

## **Clash of Armor: The *Monitor* and the *Virginia***

**GRADE LEVEL:** 5

**SKILLS:** Analysis, Inquiry

**SUBJECTS:** Social Studies

**SOL/CURRICULUM OBJECTIVE:** History/Social Studies: VS.1, VS.7, USI.1, USI.9, USII.3, VUS.1, VUS.7

**TEACHING LOCATION:** Defending the Seas Gallery, Ironclad Evidence Gallery, or in a classroom

**SETUP/MATERIALS:**

1. Union uniform for student
2. Map of Hampton Roads
3. Artifacts from the wreck, i.e. relish, oar locks, mustard bottles, and armor
4. Models of *Monitor* and *Virginia*
5. Pictures:
  - a. Capt. Worden
  - b. Lt. Greene
  - c. John Ericsson
  - d. George Geer
  - e. *Monitor* officers
  - f. *Virginia* being built
  - g. *Monitor* being launched
  - h. Commanders of the *Virginia*
1. (If the Dahlgren gun is used) Sponge, Ram, bucket, powder cartridge, and loading instructions

**OBJECTIVES:**

1. The student will be able to explain the conversion of the *Merrimack* to the *Virginia*.
2. The student will be able to identify the following locations on a map: Hampton Roads, James River, Newport News, Norfolk, Portsmouth, and Fort Monroe.
3. The student will be able to compare and contrast the *Monitor* and the *Virginia*.
4. The student will be able to outline the battle of the Ironclads, March 9, 1862.
5. The student will be able to summarize the effects Ironclads on the navy.
6. The student will be able to give examples of what the *Monitor* sailors ate while on board.

7. The student will be able to explain the sinking of the *Monitor*.

**PRE & POST VISIT ACTIVITIES:** Pre & Post-Visit kits are available for teachers.

**BIBLIOGRAPHY:**

Ammedon, George F. *Rise of the Ironclads*. Missoula: Pictorial Historic Publishing Company, 1981.

Brophy, Ann. *John Ericsson and the Inventions of War*. Silver Burdett Press, 1991.

Davis, William C. *Duel Between the First Ironclads*. Garden City, NY: Doubleday, 1975.

Keeler, William Frederick. *Aboard the USS Monitor: the Letters of Acting Paymaster William Frederick Keeler, U.S. Navy, to His Wife Anna*. Annapolis: U.S. Naval Institute, 1964.

McCordock, Robert Stanley. *The Yankee Cheese Box*. Philadelphia: Dorrance and Company, 1938.

Sumner, Besse B. *C.S. Ironclad Virginia and US Ironclad Monitor: with Data and References*. Newport News: The Mariners' Museum, 1937.

Dixon, Robert. "Biology of the *Monitor* National Marine Sanctuary." Annual Sanctuary Assessment, 1990.

## Clash of Armor: The *Monitor* and the *Virginia*

### I. Introduction

- A. Welcome to the program
  - 1. We will be discussing the battle between the *Monitor* and the *Virginia* and its importance to the Hampton Roads area, the Civil War, and development of ship design.
- B. How many have heard about the battle between the *Monitor* and the *Merrimack*? The battle actual happened between the *Monitor* and the *Virginia*.
- C. Where did it happen? In the modern Hampton Roads harbor between the Hampton Roads Bridge Tunnel and the Monitor/Merrimac Tunnel. (Use the map to point out areas)
  - 1. Also point-out: Fort Monroe, Norfolk, Portsmouth, Newport News and the area where the Norfolk Navy Base now is. (Make relevant to your audience)

