



UNDERSTANDING  
SACRIFICE

# Activity: The Math of War: The Numbers Behind Minesweeping in the Mediterranean



## Guiding question:

How can math be used to calculate the distances, speeds, and travel times of minesweepers in the Mediterranean during World War II?

### DEVELOPED BY AL WHEAT

**Grade Level(s):** 6-8

**Subject(s):** Mathematics, Special Education, Social Studies

**Cemetery Connection:** Sicily-Rome American Cemetery

**Fallen Hero Connection:** Fireman First Class Bigelow Frisby




**NHD**  
NATIONAL  
HISTORY DAY

## Overview

Students will calculate distance, speed, and travel time of minesweepers based on ratios and scales on a map. They will learn about the role of minesweepers using primary and secondary sources. The role of minesweepers was integral in securing the Anzio beachhead during the Italian liberation. Students will also demonstrate their knowledge of the role of minesweepers in a writing exercise.

## Historical Context

To prepare for the Anzio invasion and subsequent landings in the Mediterranean, the Allied forces deployed minesweepers to find Axis mines planted to destroy ships. These minesweepers ensured the safe travel of other Allied ships during an under-appreciated and lesser known, but integral, invasion during World War II. Mines were defensive measures to deter soldiers and ships from entering an area or slowing them down at the very least. A ship striking a mine could be sunk in under 20 minutes, as the USS *Swerve* demonstrates in the lesson.



*“Minesweepers and the sailors on them are deserving of recognition. The roles of these ships are often overlooked in history, specifically in the Mediterranean theater of World War II.”*  
— Al Wheat

Wheat teaches at Gautier High School in Gautier, Mississippi.

## Objectives

At the conclusion of this lesson, students will be able to

- Calculate the routes of minesweepers and shipping vessels using scale and ratios;
- Determine the speed and travel time of ships using the ratios and distances traveled;
- Explain the role of minesweepers in World War II; and
- Summarize how math played a role in World War II’s Mediterranean Theater.

## Documents Used ★ indicates an ABMC source

### Primary Sources

“Last Minutes of the *Swerve*”

C. Joseph Socha, *Don't Call me Clarence* (excerpt)

“Minesweeping in the Royal Navy”

British Broadcasting Corporation

[bbc.co.uk/history/ww2peopleswar/stories/32/a3531232.shtml](http://bbc.co.uk/history/ww2peopleswar/stories/32/a3531232.shtml)

### Secondary Sources

Bigelow Frisby Fallen Hero Profile

National History Day

[nhsilenthheroes.org/profiles/bigelow-g-frisby/](http://nhsilenthheroes.org/profiles/bigelow-g-frisby/)

Italy Map

University of Texas Library

[lib.utexas.edu/maps/europe/italy\\_trans-2005.jpg](http://lib.utexas.edu/maps/europe/italy_trans-2005.jpg)

Samantha Wright, “Idaho StoryCorps: World War II Minesweepers Recall Life At Sea” Boise State Public Radio

[boisestatepublicradio.org/arts-culture/2013-07-03/idaho-storycorps-world-war-ii-minesweepers-recall-life-at-sea](http://boisestatepublicradio.org/arts-culture/2013-07-03/idaho-storycorps-world-war-ii-minesweepers-recall-life-at-sea)

## Materials

- Minesweeper Math Sample Problems
- Minesweeper Math Worksheet
- Minesweeper Math Worksheet Answer Key
- Math in the Mediterranean Reflection Assignment
- Math in the Mediterranean Reflection Assignment Rubric
- Rulers and/or protractors
- Colored pencils

## Lesson Preparation

- Print one copy of the Italy Map for every student.
- Print (or make available digitally) one copy of the following for each student:
  - Bigelow Frisby Fallen Hero Profile
  - “Last Minutes of the *Swerve*”
  - “Minesweeping in the Royal Navy”
  - “Idaho StoryCorps: World War II Minesweepers Recall Life At Sea”
- Write the opening question, *How is math used in war?* on the board.
- Set up classroom technology, if necessary.
- Test all online resources before class.

## Procedure

### Activity One: Math in Wartime (35 minutes)

- Direct students to the question on the board. Read the question aloud for the students, *How is math used in war?*
  - Solicit responses.
  - Guide the answers towards appropriate responses (weights, distances, speed, etc.) if students are struggling.
  - Write answers on the board for students.
  - Confirm or add to students' answers.
  - Lead a class discussion to help students understand how math relates to war.
- Lead a discussion about the role of World War II minesweepers, as well as Fireman First Class Bigelow Frisby's history.
- Pass out (or make available digitally) one copy of the following for each student:
  - Bigelow Frisby Fallen Hero Profile
  - “Last Minutes of the *Swerve*”
  - “Minesweeping in the Royal Navy”
  - “Idaho StoryCorps: World War II Minesweepers Recall Life At Sea”
- Ask students to read the materials (individually or in small groups) and share what they have learned.
- Lead a class discussion. Some questions could include:
  - *What is a minesweeper?*
  - *What is the role of a minesweeper in a time of war?*
  - *What happened to the USS Swerve?*
  - *What was the experience like for sailors who served on minesweepers in the British and American Navies?*

