LOOT THE PIRATE SHIP!

Target age group: grades 2-5
Number of players: 2-8 (although it could possibly be played with a single player and an adult)
Playing time: 15-20 minutes for a 4-wave-page board, and about 30 min. for a 6-wave-page board
(Hopefully, the players will ask to play again! More loot!)

Math skills practiced: multiples of numbers, prime numbers, divisibility rules

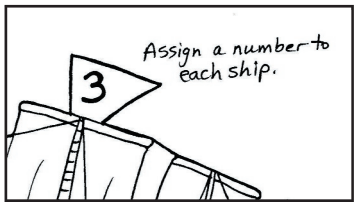
NOTE: This is a cooperative-yet-competitive game, and also one that can accommodate players of various skill levels. Ideal, eh?!

You will need:

- photocopies of the pattern pages (card stock is nice, but regular paper will do)
- scissors
- glue stick or tape
- optional: crayons or colored pencils for coloring ships
- loot for pirate ship: this can be anything you want to provide: coins, candy, whatever is appropriate for your students

Set up:

Give a ship to each student and have them cut around the outside. Fold on dotted lines, then glue or tape at the top of ship, making a tall triangle. (See assembly diagram on pirate ship page.) Someone will also need to put together the pirate ship. Loot can be stashed inside the triangle of the pirate ship. The exact nature of the loot is at the discretion of the adult in charge.



Write a number on each ship's flag. The number should be one that the student is capable of counting by. (Obviously, 2 is the easiest number since they need only be able to count by even numbers. 5 is also an easy number. Something like 6 or 7 is going to be much more of a challenge.) You can control the difficulty of the game by which numbers are assigned. Players are allowed to operate more than one ship. This is helpful if you are playing with just a few players and want more ships on the board. Only one of each ship number allowed on each side of the board; i.e. you can have a 3 on each side of the board, but not two 3's on the same side.

The number of ships on each side is up to you. If you want to play with multiple ships and they won't all fit on the end space, just move some to the next-to-last space. Just be consistent on each side.

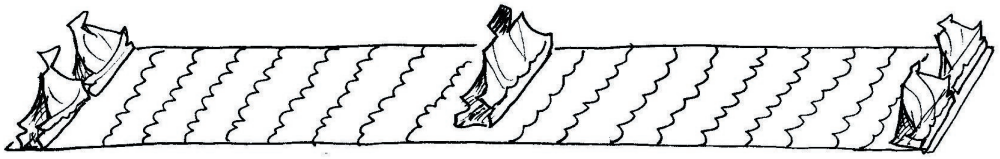
Cut apart the number cards and decide which ones to use. If you have players who have only just begun to count in multiples, you may want to eliminate the higher numbers and use only numbers up to 40 or so. If you are dealing with highly skilled players, you will want to use higher numbers, or maybe even use the blank cards to create your own numbers higher than 100.

Players of mixed skill levels can still play together in the same game. You could even have unskilled players on one side and more skilled players on the other and use two separate piles of cards, lower numbers for one side and higher for the other.

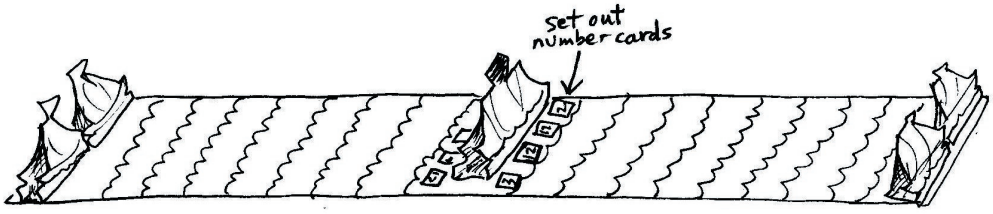
Make four copies of the wave page. Tape them all together in a long strip. (The wave patterns are arranged so that there is automatically an overlap area.) If you want the game to take longer, you can make the waves six pages long.