### II. Developing the Ironclads

- A. The U.S.S. *Merrimack* becomes the *Virginia*
  - 1. The Union had a navy yard in Portsmouth (area where the Portsmouth Navy Museum is today, i.e. downtown) At the navy yard they repaired ships, stored ammunition, guns, and other naval supplies.
    - a) Gosport Navy yard was the largest U.S. Navy yard in the United States.
  - 2. Built in 1857 and having sailed to Europe, the West Indies and the Pacific Ocean, the U.S.S. *Merrimack* was in need of repairs. In 1860, the naval ship was taken to Gosport Navy Yard to be refitted or fixed.
  - 3. On April 17, 1861, Virginia seceded from the Union. Since the Confederate States did not have a real navy, they needed supplies and ships. So, Virginia troops moved to capture the Gosport Navy Yard and all of its supplies and facilities.
  - 4. To prevent the Confederacy from taking the Navy yard the Union burned the buildings, the supplies, and the ships docked for repairs. Included in the burning was the U.S.S. *Merrimack*.
  - 5. The Confederate Secretary of the Navy was Steven Mallory, he had read about British and French attempts at building ironclad ships and felt a small fleet could be built for the struggling Confederate Navy.
    - a. Define ironclad— Example: Students are clad in clothes - they are “covered.” Ironclad is a covering of iron plating over a frame on a ship.
  - 6. Since the Confederate Navy did not have much money, time or resources they decided to built their first ironclad from the burnt hulk of the U.S.S. *Merrimack*.
    - a. Although the ship was burnt to the water line (point out waterline on model) her new engines were still in place and the Confederates raised her and began work on an iron casemate.
    - b. The casemate had a wooden frame from the waterline and had 4 inch thick railroad iron laid on top.
      - 1) Since the South did not have many factories most of the iron came from Tredegar

Ironworks in Richmond, VA

- 2) Resources were so limited to the South, it took about **9 months** to build the C.S.S. *Virginia*.
- c. The new ship called the C.S.S. *Virginia* was fitted with 10 guns (using model), 4 on each side and one fore and aft. The *Virginia* had to steam by a ship down its side to successfully shoot at it.
- d. The *Virginia* also had a ram attached to the bow. It was made of iron and weighed 1500 pounds. Define ram.
- e. They also covered the iron casemate with pork fat so that the cannon balls would slide down.
- f. The *Virginia* was launched on February 17, 1862.
- g. The *Virginia* was a large ocean-going ship and took twenty-two feet of water to float. This will become a factor in up coming battles.

#### B. Building of the *Monitor*

1. The Union knew that the Confederate States needed goods from overseas to survive. The Union's General-in-Chief of the Army Winfield Scott (a Virginian) developed the Anaconda Plan.
2. The idea was to strangle southern ports like an Anaconda strangles its prey. Union ships were placed in blockade at southern ports, including Hampton Roads.
3. Through spies, and Southern newspapers the Union heard about the ironclad *Virginia* being built and knew it would be difficult for the wooden fleet at Hampton Roads to repel it.
4. They placed an ad in the Northern newspapers looking for plans for an ironclad. The plans of John Ericsson, a Swedish inventor and ship designer, were chosen. (cut away of the *Monitor* and Ericsson's picture)
5. The contract called for building the ship in 100 days, so Ericsson sent different parts of the ship to 8 different iron foundries to be built. He could do this because of the North's greater manufacturing facilities.
6. The *Monitor* was called a **cheese box** on a raft (Explain cheese box). It had a flat/low deck with a revolving turret. (Show model of the *Monitor*) The turret went 360° around and was able to fire her two guns from any direction.
  - a) Remember the *Virginia* had more guns, but they were limited in their direction of fire.
  - b) No other ship had a revolving turret. The turret was constructed of 8 one-inch plates of iron. (8inches thick).
  - c) The *Monitor* was able to maneuver in the shallow water of bays and rivers.
8. The *Monitor* had a pilothouse on the bow so the Captain and pilot could see to steer the ship. The Captain used a speaking tube to talk with the helm and the turret. (Pass around speaking tube)
9. The *Monitor* was completed 18 days late, but no one minded, and launched on January 30, 1862. She stayed in New York until **March 6, 1862** when she headed for Hampton Roads (under tow) to fight the *Virginia*.
10. Note: The *Virginia* was started 6 months before the *Monitor*, but the *Monitor* was finished first. This gives you an idea how industrialism helped the North and slowed the South.