## Activity Two: Private Information, August 1944 (30-45 minutes)

- Distribute the Italy Map to students.
- Demonstrate the Minesweeper Math Sample Problems with the class.
  - **Teacher Tip:** The sample problems require students to calculate actual distance using a scale on a map and calculate the travel time for a ship to travel from one location to another. Sample problems and answer keys are included. This lesson used straight lines and distances have been rounded to make this lesson more accessible to younger or struggling students.
- Distribute rulers and give students the actual distance from Rome to Anzio.
  - Instruct students to round the distance to the tens place.
  - Have students create a scale using the inches to actual distance ratio.
  - Use the scale at the bottom of the map (0.5 inches = 100 miles) to help students calculate the distance.
- Guide students as they complete the Minesweeper Math Sample Problems, offering assistance and redirection as needed.
  - **Teacher Tip:** An answer key is provided in this lesson.

## Assessment

- Lead a classroom discussion about math and how it is involved in war; have students use specific examples from the lesson.
- Instruct students to write a one page summary of what they learned and why math was important in war, specifically World War II.
- Move about the classroom to assist students as needed.

## Methods for Extension

- Students with more interest in the task of minesweepers can research other minesweeping missions and what daily life was like on a minesweeper in this or other theaters of war.
- Older or more advanced students can independently research minesweepers and have fewer aides provided (i.e., rounding distances and weights.)
- Students can also have added rigor by using string to calculate
- The American Battle Monuments Commission maintains U.S. military cemeteries overseas. These cemeteries are permanent memorials to the fallen, but it is important that students know the stories of those who rest here. To learn more about the stories of Americans who made the ultimate sacrifice, visit [abmc.gov/education](http://abmc.gov/education) and [NHDSilentHeroes.org](http://NHDSilentHeroes.org).

- Teachers can enhance students' interest in the role of mathematics in World War II by exploring these related lesson plans:
  - [Flight Plans and Rescues: Using Math to Explore the World War II Strategic Bombing Campaign](#)
  - [RADAR: Innovating Naval Warfare](#)

## Adaptations

- Teachers will find that this lesson is geared towards students with special needs.
- Students can be provided with read-aloud assistance for the websites and the documents provided. If necessary, simplified or summarized handouts could be provided for those still struggling.
- Teachers can group students to provide assistance as needed. Pairs would likely be the most effective and would work best pairing based off of ability level so that stronger students can aid weaker students.
- Translation sheets can be provided for English language learners.

# Minesweeper Math Sample Problems

USS *Swerve* Routes and Distances During World War II

Naples to Palermo:	440 miles
Palermo to Bizerte:	200 miles
Bizerte to Naples:	340 miles
Naples to Anzio:	100 miles
Anzio to Malta:	400 miles
Malta to Anzio:	400 miles

Speed: Auk-class minesweepers like the USS *Swerve* can travel at 20 miles per hour.

Map Scale: Students will calculate scale using a ruler and the map. The scale should calculate to 0.5 inches/100 miles.

## Sample Problem One:

Measure the distance from Palermo, Italy to Bizerte, Tunisia using the ruler provided. Using the scale provided (0.5 inches/100 miles). Calculate the actual distance from Palermo, Italy to Bizerte, Tunisia.

Step 1: Set up problem using ratios and the scale provided.

$$\frac{0.5 \text{ in.}}{100 \text{ miles}} = \frac{1 \text{ in.}}{x \text{ miles}}$$

Step 2: Cross multiply to create equation.

$$0.5x = 100 \text{ miles}$$

Step 3: Solve.

$$\frac{0.5x}{0.5} = \frac{100 \text{ miles}}{0.5}$$

**Answer:** The distance from Palermo, Italy to Bizerte, Tunisia is 200 miles.

$$x = 200 \text{ miles}$$

## Minesweeper Math Sample Problems cont.

### Sample Problem Two:

Using the known speed of Auk-class minesweepers, like the USS *Swerve*, calculate how long it would take to travel from Palermo, Italy to Bizerte, Tunisia.

Step 1: Set up problems using ratios.

$$\frac{20 \text{ miles}}{1 \text{ hour}} = \frac{200 \text{ miles}}{x \text{ hours}}$$

Step 2: Cross multiply to create equation.

$$20x = 200 \text{ miles}$$

Step 3: Solve.

$$\frac{20x}{20} = \frac{200 \text{ miles}}{20}$$

**Answer:** It would take the USS *Swerve* 10 hours to travel from Palermo, Italy to Bizerte, Tunisia.

$$x = 10$$



## Minesweeper Math Worksheet

Your job is to calculate the distances, speeds, and travel times of minesweepers using ratios and scale. The example provided is for the Rome to Anzio route. Make sure you are using the correct numbers in the correct spots on your ratios. Don't forget to show your work!