How to play:

The pirate ship sits in the middle of the table, with wave pages flowing out from either side. Players' ships start out at the farthest end of the wave pages.



The pirate ship launches invisible cannon balls toward the ships. To find out how big the cannon balls are, number cards are turned over (randomly) and set along the sides of the pirate ship (the number of cards can vary, but I suggest four on each side). This is a good job for the adult in charge.



Each ship has a number on its flag. That number is the weight of its cannon balls. That ship can launch multiple cannon balls to counter one shot by the pirate ship, but the counter attack will always be multiples of the number on the flag. For example, a ship with a 3 on its flag can launch one cannon ball for a score of 3, two cannon balls for a score of 6, three cannon balls for a score of 9, four cannon balls for a score of 12, and so on.

After the pirate ship's number cards are laid down, the players look at the numbers and figure out if they can counter any of those numbers with multiples from their flag ships. For example, if the pirate cannon balls are 7, 12, 13, and 20, and the ships have flags of 3 and 4, then the 12 can be countered with 3 (3x4) and the 20 can be countered with the 4 (4x5). The 7 and the 13 can't be countered.

PLAYERS WILL VERY QUICKLY LEARN TO RECOGNIZE CANNON BALLS THAT CANNOT BE COUNTERED! This gives you an opportunity to tell the players that these unbeatable numbers have a mathematical name: prime numbers.

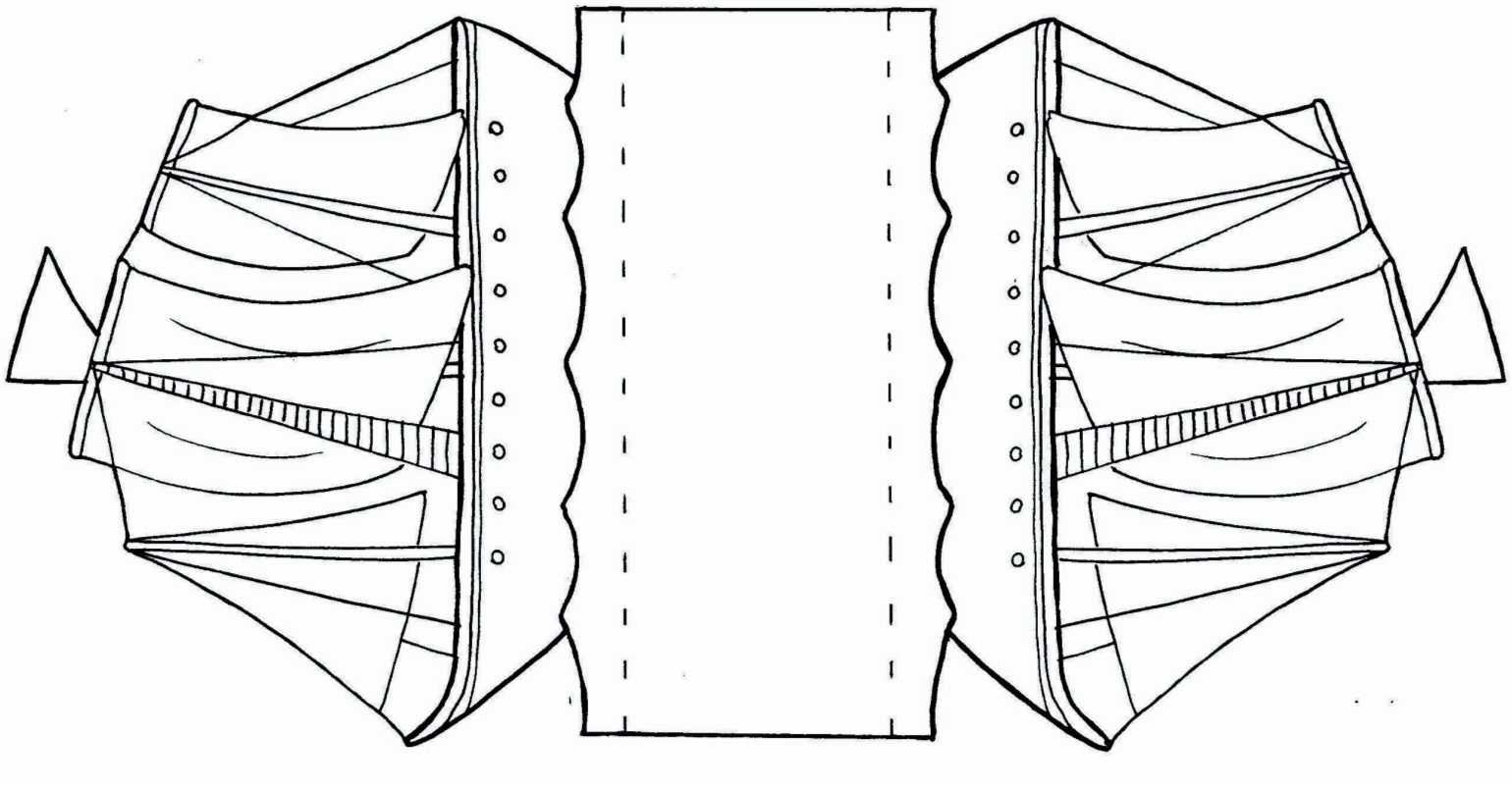
If a ship can counter a pirate cannon ball, it may move ahead one wave. If a ship cannot counter any pirate cannon balls it must stay where it is. If a ship can counter two cannon balls, it may move ahead two spaces. NOTE: Players must work together to decide which ships to use to counter which cannon balls, because you can only use one ship per cannon ball. For example, if the pirate cannon balls have numbers 15 and 20 and the flag ships have numbers 4 and 5, it would be silly to use the 5 to counter the 20. Instead, use the 4 to counter the 20 and save the 5 to counter the 15.