### III. March 8, 1862- the battle in Hampton Roads Harbor

#### A. The *Virginia*'s first cruise and battle

1. There were 14 ships blockading the entrance to Hampton Roads, from Fort Monroe to Newport

- News Point. (Point to on map)
2. The North held Fort Monroe and the Lower Peninsula. The South held Norfolk and the Southside.
  3. On March 8, 1862 the *Virginia* went on her first sea trial fully loaded with ammunition and supplies. (Show picture of Buchanan) Admiral Franklin Buchanan decided to take her immediately into action.
  4. Heading out of the Elizabeth River towards Newport News, the *Virginia* found the USS *Cumberland* and the USS *Congress* at anchor. This was wash-day for these wooden sailing ships and when they realized the *Virginia* was coming out, the crews quickly cleared the decks and prepared for battle.
  5. The USS *Cumberland* shot cannon balls at the *Virginia*, but they just slid off. The *Virginia* returned fire and caused great damage to the *Cumberland's* wooden hull, killing many sailors. 121 sailors were lost on the *Cumberland*.
  6. Admiral Buchanan ordered the ram to be used. The *Virginia* built up steam and rammed into the side of the *Cumberland*. With the large hole in the side the *Cumberland* began to sink, but the *Virginia's* ram was stuck, and she began to sink with the *Cumberland*. Luckily, the ram broke off and the *Virginia* decided to move to the *Congress*.
  7. The *Congress* fired in vain on the *Virginia*, the cannon balls just bounced off. The *Virginia* returned fire with cannon balls and shells of fire. The *Congress* began to burn. So she ran up the white flag and surrendered. The rest of the sailors were evacuated to Newport News.
  8. The *Virginia* then headed for the USS *Minnesota*. The *Minnesota* got caught in a sandbar, running aground in low tide. The *Virginia*, which needs deep water couldn't follow the *Minnesota* and decided to head back to Portsmouth for the night. They would return at high tide the next day.
  9. In 4 hours the *Virginia* had sank two major ships in the US Navy and these ships lost 300 men. The *Virginia* only lost 2 men and no serious damage to the ship.
  10. NOTE: March 8<sup>th</sup> was considered the most disastrous day in US Navy history until December 7, 1941 with the attack on Pearl Harbor.

## B. The Battle between the *Monitor* and the *Virginia*

1. While the battle on March 8 was raging the *Monitor* was sailing into the Chesapeake Bay. They could not get to Hampton Roads in time to help. (Show picture of Capt. Worden) When they arrived that night, Capt. Worden was told to protect the *Minnesota* in the impending next day battle.
2. At dawn the next morning the *Virginia* headed toward the *Minnesota* to sink her. The *Monitor* then moved out from behind the *Minnesota* and the battle began.
3. As they shot cannon at each other, the cannon balls bounced off, but the noise inside the turret and the casemate was deafening.
4. Demonstrate firing of the 9-inch Dahlgren.
  - a. The gun is shaped like a soda bottle, and became the standard in the U.S. Navy. The CSS *Virginia* had Dahlgren's onboard from the Gosport supply depot.
  - b. This gun is a 9-inch because it fires a 9-inch cannon ball (show one in case). The ones on the *Monitor* were 11-inch.
  - c. Normally, sixteen to seventeen men were used to fire the gun, but today we will need 6 volunteers.
  - d. Pick the volunteers according to the diagram on the **Firing Instructions**.
  - e. As you go through the steps, **do not** ram the cartridge down the tube.
  - f. Have the students imagine doing this in the turret every five minutes and how loud,

smoky, and hot it would be.

5. About noon, a shell from the *Virginia* hit the *Monitor's* pilot house. Capt. Worden was blinded by the exploding shell. (Show picture of Greene) The *Monitor* moved back toward Fort Monroe while Lt. Greene came from the turret to take command of the *Monitor*. As the *Monitor* moved back, Buchanan and the *Virginia* thought the *Monitor* was retreating.
5. Once Lt. Greene took command, the *Monitor* sailed back to the battle, but in that time the *Virginia* had moved back toward the Elizabeth River and home. Lt. Greene thought that they were retreating. Since the *Monitor's* orders were to protect the *Minnesota*, he did not go after them.
6. The next day the both the Union and Confederate papers claimed victory. The only battle between the two Ironclads was a draw.
7. The battle was important because immediately the US Navy realize that wooden ships were soon to be outdated. The legacy of iron and steel was in the future. The idea of Ericsson's revolving turret still exists in today's navy.