Scale for the map: \_\_\_\_\_

Speed of an Auk-class minesweeper: 20 miles per hour (MPH)

### Sample:

The distance from Rome to Anzio is 38 miles.  
Rounded to nearest tenths place,  
the distance is approximately 40 miles.

$$\frac{20 \text{ miles}}{1 \text{ hour}} = \frac{40 \text{ miles}}{x \text{ hour(s)}}$$

Cross multiply.

$$40 = 20x$$

Divide.

$$x = 2 \text{ hours}$$

# Minesweeper Math Worksheet cont.

**A: Calculate travel time for the following:**

1. Naples to Palermo

Distance	Travel Time

**Answer:**

Distance: \_\_\_\_\_

Travel Time: \_\_\_\_\_

2. Naples to Anzio

Distance	Travel Time

**Answer:**

Distance: \_\_\_\_\_

Travel Time: \_\_\_\_\_

# Minesweeper Math Worksheet cont.

**B: Calculate speeds for the following:**

3. Palermo to Bizerte (travel time = 5 hours)

Distance	Speed

**Answer:**

Distance: \_\_\_\_\_

Speed: \_\_\_\_\_

4. Anzio to Malta (travel time = 5.5 hours)

Distance	Speed

**Answer:**

Distance: \_\_\_\_\_

Speed: \_\_\_\_\_

## Minesweeper Math Worksheet cont.

**C: Calculate distance for the following WITHOUT using scale:**

5. Bizerte to Naples (speed = 20MPH, travel time = 17 hours)

Distance

**Answer:**

Distance: \_\_\_\_\_

6. Malta to Anzio (speed = 20MPH, travel time = 20 hours)

Distance

**Answer:**

Distance: \_\_\_\_\_

# Minesweeper Math Worksheet Answer Key

## A. Calculate travel time for the following:

1. Naples to Palermo

Distance: 440 miles

Travel time: 22 hours

2. Naples to Anzio

Distance: 100 miles

Travel time: 4 hours

## B. Calculate speeds for the following:

3. Palermo to Bizerte (travel time = 5 hours)

Distance: 200 miles

Speed: 40 MPH

4. Anzio to Malta

Distance: 400 miles

Speed: 50 MPH

## C. Calculate distance for the following WITHOUT using scale:

5. Bizerte to Naples (speed = 20MPH, travel time = 17 hours)

Distance: 340 miles

6. Malta to Anzio (speed = 20MPH, travel time = 20 hours)

Distance: 400 miles

# Math in the Mediterranean Reflection Assignment

Write a one-page summary explaining how math was used in World War II. Include details and specific examples to support your summary.

# Math in the Mediterranean Reflection Assignment Rubric

Write a one-page summary explaining how math was used in World War II. Include details and specific examples to support your summary.

	<b>Advanced</b>	<b>Proficient</b>	<b>Basic</b>	<b>Emerging</b>
<b>Details</b>	Uses details, explanations, and examples that are accurate, appropriate, and fully support the topic.	Uses details, explanations, and examples that are accurate, and support the topic.	Uses some details that are accurate; some details that are not appropriate for the topic. Details used may not always support the topic.	Uses little or no detail to support and explain the topic.
<b>Ideas</b>	Strong ideas are carefully and imaginatively presented, demonstrating real insight into the topic.	Clear ideas are presented that support the topic.	Ideas sometimes do not support the main topic.	Ideas are confusing and do not support the main topic in any way.
<b>Purpose</b>	Clearly defined purpose, carefully and convincingly presented.	Purpose is defined and understandable, supported by details.	Purpose is vague, misstated, or not always supported by details.	There is no purpose.
<b>References</b>	Numerous supporting references presented in correct format greatly add to reader understanding of main idea.	Many supporting references usually presented in the correct format.	Few supporting references or references presented in the incorrect format.	No supporting references.

