

## Ironclads

They moved through the water, as one observer put it, “like a huge, half-submerged crocodile.” To crew members of traditional wooden ships, the ironclads indeed may have seemed like horrible mechanical monsters.

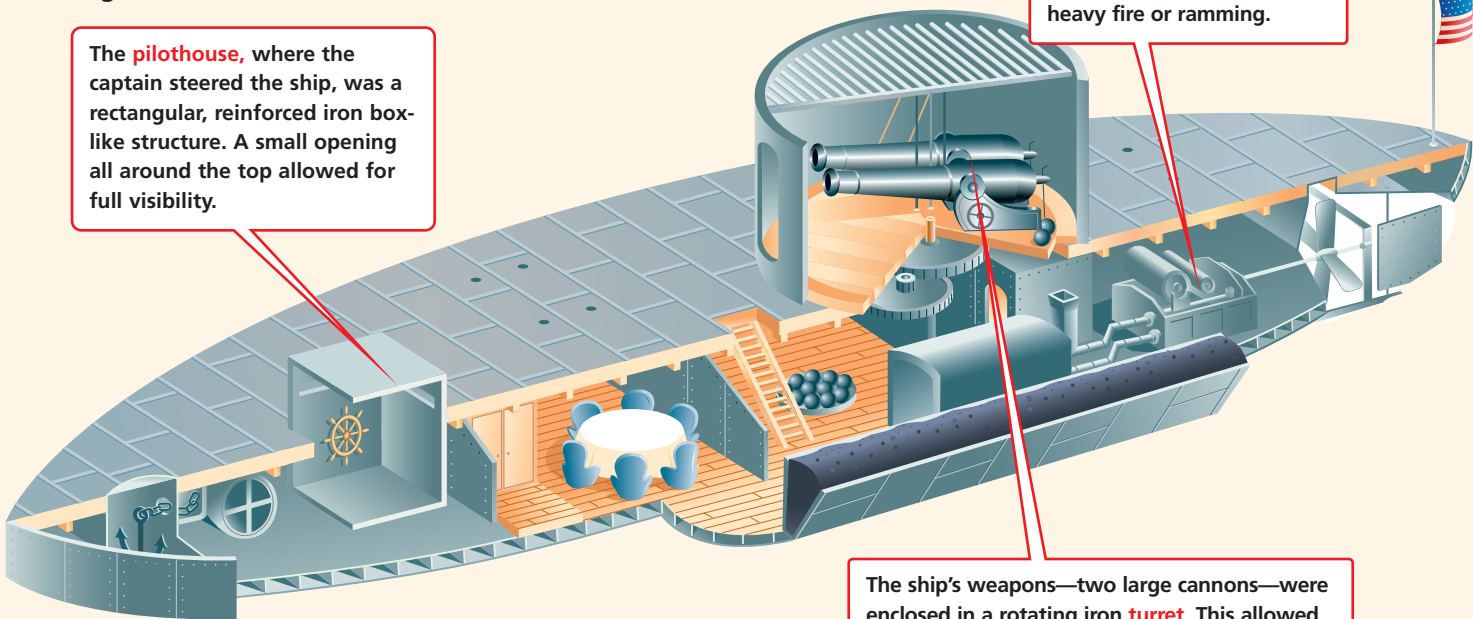
With a powerful iron hull almost entirely under water and a rotating gun turret, or short tower, an ironclad easily destroyed the older vessels it met. When the *Monitor* and the *Merrimack* (or *Virginia*) clashed during the Civil War in the first battle ever waged between ironclads, a new era of naval warfare had begun. Below is a closer look at the Union’s *Monitor*.

### CALIFORNIA STANDARDS

**8.10.7** Explain how the war affected combatants, civilians, the physical environment, and future warfare.

**Steam engines** powered the ship. They were connected by a propeller shaft to a four-blade propeller. Behind the propeller sat the vessel’s rudder. This entire area was heavily protected so the ship could keep moving under heavy fire or ramming.

The **pilothouse**, where the captain steered the ship, was a rectangular, reinforced iron box-like structure. A small opening all around the top allowed for full visibility.



The ship’s weapons—two large cannons—were enclosed in a rotating iron **turret**. This allowed the guns to fire at an enemy from all directions. Ammunition was passed up to the gunners through a hatch in the floor.

### SCALE AND SIZE OF WARSHIPS

Class, Name, Launch Date	Length	Weight	Number of Crew	Weaponry
<b>Ironclad</b> (USS <i>Monitor</i> ) 1862	172 ft.	987 tons	49	two 11-inch smoothbore cannons
<b>Battleship</b> (USS <i>Maine</i> ) 1889	319 ft.	6,682 tons	374	four 10-inch guns, six 6-inch guns, seven rapid-fire 6-pounders, four torpedo tubes
<b>Nuclear Submarine</b> (USS <i>Nautilus</i> ) 1954	324 ft.	4,092 tons	105	six torpedo tubes
<b>Aircraft Carrier</b> (USS <i>Nimitz</i> ) 1972	1,092 ft.	95,000 tons	6,000	24 F-14A Tomcat warplanes, 16 radar guided missiles, six-barrel, 20-millimeter Gatling gun

### CONNECT TO HISTORY

1. **Drawing Conclusions** Why would a rotating gun be an advantage in a naval battle?

**S** See Skillbuilder Handbook, page R13.

### CONNECT TO TODAY

2. **Researching** Find out more about modern battleships or aircraft carriers, and write a brief report about their capabilities in battle.

For more about military ships . . .

