



Battle Blast Pre/Post-visit Activity Sheet

Word Problems

Concepts:

1. The Battleship *Wisconsin* is referred to as a City at Sea carrying an abundance of sailors throughout history.
2. In order to keep operations running smoothly on a daily basis, large quantities of materials, such as food, fuel and other provisions were used.

Materials:

1. Pencils
2. Pre-made Worksheets

Directions:

1. Create a worksheet using facts about the Battleship such as the following...
 - a. During WWII, 2,700 men served on board. If each sailor ate 2 eggs for breakfast in a month (30 days), how many eggs would be needed for a month supply? **Answer: 1620,000 eggs**
 - b. The Battleship measures 887 feet and 3 inches long. A football field measures 360 feet long including the end zones. How many football fields can fit on the Battleship? **Answer: 2.5 football fields**
 - c. The widest part of the ship is 108 feet. The Panama Canal is 110 feet wide. How many feet on either side of the ship was there between the widest part of the ship and the edge of the canal? **Answer: 1 foot on either side**
 - d. During WWII, 2,700 men served on board. It took 77 men to operate one turret. There are a total of 3 turrets. What percentage of the crew did it take to run one turret? **Answer: 0.3%**
What percentage of the crew did it take to run all 3 turrets? **Answer: 8.5%**

Explanation:

1. The Battleship is a very powerful piece of equipment and requires a lot of manpower to keep it running.
2. Each sailor had a unique responsibility to take care of. There were no simple jobs. Every task was related to the one after it and the one before it. The Battleship was referred to as a "City at Sea." There were many functions that supported life such as a post office, medical clinic, galley, etc. Many of these various functions didn't have anything to do with shooting guns or missiles.

Ship Lingo

Concepts:

1. Navy Sailors have created their own special language when referring to objects and life at sea.
2. This language is referred to as NAVspeak.

Materials:

1. Note cards
2. Markers

Directions:

1. Using a marker and note cards, make flashcards with a word on one side of the card and the meaning on the other side.
2. Research NAVspeak and find meanings of words such as the following: Aft=back of ship; Bow=front of ship; Chit=piece of paper showing authorization; Deck=floor; Galley=kitchen; Hatch=doorway or opening; Knot=nautical mile per hour; Leave=authorized vacation; Magazine=storage for ammunition; OOD=Officer of the Deck or man in charge; Port=left side of the ship; Rack=bed; Quarters=living space; Starboard=right side of the ship; Topside=upstairs; Wardroom=officer's mess or cafeteria

Explanation:

1. NAVspeak creates and reinforces a sense of spirit, camaraderie and closeness among the members of the crew.
2. NAVspeak is a tradition from the past and still continues today.

Simple Machines

Concepts:

1. Simple machines are found in school, work, home and on the Battleship *Wisconsin*.
2. Examples of simple machines include: levers, screws, inclined planes, pulleys and edges.

Materials:

1. Pencil
2. Paper Clip half bent and half straightened
3. Thread
4. Thimble
5. Tape
6. Knife
7. Tall milk carton with back cut out
8. Thimble or small plastic/paper cup that can fit into a tall milk carton

Directions:

1. Use the knife to make 2 cuts in the center of the pencil about 4 inches apart. This is where you will be hanging thread that will be attached to the thimble/cup.
2. Place 2 holes on the top of the milk carton, one on either side. Slide the pencil through the holes so that it is suspended inside of the carton with some of the pencil sticking out on both sides.
3. Place the thread through the knife cuts in the pencil and let it fall to the bottom of the carton. Cut off the excess thread.
4. Attach the thread to the thimble or cup on the bottom of the milk carton.
5. Attach the paper clip to the metal part of the pencil using tape. Create a paper clip crank by taping the bent part of the paper clip to the pencil and use the straightened end of the paper clip as the handle.

6. Use the pencil/paper clip crank you created to move the thimble/cup up and down inside of the milk carton.

Explanation:

1. The simple machine you just created is called a windlass.
2. The windlass system is used on the Battleship *Wisconsin* to raise and lower the anchors.
3. There are 2 anchors on the Battleship. Each anchor weighs 30,000 lbs. with 1,080 ft. of chain attached. Each chain weighs 35 tons with each link of the chain weighing 120 lbs.

Conversion

Concepts:

1. Length, mass, volume, density, temperature, weight and force are measured and recorded using metric units.
2. Conversions are made among metric units, applying appropriate prefixes.
3. Length is measured in inches, feet, yards, centimeters and meters.
4. Weight/mass is measured in ounces, pounds, grams and kilograms.

Materials:

1. Pencils
2. Pre-made worksheets

Directions:

1. Research some facts about the Battleship *Wisconsin* such as the following and create a worksheet.
 - a. The Battleship *Wisconsin* is **887 ft. and 3 inches** long. How long is the Battleship in meters (0.3048 meter=1 foot): **Answer: 266.175 meters**
 - b. How many yards long is the Battleship (3 yards=1 foot)? **Answer: 295.75 yards**
 - c. How many inches long is the Battleship (12 inches=1 foot)? **Answer: 10,674 inches**
 - d. How many centimeters long is the Battleship (30.48 cm=1foot) : **Answer: 26,617.5 cm**
 - e. Volume: the ship could carry 2.2 million gallons of fuel. In a foreign port, fuel might be measured by liters. How many liters would it take to fill up the *Wisconsin*? (1 gallon = 3.8 liters): **Answer: 8.36 million liters**
 - f. Weight: each 16" projectile weighs about 1 ton. If a loading crane in Kuwait is limited to 20,000 kilograms, how many projectiles at a time could it lift onto the ship? **Answer: 2000 lbs/projectile * 2.2 kg per lb = 4400 kg per projectile. 20,000 kg / 4400 kg = 4.5, or 4 projectiles (can't lift half a projectile!)**

Explanation:

1. The Battleship *Wisconsin* traveled to many parts of the world during service in WWII, Korea and the Persian Gulf. Some places include the Philippines and Kuwait.
2. When the battleship was in foreign ports, materials available were measured in different units. Knowing how to convert was a necessity in order to get the correct materials.

Density

Concepts:

1. Density is the amount of mass in an object per unit of volume or how much stuff is packed into the space it takes up.
2. Water has a density of 1 g/cm^3 .
3. Anything that is more dense than water will sink. Anything that is less dense than water will float.

Materials:

1. Tub filled with water
2. Objects that are waterproof such as rocks, pennies, paperclips, feathers, small balls, pinecones, washers....

Directions:

1. Have the students fill the materials one at a time.
2. Have the students hypothesize if the materials will sink or float.
3. Place the objects in the tub of water one at a time and observe if they sink or float.
4. Check your observations against your hypothesis.

Explanation:

1. Metals will sink as well as some plastics. Wood will generally float in water.
2. Old ships are made from oak since it is a very buoyant wood.
3. The Battleship *Wisconsin* is made of metal. It is able to float because it is hollow inside and filled with air which is less dense than water.