## Bigelow Frisby Fallen Hero Profile

American Battle Monuments Commission  
National History Day

**Name:** Bigelow G. Frisby

**Born:** April 23, 1911

**Died:** July 9, 1944

**Hometown:** Picayune, Mississippi

**Entered the Military:** April 28, 1943

**Branch of Service:** U.S. Navy

**Org Unit:** USS Swerve

**Rank:** Fireman First Class

**Award(s):** Purple Heart

**Cemetery:** Tablets of the Missing, Sicily-Rome  
American Cemetery

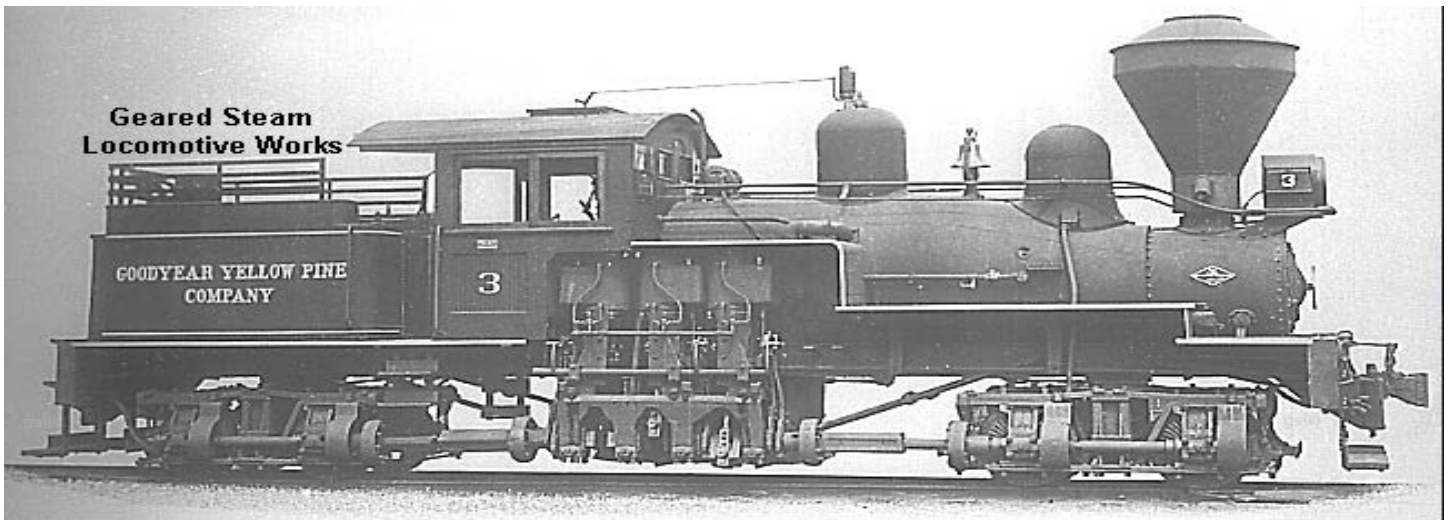


Courtesy of Dennis Jackson

### Before the War

Bigelow G. Frisby was born on April 7, 1911, in Appleton, Wisconsin. His mother, Grace, died shortly after his birth and his aunt, Elvira Frisby raised him. Upon graduating high school, Frisby followed his father and stepfamily to Picayune, Mississippi, where he worked as an electrician for the Goodyear Yellow Pine Company.

Before enlisting, Frisby worked as a turpentine still operator for Crosby Naval Stores, a division of the Goodyear Yellow Pine Company. In 1940 he married Veda Jean Spikes of Poplarville, Mississippi, with whom he would have one daughter, Barbara. On April 28, 1943, Bigelow Frisby joined the Navy and enlisted in Jackson, Mississippi.



Goodyear Yellow Pine Company Train, Pearl River Historical Society



# Bigelow Frisby Fallen Hero Profile cont.

## Military Experience



USS Swerve, National Archives and Records Administration

Frisby served aboard the USS *Swerve*, a minesweeper during World War II. Fireman First Class Frisby was a pipefitter, installing and maintaining pipe systems. He also served as the ship's mess man for a month. The USS *Swerve* left from Charleston, South Carolina on April 7, 1944, with a convoy to Bermuda on its way to Naples, Italy.

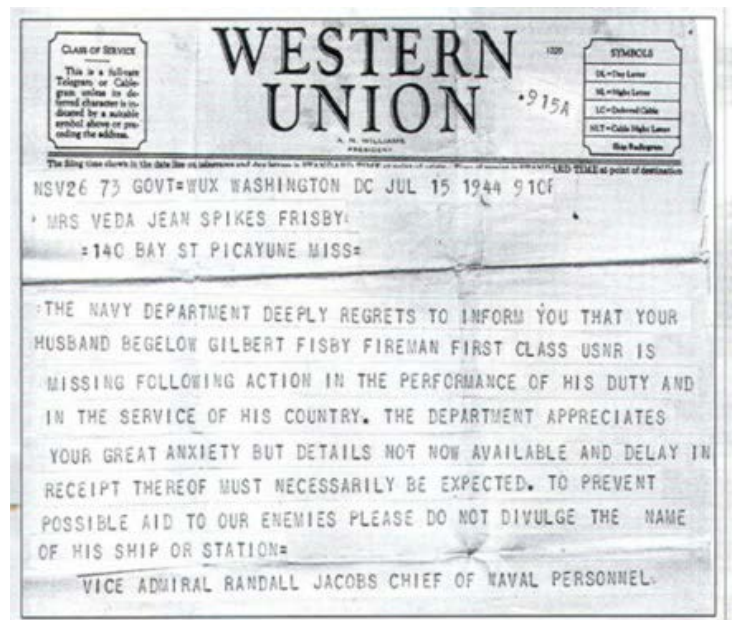
The ship arrived off the coast of Anzio, Italy on June 5, 1944. Over the next five days, the USS *Swerve* faced enemy air attacks but received no damage.

