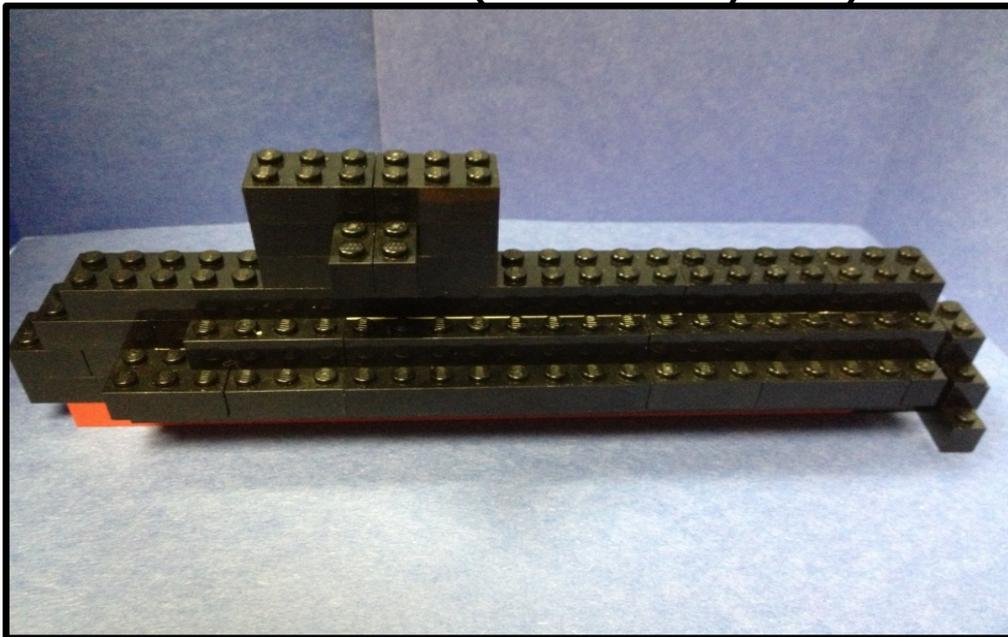


Brick by Brick: LEGO® SHIPBUILDING



Level: Medium (*USS Norfolk*)



**RED, WHITE, AND BLACK BRICKS
ARE REQUIRED FOR THIS MODEL.**

Ship Models included in this program are built with LEGO® bricks. LEGO® is a trademark of the LEGO Group of companies which does not sponsor, authorize, or endorse this program.

BRICK SUPPLY LIST

| BRICKS | BLACK | WHITE | RED |
|---------------|-----------|----------|----------|
| 1x2 | 7 | 1 | 0 |
| 1x3 | 4 | 0 | 0 |
| 1x4 | 1 | 0 | 0 |
| 1x6 | 0 | 0 | 0 |
| 1x8 | 4 | 0 | 0 |
| 2x2 | 9 | 0 | 2 |
| 2x3 | 17 | 1 | 1 |
| 2x4 | 8 | 4 | 0 |
| 2x6 | 0 | 1 | 0 |
| 2x8 | 6 | 1 | 2 |
| TOTALS | 56 | 8 | 5 |

TOTAL BRICKS: 69

A Note on Dimension:

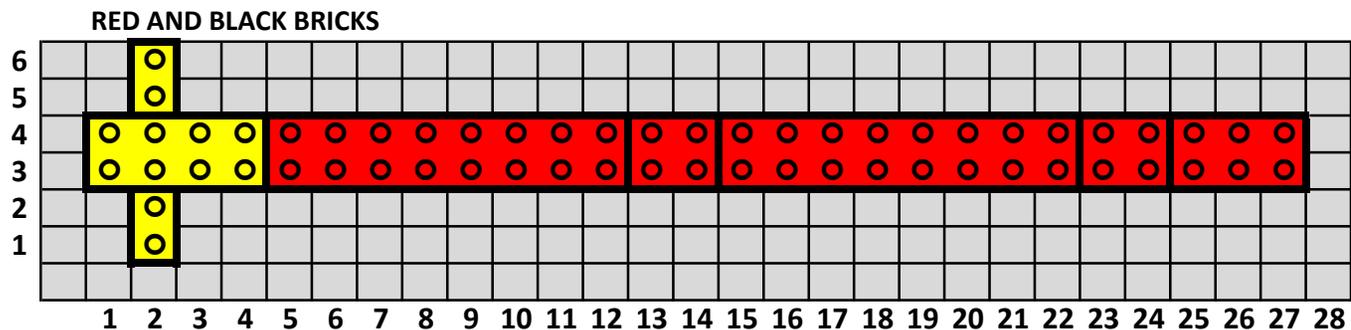
The instructions included for this ship model represent a new educational initiative by the Hampton Roads Naval Museum and the Naval Historical Foundation in order to promote STEM principles under the lens of naval history. When properly assembled, each graph (or Step) represents a layer of bricks built to resemble a design of a specific ship used in American naval history. Colors represent each specific layer of the vessel, from the keel to the top masts. Please note that the sizes and shapes represented in these instructions are squared. However, they are not to scale with LEGO brick sizes. They merely show the graphical placement locations of brick layers.

