**Happy last week of home learning. Hope you have a great Summer.**

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Submarines | Nonfiction Reading Test 1**

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| Do you know the difference between a submarine and a submersible? A submarine is a watercraft that is capable of independent operation under the sea. Submarines do not require support ships because submarines can renew their air and power supplies independently. Submersibles also submerge and operate underwater, but they need the support of a larger vessel. Submersibles cannot renew their air and power supplies without support. For this reason submersibles are usually smaller and cannot spend as much time underwater as submarines.The first documented submersible was constructed in 1620 by Cornelius Drebbel. It was powered by rowing oars underwater. Though this craft was originally designed for underwater exploration, it did not take long for inventors and makers of war to recognize the military potential of the submersible. In 1648 Bishop John Wilkins wrote, “It may be of great advantages against a Navy of enemies, who by this may be undermined in the water and blown up.” Over one-hundred years later, the first military submarine was ready to be deployed.The *Turtle* was the world’s first submarine used in combat. Designed by David Bushnell in 1775, it was deployed by the Continental Army during the American Revolutionary War. Though the *Turtle* did utilize a support ship in combat, it was fully capable of renewing its air and power supplies independently; therefore, the *Turtle* is considered to have been a submarine and not a submersible. The *Turtle* was powered by hand-cranked propellers and was named as such because it resembled a turtle. It held a single person, moved about three miles per hour in calm water, and contained enough air to stay submerged for about thirty minutes. General Washington authorized an attack using the *Turtle* on a British flagship blockading New York Harbor. Sgt. Ezra Lee operated the *Turtle* and attempted to affix underwater explosives to the British ship, but he failed. The *Turtle* was later destroyed by the British. Despite this failure, the *Turtle* is still remembered as the first submarine used offensively during war.  |

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| Drawing of Bushnell’s  *Turtle* |

Another notable submarine originally designed for war was Julius H. Kroehl’s *Sub Marine Explorer*. Built between 1863 and 1866, this submarine was created for the North during the American Civil War but the war ended before it went into use. After the war it was used commercially to harvest pearls in Panamanian waters during the late 1860s. Unfortunately, the dangers of decompression sickness (a condition that occurs when divers rise to the water’s surface too quickly) were not understood. While experimenting with the *Sub Marine Explorer* in 1867, Kroehl himself perished from decompression sickness. In 1869 a new engineer put the *Sub Marine Explorer* back to the task of harvesting pearls.Tragically, use of the *Sub Marine Explorer* was discontinued after the entire crew died from decompression sickness.Submarine use increased greatly during World War I. Due to innovations in engineering, such as a dual power system using both diesel and electric sources, submarines had finally developed into effective war machines. One watercraft called the U-Boat was put to great effect by the Germans. Some argue that the U-Boat was more of a submersible, since U-Boats operated primarily on the surface using diesel engines and submerged only occasionally to attack using battery power, but the effectiveness of the U-Boat in combat is certain. During World War I more than 5,000 Allied ships were sunk by U-Boats, including the Lusitania, which is often cited as a reason why America entered the war. |
| U-Boats were again utilized extensively by the Germans during World War II. Though the U-Boats were devastating to British fleets, advances in technology such as radar and sonar reduced their overall effectiveness. Additionally, the U.S. had also developed and deployed a fleet of submarines to great effect. Though the Japanese attack on Pearl Harbor destroyed or severely damaged many of the U.S. Navy’s front-line Pacific Fleet ships, U.S. submarines survived the attack and went on to cause great damage. Submarines, though only about 2 percent of the U.S. Navy, destroyed over 30 percent of the Japanese Navy. This made U.S. submarines the most effective anti-ship and anti-submarine weapon in the entire American arsenal. | Modern submarines are now powered by a nuclear reactor.The nuclear reactor generates a tremendous amount of power and frees the submarine from the need to occasionally surface. The large amount of power generated by these reactors allows submarines to operate at high speeds for long durations. Current nuclear submarines never need to be refueled throughout their 25-year life-spans. The only factor limiting the amount of time that an advanced submarine can remain submerged is the amount of food and water that the submarine can carry.Even the Bishop John Wilkins, when he imagined the military capabilities of future submarines from 1648, could not have envisioned such an amazingly powerful watercraft.  |

**Directions:** Read each question carefully and choose the best answer.Refer to the text if necessary.Write your answer on the provided space.