On July 9, the USS *Swerve* was a flagship for a sweeping run with its sister ship, the USS *Seer*. At roughly 1:00 p.m., the USS *Swerve* struck a mine and sank within 12 minutes. Of the 66 men on board, three men died from the explosion and ensuing chaos. When the mine exploded, Frisby was at his station as a lookout on the fantail. The explosion obliterated the fantail of the ship, killing him and a fellow sailor.

## Commemoration

Fireman First Class Bigelow Frisby's body was lost at sea, along with two shipmates. He received a Purple Heart for his ultimate sacrifice. Frisby gave his life to aide in securing Italy, a vital step for the Italian Campaign. Frisby is commemorated on the Tablets of the Missing at Sicily-Rome American Cemetery. Two months after Frisby's death, his daughter, Barbara, was born.

Frisby is remembered fondly by his family. His wife Veda Jean put it in simply, "I can't find anyone like him."



Western Union telegram alerting Frisby's family that he was Missing in Action

## “Last Minutes of the *Swerve*,” p1

C. Joseph Socha, *Don't Call me Clarence* (excerpt)

We fueled up in Italy, and prepared to practice maneuvers for the invasion of Southern France. At the fuel pier, we saw a cute spaniel pup, scampering joyfully around and shimmying up and sliding over the oil-dirty fuel pipes. His belly was pitch black. One of our crew asked who owned the dog and offered to buy him. A carton of cigarettes made "Sparky" our mascot. It took firm, repeated scrubbing to get the oily grime off Sparky's belly.

What a joy it was to have the puppy on board. He was everywhere, yipping and snipping at ankles and struggling to get loose from those who tried to hold him on their laps. We were careful to keep the pup from the skipper's sight, but Sparky somehow climbed up the ladder to the bridge, eluding our quartermaster. Then we heard the skipper's angry shout, "Get somebody up her to clean up this mess." Helluva place to unload, Sparky. The quartermaster on the bridge claims he actually saw the skipper smile. And then Anzio.

We were assigned to sweep the channels for German mines. The job was never done. So sooner had we cleared an area when low-flying German planes, late in the day, dropped more.

On Sunday, July 9th, the sea, usually calm and rich blue, was pitching and grayish green. We were lying at anchor off Anzio before our daily sweeping. After breakfast, we sailed slowly along with the USS Sear which accompanied us. There was church music on our radio, the only hint that it was Sunday.

We seemed to move reluctantly this morning. Near noon, the sun popped out briefly and vanished as quickly as it appeared. I prepared chow for our mascots - an Italian terrier "Guinea" with pointed ears and nose, and white and black markings, and Sparky. I carried the pets' chow to them and they both sniffed it and walked away. No wonder. Everybody was feeding them. I stroked Sparky's disheveled coat and laughed at he looked up at me with his sad eyes. His belly was hard as a rock.

I was at the typewriter in the radio room to write a notice to the crew about excessive feeding of our mascots. This done, I walked toward the direction finder room located mid-ship where the dogs stayed. I had just reached the whaleboat near the direction finder room when a terrific explosion hit our ship at the fantail. The force of it thumped the bottom of my feet. Hundreds of objects rose into the air above the ship. I saw huge depressors, used in minesweeping, hurtling down toward me. Debris was falling all around.

## “Last Minutes of the *Swerve*,” p2

General quarters sounded. I rushed to get to my life jacket and our pups danced wildly at my feet. Two of our crew were leading a shipmate away from the explosion area. He was dazed, weak and covered with blood. I ran to my GQ post on the bridge and manned the headphones to establish communication with the ship's stations.

"Forward damage control. All closures made." I repeated the report to the navigator in charge on the bridge.

I called after damage control. No answer. Aft engine room and forward engine room answered. Gyro room. "Aye," came a quiet voice. This was Stoddard, one of the men we lost.

After damage control did not answer, I walked out to the port wing of the bridge and looked back. The fantail plates were buckled. I heard shouting and sounds of frantic activity.

The navigator shouted to me. "Check the depth charges. Have after damage control or get someone there."

I couldn't get aft damage control and called forward damage control to do it. Damage by depth charges would kill survivors in the water. A relief! "Bridge. All depth charges are set on safe. Two of them are missing." I relayed this to the navigator.

The ship began to list slowly to port and I was alone on the bridge. The navigator appeared and shouted, "Come on. Let's get out of here." The list was about 45 degrees and still rolling. I gave the abandon ship call over the phones and struggled to disengage them from my neck.

Books and articles were whizzing past me. My feet were losing traction on the deck. I yanked the phones off in a final effort and struggled up the steep-tilting deck to starboard and reached for the starboard door to chin myself onto the starboard wing. The ship lurched faster to port. I was beginning to doubt that I could get out of here. I chinned myself upward and managed to throw a leg on the bridge guardrail and pulled onto the side of the ship.

Above me our chief quartermaster was shouting to the men in the water. "That way. That way. Swim that way!" His desperate voice directed survivors to swim away from the suction that sinking ship would create. Our survivors were swimming in different directions away from the ship, some shouting and calling out to each other.