USS Norfolk Model



Instructions: Follow each step and layer the color-coded bricks on your building grid. Subsequent steps are layered on top of previous layers.

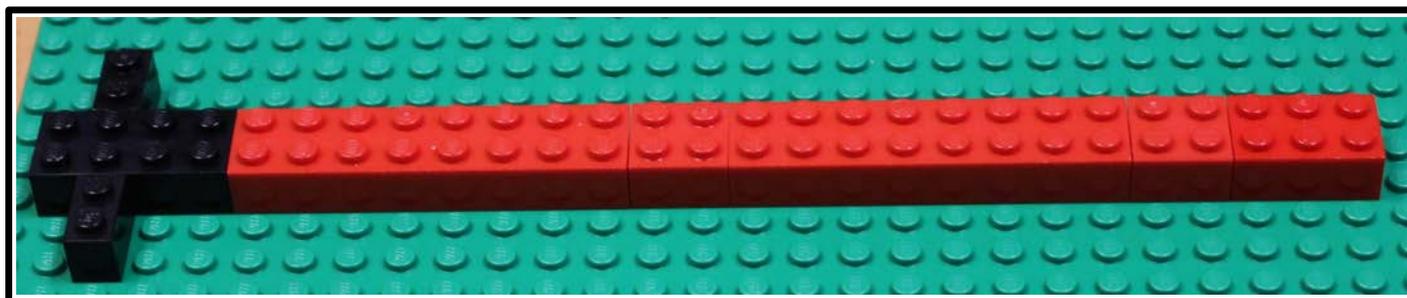
Step 1: Lay down the first layer (Red bricks shown in Red)
(Black bricks shown in Yellow)



For this step, you will need:

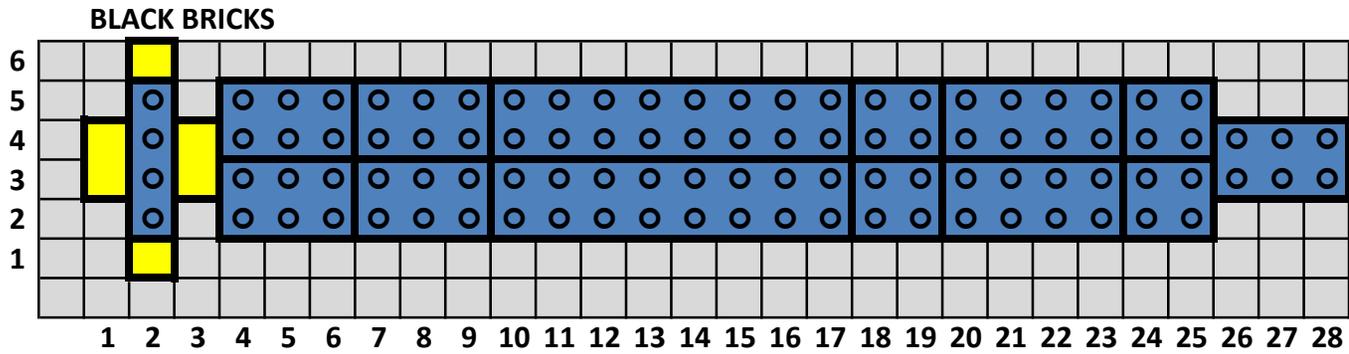
| BRICKS | RED | BLACK |
|---------------|----------|----------|
| 1x2 | 0 | 2 |
| 2X2 | 2 | 0 |
| 2X3 | 1 | 0 |
| 2X4 | 0 | 1 |
| 2X8 | 2 | 0 |
| TOTALS | 5 | 3 |

