ACTIVITY

How Many Sailors Can Sleep at the Same Time?

How many sailors could sleep on the berth deck at the same time? To answer this question, students will view a primary source and calculate the area of the berth deck and the average size of a sailor and a hammock.

How Many Sailors Can Sleep at the Same Time

Name _____

Date _____

How big was the berth deck on board *Constitution* and how many sailors could sleep on it at one time? In this activity, calculate the surface area of *Constitution*'s berth deck, and use the size of a hammock and how much room a sailor was allotted to sleep to find out how many sailors could sleep at the same time.

The dimensions of berth deck, with space available for sailors to sleep was 87 feet (length), and 39 feet (width, maximum beam).

(Note: These dimensions are only the space for sailors and marines to sleep. These dimensions do not include the wardroom (where the officers slept) or midshipmen's steerage quarters aft, or sickbay forward. These dimensions also do not include hatchways or other intrusions. In reality, the berth deck was much larger than 87 by 39 feet.)

What is the surface area of *Constitution*'s berth deck in feet?

Hammocks were sailor's beds. They are made of canvas, and while when they are laid out flat are about 6 feet long by 3.8 feet wide. They take up less space when hung with a body in them, approximately 3 feet long by 1.2 feet wide. However, the clews (lines which suspended the hammocks from the beams) might add another foot on each end, making the hammock about 5 feet long in total when hanging with a body in it.

What is the surface area of a single occupied hanging hammock, with and without its clews?

On American ships during the War of 1812, the width between hammocks when hung tended to be 18 inches (meaning that a single sailor had about 9 inches on either side of his hammock).

In the British Royal Navy, it was commonly stated that each sailor was "allowed a space 14 inches broad for his hammock" (Brian Lavery, *The Arming and Fitting of English Ship's of War*, 1600-1815, P. 181). In David Steel's 1794 Hammock Plan (provided below), the diagram shows a British Royal Navy ship of the line with a "full complement." British ships crammed many more sailors into almost the same size space as American naval ships.

Calculate the width (in feet) that an occupied hammock would take up, including the space on either side

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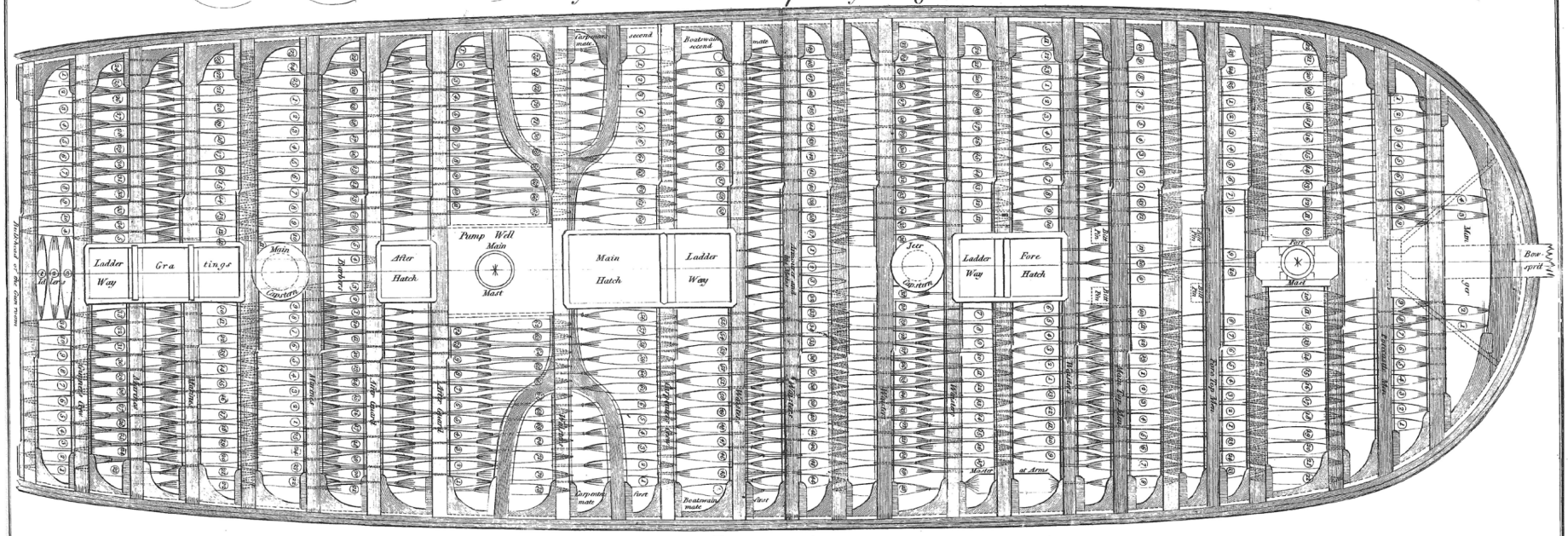
Now calculate the square footage that a single occupied hammock would take up on the deck:

Now, how many hammocks, and therefore sailors, could hang and sleep at the same time on *Constitution*'s berth deck?