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| 1. For what purpose were submersibles originally designed? a. Transporting passengers underwater without the threat of stormsb. Exploring under the seac. Smuggling weapons and outlawed materialsd. Attacking ships on the surface of the water2. Why was the *Sub Marine Explorer* originally created?a. To assist the North in the Civil War b. To harvest pearlsc. To explore undersead. To experiment with decompression sickness3. Which is *most likely* to limit the how long a modern submarine can remain submerged?a.The amount of fuel in the submarineb.The air supply in the submarinec.The amount of food and water aboard the submarined.There is no limit to the amount of time a modern submarine can remain submerged4. How were U-Boats powered?

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| a. Hand crank | b. Diesel |
| c. Battery  | d. Both B & C |
| e. None of these | f.All of these |

 5. Which of the following statements best describes the *Turtle* according to the text?a. The *Turtle* was the first submarine used during war to destroy another ship.b. The *Turtle* was the first submersible used during war to attack another ship.c. The *Turtle* was the first submersible used during war to destroy another ship.d. The *Turtle* was the first submarine used during war to attack another ship.e. The *Turtle* is the biggest and fastest watercraft in all of human history.6.Which of the following best describes why the author *most likely* wrote this text?a.To entertain his audience with stories about submarinesb.To educate his readers about how submarines workc.To inform his readers about the evolution of submarinesd.To convince his audience to purchase a submarine 7.Which is the *most likely* reason why the author wrote the **first** paragraph?a.To explain a concept that would be referenced throughout the textb.To introduce the main idea of the textc.To get the reader’s attention with startling informationd.To amuse the reader with an interesting historical anecdote8. Which does **not** describe a way in which submersibles are different from submarines?a.Submersibles are usually smaller than submarines.b.Submersibles are not capable of independent operation.c.Submersibles can usually spend more time underwater than submarines.d.Submersibles cannot independently renew their air and power supplies.9. Which of the following *best* describes how the text is structured in the **first** **paragraph**?a. Compare and Contrast b. Chronological c. Problem and Solutiond. Sequence / Process e. Order of Importance10. Which of these events happened **first**?a. The *Turtle* was destroyed.b. Bishop John Wilkins recognized the military potential of submersibles.c. The *Sub Marine Explorer* was used to harvest pearls.d. Radar and Sonar were invented.11.Which *most likely* explains why U.S. submarines survived the attack on Pearl Harbor?a.Because the Japanese did not value the submarines as worthy targetsb.Because the submarines were much smaller than all of the other boats in the U.S. Navyc.Because the Japanese were targeting U.S. submersibles insteadd.Because the submarines were submerged and difficult to strike12.Which of the following statements is entirely true?a.Sgt. Ezra Lee invented the *Turtle*; Cornelius Drebbel invented the first submersible;b.Bishop John Wilkins invented the first submersible; David Bushnell invented the *Turtle*;c.David Bushnell invented the *Turtle*; Julius H. Kroehl invented the *Sub Marine Explorer*d.Julius H. Kroehl invented the *Sub Marine Explorer*; John Wilkins invented the U-Boat 13. Which of these events happened **last**?a. U.S. submarines survived the attack on Pearl Harbor.b. Sgt. Ezra Lee attempted to blow up a British flagship using a submarine.c. U-Boats sank the *Lusitania*.d. Julius H. Kroehl’s developed the *Sub Marine Explorer* 14. Which of the following would be the *best* title for this reading passage?a. How Submarines Workb. A Short History of Submarinesc. *Turtle*: The First Combat Submarined. The Differences Between Submarines and Submersibles **Part I : Poetry**

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|  **Composed Upon Westminster Bridge September 3, 1802.****William Wordsworth****Earth has not anything to show more fair:****Dull would he be of soul who could pass by****A sight so touching in its majesty:****This City now doth, like a garment, wear****The beauty of the morning; silent, bare,****Ships, towers, domes, theatres, and temples lie****Open unto the fields, and to the sky;****All bright and glittering in the smokeless air.****Never did sun more beautifully steep****In his first splendour, valley, rock, or hill;** **Ne'er saw I, never felt, a calm so deep!****The river glideth at his own sweet will:****Dear God! the very houses seem asleep;****And all that mighty heart is lying still!****Questions** **1.What figure of speech do we find in line 1?** **2.Identify three places where personification is used and explain.****3.Quote a phrase which indicates that pollution was not a problem?****4.Explain the image describing the river.****5.What figure of speech does Wordworth use in the last line of the poem? Explain what you think he means.****6.Identify the tones of line 1 and lines 13 and 14.****7. Describe in your own words the poet's response to the view. Do you think it is realistic?** |
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