HONORING VETERAN LEGACIES

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SCAN ME TO VIEW LESSON

HVL LESSON TITLE:

SURVIVING OKINAWA

DEVELOPED BY: KATHY HIGHTOWER

SURVIVING OKINAWA
GUIDING QUESTION:

Using the interview of Ted Estridge, what were some of the health challenges the military faced that impacted their lives during and beyond WWII?

OBJECTIVES

At the end of this lesson, students will be able to:
- Reflect on the short term implications of hearing when in the midst of a battle;
- Reflect on the long term implications of hearing loss in everyday life; and
- Review a list of items that create noise and rank them on a scale; and
- Determine the percent of change of high frequency hearing loss and estimate the differences between the right and left ear progressions in loss.

Subject(s):
Math
Science

WWII Veteran(s):
Ted Estridge

Duration:
45 min.

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> ""You are not only fighting for your country, but you are fighting for your loved ones back home."
>
> **TED ESTRIDGE** - WWII VETERAN

HISTORICAL CONTEXT

During World War II, over 1 million African Americans served in one of the American military branches. The United States military was still segregated and denied African American soldiers many opportunities including becoming officers andmembers of the airborne division. African Americans were fighting abroad for freedoms that they themselves did not receive. This denial of opportunities and advancement however, did not stop them from fighting for their country during World War II.

OBJECTIVES

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STANDARDS

SCIENCE

HS-LS2-8

Evaluate the evidence for the role of group behavior on individual and species' chances to survive and reproduce.

Clarification Statement and Assessment Boundary

Clarification Statement: Emphasis is on:(1) distinguishing between group and individual behavior, (2) identifying evidence supporting the outcomes of group behavior, and (3) developing logical and reasonable arguments based on evidence. Examples of group behaviors could include flocking, schooling, herding, and cooperative behaviors such as hunting, migrating, and swarming.

MATH

9-12.F-IF.30

Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.

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MATERIALS & DOCUMENTS

DOCUMENT A: TED ESTRIDGE VIDEO:

"Surviving the Battle of Okinawa" | Memoirs Of WWII #23

https://www.youtube.com/watch?v=WqI01I9nnZY

DOCUMENT B: ARTICLE LINK:

The Final Campaign: Marines in the Victory on Okinawa (Assault on Shuri)

https://www.nps.gov/parkhistory/online_books/npswapa/extcontent/usmc/pcn-190-003135-00/sec5a.htm

DOCUMENT C: ARTICLE LINK:

33 Eye Opening Hearing Loss Facts and Statistics - 2021 — Hear Soundly

https://www.soundly.com/blog/hearing-loss-statistics

DOCUMENT D: ARTICLE LINK:

Decibel Levels - Measuring Dangerous Noise — Hearing Health Foundation

https://hearinghealthfoundation.org/decibel-levels

DOCUMENT E: ARTICLE LINK:

Degrees of hearing loss and hearing loss levels (healthyhearing.com)

https://www.healthyhearing.com/report/41775-Degrees-of-hearing-loss

DOCUMENT F:

Sounds at Different Decibels and the Effect on Hearing Loss: (Science Activity Sheet)

DOCUMENT G:

Hearing Thresholds of Different Frequencies (Math Activity Sheet)

PROCEDURES

ACTIVITY 01 (10 minutes)

• Encourage students to consider how the sounds of combat affect hearing health. Imagine being alongside Mr. Estridge at Okinawa. Watch the video about Ted Estridge (Document A) "Surviving the Battle of Okinawa" | Memoirs Of WWII #23

• Consider Mr. Estridge's mission back to Okinawa. What pulled him back to such a difficult setting?

SCIENCE

ACTIVITY 02 (12-15 minutes)

Students can work in small groups for this activity.

• Students will read a portion of The Final Campaign: Marines in the Victory on Okinawa (Assault on Shuri) (nps.gov) (Document B), and note how often artillery and gunfire are in play and the changing landscape. Students may skim the first seven paragraphs and begin reading in the eighth paragraph where the experience of Corporal Day is recorded. Students should read the next twelve paragraphs. (The last paragraph is just below the map image.)

• Students will then brainstorm a list of potential problems that occurred in communication during and after combat. How important would it have been for soldiers to practice loading cannons, driving tanks, moving by foot and do so without verbal communication?

PROCEDURES

SCIENCE

ACTIVITY 03 (15 minutes)

• Students will read 33 Eye Opening Hearing Loss Facts and Statistics - 2021 — Hear Soundly (Document C). Each student will identify one fact about hearing loss that was significant and share with the group and why it got their attention.
• In considering noise that is common to modern life, students will rank the following sounds from most safe to least safe for hearing Using Document F: (Sounds at Different Decibels and the Effect on Hearing Loss).

Note: Decibels range from 0 - 165 (Fill in first two columns)

Dishwasher
Personal listening device at maximum volume
Ambulance siren and thunderclap
School cafeteria or heavy city traffic
Whispering
Hair dryer or vacuum
Firecracker or shotgun
Subway platform
Jet taking off
Jackhammer, rock concert,or symphonic orchestra
Breathing
Refrigerator
Normal conversation

• After ranking the sounds, see Decibel Levels - Measuring Dangerous Noise — Hearing Health Foundation (Document D), students should fill in the last column of the chart. In their small groups, students can discuss their responses. (What surprised them most? What sounds resonate as positive or negative in one's quality of life?)

MATH

ACTIVITY 04 (15 minutes)

• An audiogram is a test that measures hearing thresholds of different frequencies in a hushed area. It detects the ability to hear. The threshold is the quietest sound one can detect about half the time.

• Using Degrees of hearing loss and hearing loss levels (healthyhearing.com) (Document E), students will determine the percent of change for the right ear and left ear, respectively.

• Using the data on the Math Activity Sheet students will calculate the percent of change for the right ear (old) to left ear (new). A positive percentage indicates the left ear has better hearing at that frequency.

• Discuss the data from the article using the following questions as a guide:

At what frequency and volume does hearing loss begin for both ears?

Which ear appears to decline more quickly?

At which frequency is the right ear on the verge of severa hearing loss?

What are the causes of high frequency hearing loss?

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