence upon fire for its survival. That’s right, a tree that needs fire! As longleaf saplings take root, they need a tremendous amount of sunlight to ensure their survival. Faster growing vines, ferns and other forms of underbrush will often “smother” the young pines by blocking much of the sunlight from reaching them. However, periodic brush fires started naturally by lightning or other means will serve to burn away the dense underbrush leaving a clean slate for the young pines to take root during October & November when their cones open and seeds fall to the ground.

These brush fires may nip at the lower, outer bark of the longleaf, but this thick and multi-layered bark protects the tree from any threatening burns. These pines have evolved over thousands of years to tolerate, even depend upon these fires. If you’ve ever taken



A prescribed burn is held in a longleaf forest.
Photo: AmericasLongleaf.org

a walk on the Willow Pond Trail at the Core Sound Waterfowl Museum, you might notice a plethora of healthy, large longleaf pines. One might be confused however at the relative lack of longleaf pine saplings on the trail. The reason? A lack of periodic controlled burns. You will find a similar set of circumstances on practically any trail or forest not periodically pruned by fire. This is not to say that these forests are unhealthy; they are simply dominated, like the Willow Pond Trail, by the faster growing American Holly, Sweet Gum, and loblolly pine.

On Willow Pond With Mr. Woz

Eastern Newts are the only salamanders on Harkers Island and can be found in the Willow Pond at the Core Sound Waterfowl Museum. They are an amphibian like frogs and toads, but they go through three major changes in their lives. These newts start as swimming larva in water with external gills, then lose the gills and become a forest dwelling eft (juvenile) for a year or more. They then return to the water as adults living along the shore or among rocks in the streams nearby.

The Eastern Newts found in the Willow Pond are a variety that has evolved slightly from the mainland newts because the island has separated the populations for many years.



Eastern Newts
Photo:
CSWM&HC Collection

The adult newts found in the Willow Pond are brown with small orange spots. Their mainland relatives are olive green in the adult stage. The mainland efts are bright orange. Because there is no record of efts being identified on Harkers Island, their exact color is unknown.

- Mr. Woz