STEP 1: VISUAL REPRESENTATION (Shown in RED and BLACK)



USS Norfolk Model

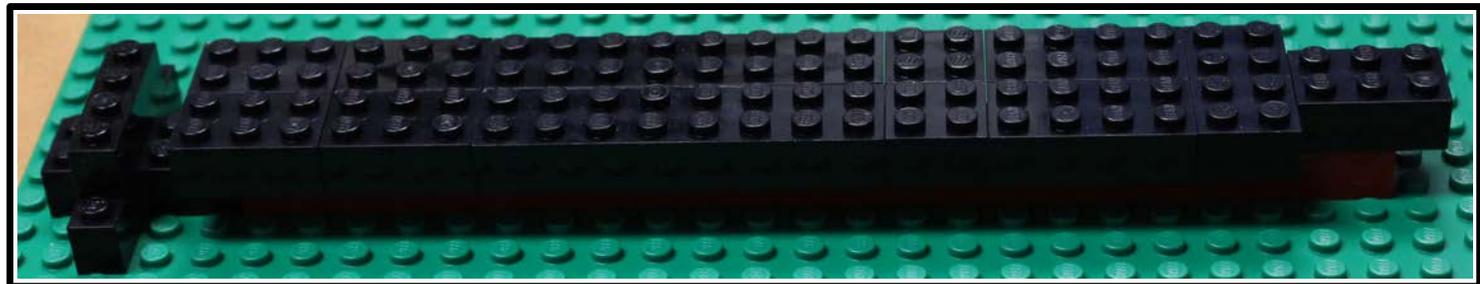
Step 2: Lay down the second layer (Black bricks shown in Blue)



For this step, you will need:

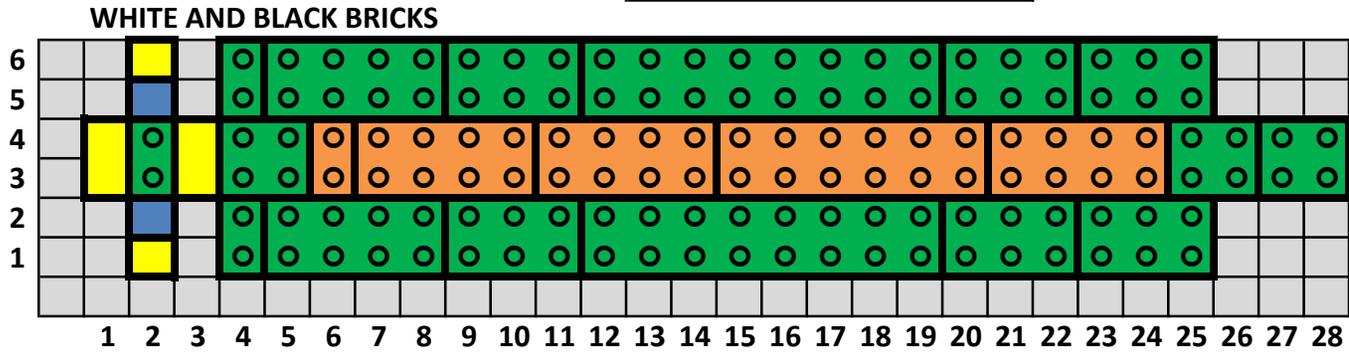
| BRICKS | BLACK |
|---------------|-----------|
| 1x4 | 1 |
| 2x2 | 4 |
| 2X3 | 5 |
| 2X4 | 2 |
| 2X8 | 2 |
| TOTALS | 14 |

STEP 2: VISUAL REPRESENTATION (Shown in BLACK)