A PLAN OF THE UPPER DECK OF A SEVENTY-FOUR GUN SHIP,

from the Manger forward to the Bulk head of the Gun-Room aft, delineating an Arrangement of the HAMMOCKS, *for the* CREW.

By which all other Ships may be regulated.



EXPLANATION

In the above Plan the beams of the upper deck are shewn, to which the Hammocks are supposed to be suspended; for which purpose battens (which are long peices of Oak one Inch and a quarter thick and one Inch and a half deep) are nailed along the lower edges of the upper deck beams, as represented by the faint lines in the Plan. These battens are kept three quarters of an Inch from the beams by pieces of Elm board. The Hammocks are slung by laniards passing through the gromnets over the battens alternately & there fastened by two half hitches. The after laniards are fastened to the battens on the after-sides of the beams, and the fore laniards to those on the fore sides of the beams; and thus the strain keeps the battens more firmly in their places.

To avoid the confusion generally incidental in removing & replacing of Hammocks, it is recommended to mark them with figures in Circles, that the mens different divisions may be instantly discernible.

The four Hammocks forward are for the Yeoman of the nippers and his mates.

The next 25 aft on each side are for the forecastle men. The Circle to be black with white figures.

The next 23 on each side are for the fore top men. The Circles to be red with black figures.

The next 23 on each side are for the main top men. The Circles to be blue with white figures.

The next 75 Hammocks numbered in succession on each side are for the waisters. The Circles to be yellow with white figures.

Close in on the Starboard side, and abreast the fore hatch and ladder way is a Cot for the master at Arms.

In midships between the main ladder way and jeer capstern, are three Hammocks for the Armourer and his mates.

Close in on the starboard and larboard sides, and abreast the main ladder way are two Hammocks for the two boatswains mates.

The Carpenters crew is abreast the main hatch way on each side. The Circles white with red figures.

Thus it may be observed that the master at arms, the boatswains mates, and the Carpenters crew, are intermixed with the waisters.

The next 25 on each side are for the after guard. The Circles to be black with red figures.

The next 34 on each side are for the marines. The Circles to be red with white figures.

The next ten on each side are for the gunners crew. The Circles to be blue with red figures.

There are abaft the ladder way in midships, three Hammocks for Idlers, and two abreast of it on the Larboard side.

For the greater perspicuity, this plan is drawn allowing 16 Inches in width for every Hammock; but if the complement of men be full, only 14 Inches for each Hammock can be allowed.

It may be satisfactory to add the Officers Births

An Admiral, when on board, is under the poop on the quarter deck.

A Captain under the quarter deck, on the upper deck.

Lieutenants, masters, and marine Officers, are in the wardroom in large ships, and in the gun-room in small ones, except the sixth Lieutenant and Gunner, who are in the Gun room.

The Surgeon and Purser are in the Cockpit or Gun room.

The Boatswain and Carpenter are under the forecastle in large ships, the Boatswain on the larboard side, the Carpenter on the starboard side: Sometimes in War, the Boatswain uses his block-room & the Carpenter his pitch room. In small ships their cabins join the Gun room.

Midshipmen, masters mates, and quarter masters, in large ships, are in the Cable tier. In small ships midshipmen and masters mates are on the lower deck, next to the warrant Officers cabins.

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How Many Sailors Can Sleep at the Same Time

Teacher Answer Key

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What is the surface area of *Constitution*'s berth deck in feet?

87 x 39 = 3,393 ft^2

Hammocks were sailor's beds. They are made of canvas, and while when they are laid out flat are about 6 feet long by 3.8 feet wide. They take up less space when hung with a body in them, approximately 3 feet long by 1.2 feet wide. However, the clews (lines which suspended the hammocks from the beams) might add another foot on each end, making the hammock about 5 feet long in total when hanging with a body in it.

What is the surface area of a single occupied hanging hammock, with and without its clews?

Without clews: 3 ft (length hanging) x 1.2 ft (width hanging) = 3.6 ft^2 (area hanging)

With clews: 5 ft (length hanging w/ clews) x 1.2 ft (width hanging) = 6 ft^2 (area hanging with clews)

On American ships during the War of 1812, the width between hammocks when hung tended to be 18 inches (meaning that a single sailor had about 9 inches on either side of his hammock).

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Calculate the width (in feet) that an occupied hammock would take up, including the space on either side

18 inches = 1.5 ft;_1.2 ft (width of hammock) + 1.5 ft (width of space) = 2.7 ft of width/hammock

Now calculate the square footage that a single occupied hammock would take up on the deck:

2.7 ft (total width) x 5 ft (length of hammock hanging space) = 13.5 ft^2

Now, how many hammocks, and therefore sailors, could hang and sleep at the same time on *Constitution*'s berth deck?

3,393 ft2 (area of berth deck) / 13.5 ft2 (surface area of hammock hanging area) = 251 hammocks or 251 sailors