#### IV. Afterwards

- A. The *Virginia* was trapped in the Elizabeth River by the US fleet. The Confederate Navy decided to scuttle her. Scuttle means, to take the most important items off, and sink the ship. She was sunk at Craney Island on May 11, 1862. She was only in two battles.
- B. The *Monitor* continued service in the Hampton Roads harbor and then up to the James River. Finally, the *Monitor* was sent to Richmond.

#### V. Day in the Life of a *Monitor* Sailor

- A. Life on board the *Monitor* while in the James River was routine. (Show picture of Geer) One sailor, George Geer wrote letters home to his wife Martha. From these letters we know about what they ate and life onboard.
- B. Since George Geer was a fireman, he ate with the crew. (Show picture of crew on the deck)
  1. Breakfast
    - a. Grog, coffee and hard crackers that are cooked in a pot with pork fat, salt and pepper until soft. (pass around sea biscuit)
    - b. When paymaster Keeler was sent to the Peninsula for supplies, Geer and his messmates pooled their money for Keeler to buy them potatoes (2 barrels) and onions (1 barrel). This would supplement their diet on board and both items would last and not rot quickly.
  1. Dinner
    - a. (on Sunday) Grog, Roast Beef from a can and preserved potatoes.
    - b. On Monday, Wednesday and Saturday they had bean soup.
  1. Supper
    - a. Tea with sugar and hard crackers
    - b. The sailors eat out of a tin cup, plate with a spoon. (Show reproductions)
    - c. For special occasions they are given pickles, and butter
    - d. Sometimes fresh fish, oysters or crabs were caught
    - e. Raiding parties would go ashore in Richmond or Newport News and steal food from locals. The food includes: green corn, peaches, calves, sheep, and pigs.
- C. The crew had specific jobs onboard
  1. Firemen- shoveled coal into the furnaces to make steam to runs the engines-hot job
  2. Gunners- manned the guns in the turret

3. Officers commanded each of these areas. There was also a doctor on board.

D. In their free time sailors:

1. Played cards
2. Geer sold silk thread to his mates to do fancy needlework on their uniforms (Show and try on student size uniform) The Union sailors had uniforms that were made of blue wool for the winter and white canvas or linen for the summer.
3. Read newspapers
4. Write letters home
5. Swim in the hot summer
6. Washing- the crew was expected to keep one clean uniform for inspection on Sunday. This was called the "Muster" uniform. The sailor was to be washed up as well. They were issued "salt water soap" which many sailors did not like. Geer- had his wife send him Castile soap to sell to his fellow sailors.
7. Sutlers sold sailors things the navy did not provide. Tobacco, tooth brushes, etc.

E. Picture of the crew was taken on July 9, 1862- a hot day- they cooked on the deck.

1. The African-American is Siah Carter, a runaway slave from a plantation near Richmond (probably Shirley Plantation) that was signed on the *Monitor* crew as a cook.
2. Other members of the crew were native born Americans and immigrants from Ireland and England.

## VI. The Sinking of the Monitor.

A. December, 1862, the *Monitor* was ordered to North Carolina for blockade duty.

B. She left on December 30, and was towed down the Atlantic Ocean when a storm came up. The crew attempted to seal the ship, but it was in vain. Water leaked below and drenched the coal. The wet coal would not burn, so the *Monitor* lost steam. Without power the bilge pumps could not keep up with the water coming in and the *Monitor* began to sink.

C. Lifeboats from the U.S.S. *Rhode Island* rescued all but 16 members of the crew. The *Monitor* sank to the bottom of the ocean and was left unknown until 1973 when researchers from Duke University found the wreck.

D. NOAA- National Oceanic and Atmospheric Administration now operates and manages the site. They have brought up artifacts including:

1. Mustard jars (reproduction)
2. Oar locks (reproduction, real)
3. Iron plate (artifact)
4. Contents of mustard bottle (artifact)
5. Decks plates (Will see it on tour)
6. Propeller (inside)
7. Anchor (inside)
8. Turret (outside)
9. Engine (outside)