I looked up and saw our chief quartermaster standing up to my left continuing to shout to the swimmers. My pants slid further down on the hull and my jacket caught on a pip and I got busy untangling. My lifejacket strings were not tied yet, and I hurried to fix that. Finally, standing on the ship's keel, I jumped into the water. It was cool and my feet felt strangely ticklish as the sea squeezed into my shoes. I was underwater briefly and coming up when

## “Last Minutes of the *Swerve*,” p3

something splashed over me. It was our chief quartermaster who had slipped and tumbled in past me.

The lifejacket kept me floating but it was an effort to keep my face above the slap of the waves. I struggled to slip off my shoes. Then, about a hundred feet away from the ship, I looked back and saw the *Swerve* sinking aftward and the bow slowly rose. The bow rose straight up. Our focsle's three-inch gun pointed straight up. I heard tinkling of steel objects sliding on the deck. For a moment the *Swerve* seemed suspended, struggling not to go under. Then, with a sigh, it slowly slid beneath the water. I looked around and saw our survivors watching the last moments of the *Swerve*. Not a sound from anyone now. Then, gradually, the shouting and talk resumed.

We shared and cared for each other and this contributed to the remarkably low loss of life considering how fast the *Swerve* sank after being hit. We lost three, two killed instantly by the explosion while at their post on the ship's fantail, and one went down with the ship.

The shipmate I saw earlier helping a mate with a bloody face gave his lifejacket to someone who was unable to get his in time. Later he swam over a hundred feet to a cluster of sailors shouting encouragement. Our chief quartermaster who had been shouting directions to those in the water had been seen earlier looking in and out of flooding compartments, rescuing those who needed help. One injured mate sat on deck too terrified to move until another crewman yanked him up and threw him overboard. In this effort he sustained an injured back and was one of our hospitalized cases. Our engineering officer was seen swimming about helping those needing assistance and encouraging all he met. Our bosun warrant officer swam back to the ship as it was settling, to rescue a shipmate who was so frightened he could not let go of a line he clutched.

Even with a lifejacket on, it was tiring because you had to swim to keep your face out of the slapping waves. If you stopped swimming, your face slipped beneath and forced you to struggle up again.

The *USS Seer*, our sweep partner, came upon the scene. Their crew jumped in to help and brought us aboard. They removed our wet clothing, gave us blankets and some of their own clothes, and hot coffee. One offered a swig from a quart of whiskey. It felt good going down.

Danger was past now but I kept waiting to hear an explosion again, and kept looking around to be sure we were safe. Long after, I kept expecting a blast to come from somewhere around a corner.

## “Last Minutes of the *Swerve*,” p4

We compared notes on what had happened. The explosion had blown two huge depressors clear over the bridge onto the fo'c'sle. And one on the bridge. Depth charges weighed four hundred pounds! Our whaleboat along which I stood when the explosion occurred, was said to contained a twenty millimeter gun and magazine and a huge cement block of about one hundred pounds. Another mate claimed that when he looked below the after storage compartment, he saw nothing but the sea. The bottom was gone.

Official log entries on the *Seer* notes that the *Swerve* sank on twelve minutes after being hit, and only a minute and a half after she settled on her side. We lost three men and had ten hospital cases. Some saw our mascot, Sparky, sitting on the boat deck, whimpering and shivering. Neither of our pups survived.

We were taken to the Naval base in Naples and issued replacement clothing and gear. We sat around, lost, talking over and over the last minutes of the *Swerve*. There were moments of recurring shock, a feeling that at any moment, right around the corner, BAM! It would hap-pen again.

C. Joseph Socha, RM3/c USS *Swerve*

# "Minesweeping in the Royal Navy," p1

British Broadcasting Corporation

Robert Tait Jackson

Born Leeds in 1924

Brought up in Hawick in the Borders of Scotland.

My father was a cloth designer, a Scotsman from Peebles, my mother came from the West Riding of Yorkshire.

Attended Ashville College, Harrogate.

I Left there in 1942.

Attended Galashiels Textile College, for 3 months then joined the Royal Navy.

Part 1.

I joined under an Admiralty scheme called the Y scheme, which was for 18 year olds with a sort of a secondary school education. Under the scheme there was the prospect that they might possibly be officer material, but there were no promises. You had a special medical, which I had in Edinburgh and you joined up as a rating like everybody else, as an Ordinary Seaman. Then you went to sea for a minimum of 3 months, I actually went to sea for 6 months, and then I went down to Portsmouth. There I was interviewed and I passed the interview board and was appointed to the naval RNVR Officers Training College, which was HMS King Alfred, based in Brighton and Hove.