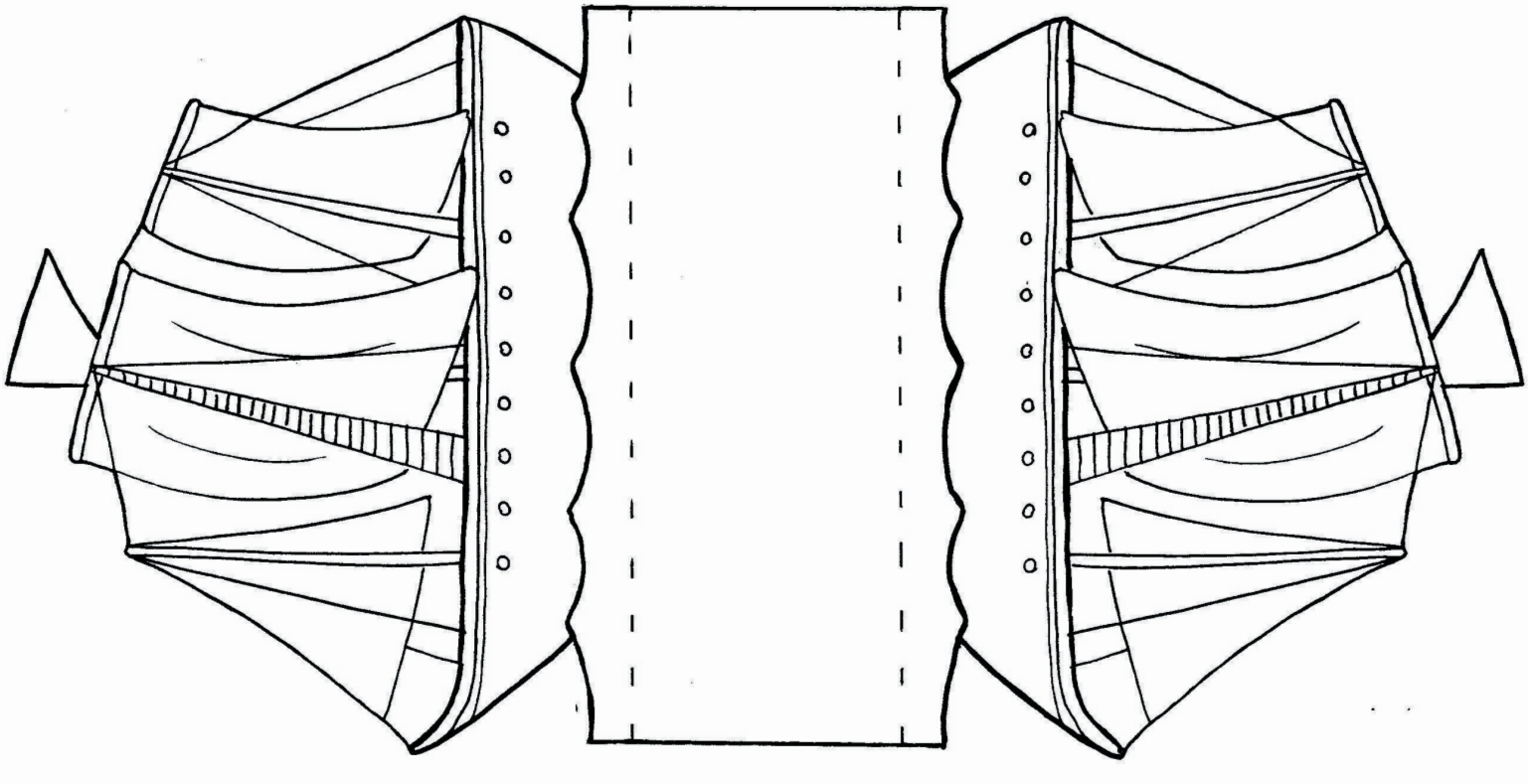
Volley after volley, the flag ships will slowly advance towards the pirate ship. As soon as one ship from each side of the board reaches the space where the pirate ship is, the pirate ship may be boarded and the loot carried off and distributed equally among all players.