There was Moden School in Brighton, then Lancing College in Shoreham and afterward at King Alfred Baths in Hove. You were there for 10 weeks as a cadet, then 2 weeks as an Officer under training. The navigational training was quite ingenious, on the cricket field at Lancing College it was laid out with sort of white markings, showing rocks, Lighthouse's, buoys and various navigational hazards. We were supplied with 'Walls' ice cream 'Stop-me and buy one' barrows, upon which the top of it was a chart of this field and a boat's compass. There were two of us per barrow, one pedalled it the other one acted as Navigator and that was how we learnt our pilotage and coastal navigation.

It was a very effective method of training actually, we also did fleet manoeuvres where you would have 4 ice cream barrows peddling round in line ahead and someone would say alter course, and we would alter course to another formation. It was a most effective way and a very simple way of training. It always struck me as being quite amusing ending up as I did working for Unilever, that I had peddled one of their 'Walls ice cream barrows!

I think the naval training was brilliant, ratings training at HMS Ganges, it was 12 weeks, and the Officer training was also 12 weeks but you learnt an enormous amount. In fact I have often thought since that the education authorities could have learned an awful lot from the Admiralty method of training it was very good.

## "Minesweeping in the Royal Navy," p2

I met one or two of my school contemporaries there, I even met a chap with the same picture of a girlfriend as I had whom he ultimately married. In December 1942 I finished my ratings training then I went to sea in HMS Cumberland a County Class Cruiser of 10,000 tons and spent most of my time in the Arctic, including Iceland, Murmansk and Spitzbergen. Then I went down to HMS King Alfred in July 1943 and was commissioned in September 1943. Then I was a Temporary Acting Sub Lt, RNVR at age 19 and a half, if I had been under 19 and a half then I would have been a Midshipman, which in the navy was always known as the lowest form of humanity — commonly known as a Snottie!

Luckily I was just over the 19 and a half limit so I became a sub-Lt. Next I was appointed to HMS Western Isles in Tobermory, where the base was run by the infamous Commodore 'Monkey' Stevenson, who organised the training of escort vessels, Corvettes, Frigates, Destroyers and Trawlers in the art of sinking submarines. I was there as an Officer under training for 3 months, and 'Monkey' had a nasty hobby of sacking officers of visiting vessels. HMS Pickle a Fleet Minesweeper came in during December 1943 and he sacked the Asdic Control Officer so I had to replace him and this was how I started in my Minesweeping career. The 'Pickle' was an Algernine class Fleet Minesweeper of about 1,000 tonnes, with a complement of 8 officers and 110 ratings.

My first experience of minesweeping was off the east coast of England we were based in Harwich and during the war there was a swept channel all the way from the Thames up to the Forth. This channel had to be kept open and so we used to sweep part of it, up off the coast of Norfolk, and also we would escort east coast convoys there as well. It was better known as 'E-Boat' alley because the 'E-Boats' used to come out at night and lay magnetic mines by the buoys that marked out the swept channel.

You had two basic types of mines, there was the old fashioned sort the type you see at the seaside as a collecting box, which was a moored mine. This was anchored by a cable and floated just below the surface of the water, it had horns on it and if a vessel hit one of these horns it went off. The method of detonation was quite simple, the horns were soft and they contained a file of acid and when they were hit the acid file would break. It would then form up in a primary cell which created a current, which worked the detonator. The other type of mine was known as a 'ground'-mine, that was used in relatively shallow water and lay on the seabed. It was activated either by magnetism or by sound. In the case of the moored mine we had a serrated wire which we towed behind us, on our quarter. This cut the mooring wire, theoretically, the mine would float to the surface and then it would be sunk by rifle fire or exploded, whichever happened first.

In the case of ground mines, with magnetics we had what was known as the 'Double L' sweep. It consisted of two cables fastened together one was 500 yards long the other 300 yards long and on the end of each cable was an electrode. This formed a magnetic field behind the ship, as the ship was de-guassed in theory we would go over the mine and wouldn't detonate it but the magnetic field astern of us would! So of course you got this violent explosion behind you with no warning, it

## "Minesweeping in the Royal Navy," p3

did sort of shake you up a bit.

With the acoustic mines you had a large bucket shaped container and inside which was a Kango-Hammer, the sort that chaps dig holes in the road with. It used to make this God-Awful clatter and this was lowered under the ship and you hoped it made a lot more noise than the ship, and would put the mine out before you got there!

Towards the end of the war the Germans became quite ingenious, they would fit these ground mines with an actuation mechanism, which could be anything up to 1 to 15, in other words they wouldn't go off until the 14th ship had gone over or the 10th ship or whatever. So of course you never really knew when an area was clear you had to continually sweep for magnetic mines because you probably might have to go over one 15 times before the thing would explode, so it was very difficult to declare an area as safe.

Then, during the Normandy invasion the Germans introduced what was know as the Oyster Mine and this had a sort of little set of bellows in it and when the ship passed over the displacement of the ship altered the pressure on the sea-bed and this activated the mine, now these, we couldn't sweep. The only protection was to move very slowly and the speed depended on the depth of water and the displacement of the ship. For example a 1,000 tonne Minesweeper was allowed to do 7 knots in 10 fathoms a Battleship was only allowed to do 3 knots. Other complications were, when the Germans in the moored mine fields used to put sweep-cutting devices, so we'd end up loosing our sweeps, all making it rather difficult.

When you swept a channel we had trawlers what were known as Dan Layers and they left little bouys rather like the bouys you see on lobster pots, which would mark the swept channel.

### Training for D-Day

We were based at Harwich until the spring of 1944, then we went round to Portsmouth for various exercises prior to the Normandy operation. Exercises included sweeping at night particularly crossed tide, because when you are sweeping you have to be sure you know the exact piece of seabed that you have gone over. So if you are sweeping with the tide either coming from either the starboard or the port side you will drift with it so your course had to be altered to allow for this.

### D-Day Sweep

In the case of the D-Day sweep, which was a night sweep, these bouys had little lights on them and they marked the swept channel, acting as a guide for vessels following the sweepers. On completing the sweep you could see the windows of the houses, we were perhaps 3 or 4 miles off the beaches, but then the inshore minesweepers went in further, the little motor minesweepers went right inshore.



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Also some motor launches were converted for sweeping, in-fact on D-Day we had two Motor Launches ahead of us to sweep before the Fleet sweepers came in, because they only drew about 4 feet of water so if there were any mines anywhere near the surface they would cut them before we came along.

Part 2.

To follow of D-Day and later service in the Far-East, including minesweeping off the Nickabar Islands.

# “Idaho StoryCorps: World War II Minesweepers Recall Life At Sea,” p1

Samantha Wright  
Boise State Public Radio

Life aboard a minesweeper in World War II was dangerous duty. The boats swept harbors and coastline for the deadly underwater mines planted by Germany and Japan. Two men, who now live in Idaho, were part of the U.S. Navy’s minesweeping fleet.

John Burns and Robert Haga each served on different ships. They met at the Warhawk Air Museum. Every first Tuesday of the month, the museum hosts a get together, known as the Kilroy Coffee Klatsch, to meet and swap war stories. Burns was wearing a hat with the name of his minesweeper, the USS Medrick. Haga wore a similar hat, from the minesweeper the USS Chickadee. Burns says they were immediately bonded as soon as they saw each other’s hats.

Haga’s ship went to Normandy June 5, 1944, the day before the Allied Invasion. Their job was to clear out mines before D-Day to allow troop ships to land in France.

“We swept at night and we swept during the day,” said Haga. “On June 6, when daylight came, the Germans really opened up fire and we opened fire too, our big ships which were behind us because we had swept the path for them. They were shooting over us. Had they sunk us minesweepers, I think it wouldn’t have been the invasion that day, they would have probably had to call it off until they could get something going somewhere else, where it wasn’t as dangerous with the mines.”

“The troops would not have been able to land if it wasn’t for us minesweepers,” said Burns. “We swept all around the islands of the South Pacific during the war. Then we went into Japan. They had to go into Tokyo and sign the peace treaty. My ship, we mined Kobe Harbor, all around the China Sea side of Japan.”

Burns’ minesweeper, the USS Medrick, was a small craft. There was a crew of 33 with three officers. It was made of wood from top to bottom so the magnetic mines wouldn’t be attracted to it. The Medrick went in first, into unknown waters, to find the mines before the other ships came in.

“It was dangerous,” explained Burns. “We knew where the charts were on the mines, but there were some that came loose. They were floating, but some did not float to the top. They were under the water but they were caught on something.”

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"So we'd have to send a diver down and the diver would put on this heavy old fashioned diving gear. We'd lower him over the side and he'd go down and check the chain on the mine and if it was caught, he'd loosen the chain so the mine would float on top of the water."

"So we'd get him up as fast as we could and then two or three of us would take a rifle and aim it and shoot at the mine and blow it up. And when we blew up that mine, our ship was so small and so light, it would just come right out of the water and fly and then it would land with a thump. Your stomach was up in your nose somewhere. But then that night we'd celebrate and make pizza and have a pizza party."

"One night I was on duty, I was at the helm," said Burns. "It was the 12 to 4 am watch, I think, or maybe the 4 to 8 am watch and I was supposed to be relieved by a buddy who lived in Idaho. So he's coming to relieve me. He opened the hatch and walked in and we had a counter and he just went over to the counter and laid down. He was so sleepy but he didn't dog [close] the hatch."

"This is very, very rough seas. A little wooden ship like that is like a ball in a bathtub, a cork. The ship lurched, a wave came and hit us from one side. I'm on the wheel, I was knocked off the wheel, slide across the floor, feet hit the hatch curb, and out I went. I went into the deep blue. There was a railing, luckily I grabbed the railing, and my feet were dangling, I looked down, there was ocean beneath me. I looked up and there was a starry sky and I said 'Oh my God, this is it!'

"Then another wave came from the other side and first thing I knew I was right back where I was - standing at the helm. Thank God. The Captain's up there 'What the hell's going on down there?' So my buddy got up and dogged the hatch. That was a scary moment."