OPTION: You may want to change the rules and wait to end the game until all ships have reached the pirate ship. The only drawback to this option is that the first players to reach the pirate ship might possibly become bored while waiting for the other ships to arrive. Depending on the personality of the players, this could be a problem. If you have patient players, it might not be a problem at all. It's your call.

MATH NOTE: As the numbers get higher, the players may find it advantageous to know divisibility rules. For example, if the pirates lauch an 82, can a 3 flag ship counter it? Well, 8+2 is 10, and 10 is not divisible by 3, therefore 82 is not a multiple of 3. Other rules that may come in handy:

A number is divisible by 6 only if it is divisible by both 2 and 3.
A number is divisible by 4 if the last two digits are divisible by 4, or they are both 0.
A number is divisible by 9 if the digits add up to a number divisible by 9.
A number is divisible by 5 if the last digit is a 5 or a 0.

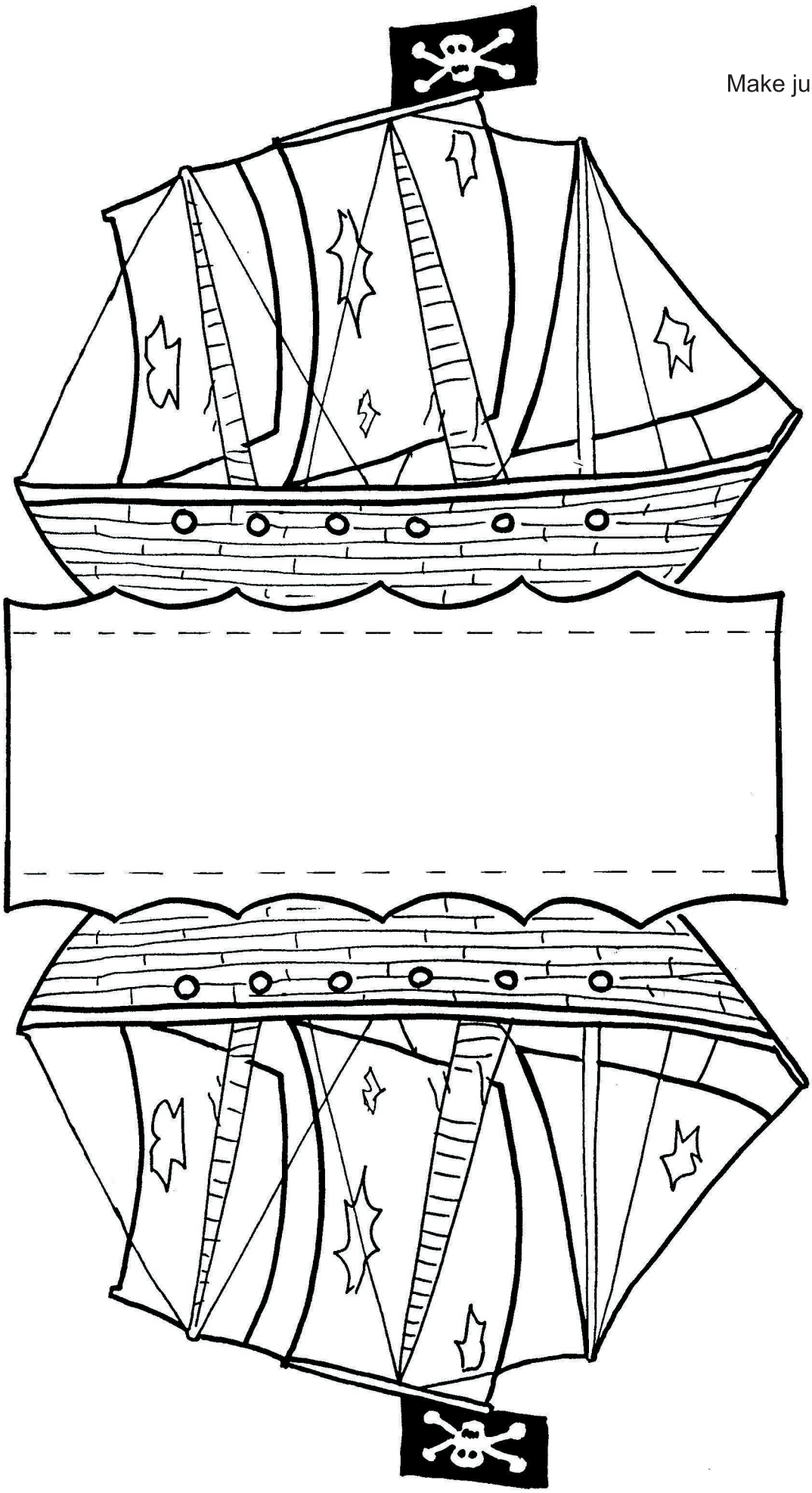


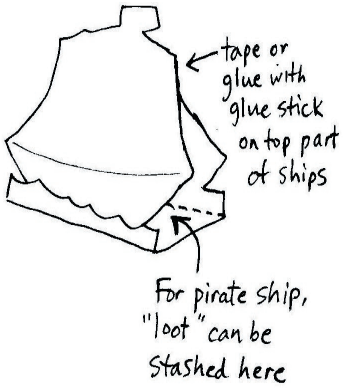


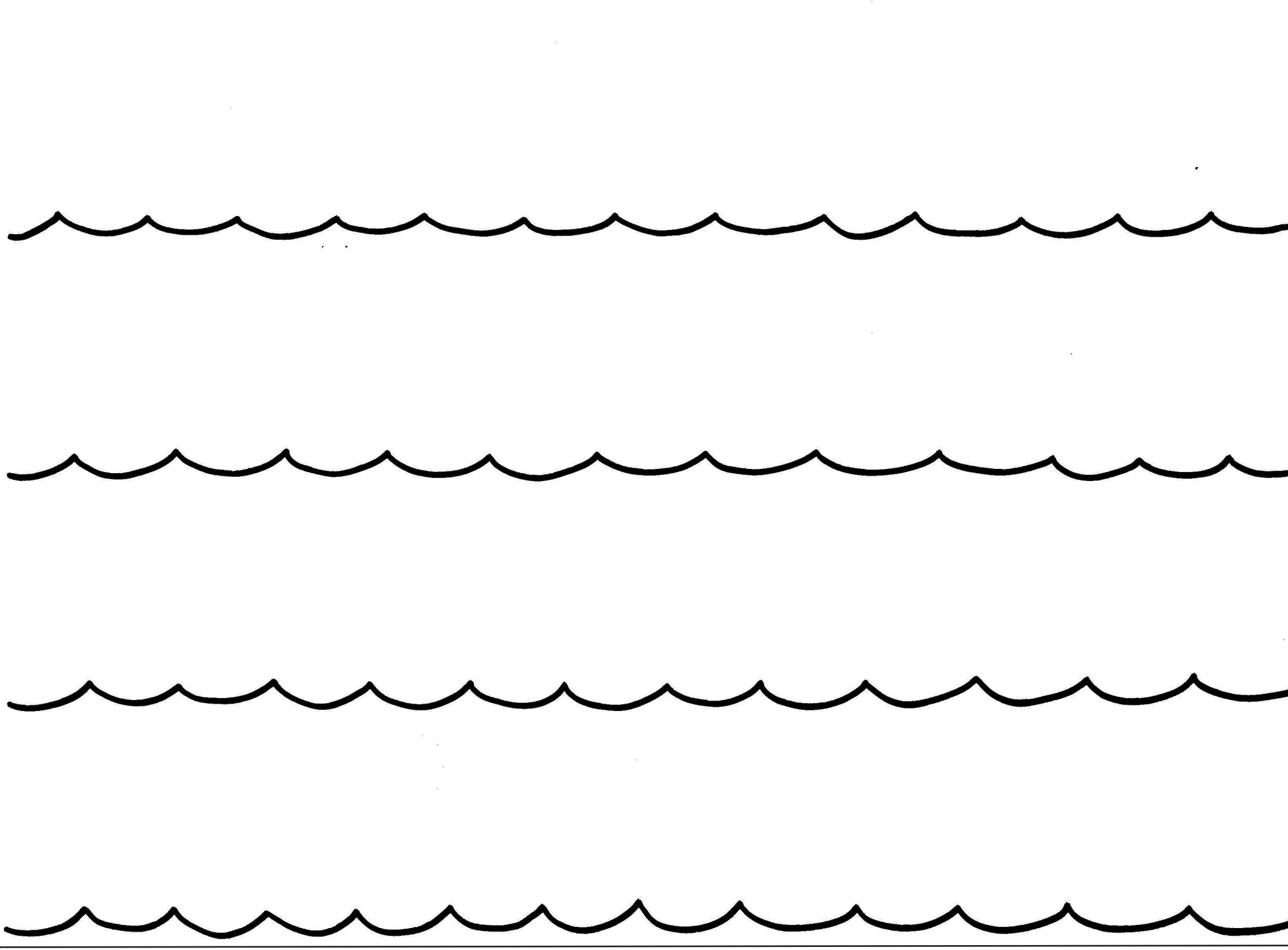
Copy this page as many times as you need to so that each student has at least one ship. Players can operate more than one ship-- it's up to you.
More ships = more calculating

Make just one copy of this page.

Make four copies of the wave page. (Or six copies if you want the board to be longer so the game takes more time.)







OVERLAP AREA

2	3	4	5
6	7	8	9
10	11	12	13
14	15	16	17
18	19	20	21
22	23	24	25

26	27	28	29
30	31	32	33
34	35	36	37
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42	43	44	45
46	47	48	49

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54	55	56	57
58	59	60	61
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