USS Norfolk Model

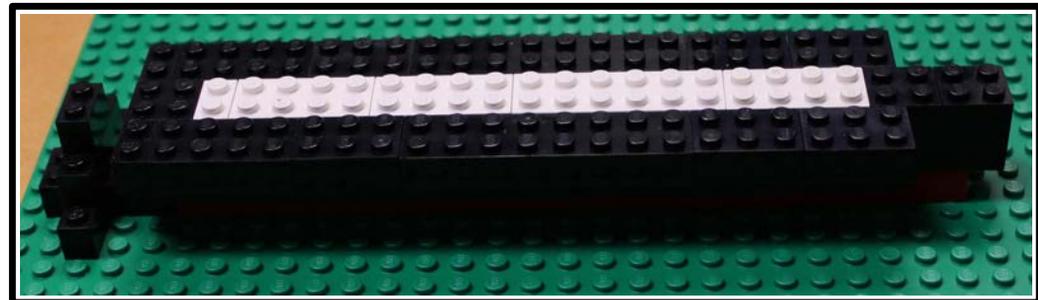
Step 3: Lay down the third layer (Black bricks shown in Green)
 (White bricks shown in Orange)



For this step, you will need:

| BRICKS | WHITE | BLACK |
|---------------|----------|-----------|
| 1x2 | 1 | 3 |
| 2x2 | 0 | 3 |
| 2x3 | 0 | 6 |
| 2x4 | 3 | 2 |
| 2x6 | 1 | 0 |
| 2x8 | 0 | 2 |
| TOTALS | 5 | 16 |

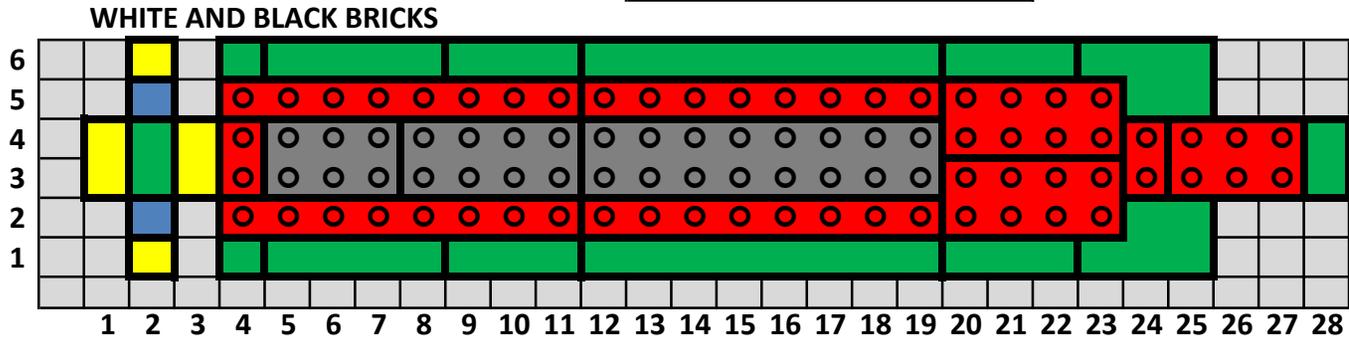
STEP 3: VISUAL REPRESENTATION (Shown in BLACK and WHITE)



Above image represents actual brick color.

USS Norfolk Model

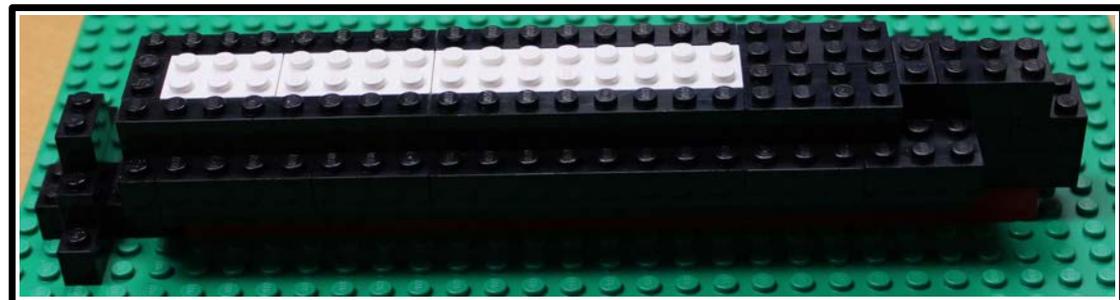
Step 4: Lay down the fourth layer (Black bricks shown in Red)
 (White bricks shown in Gray)



For this step, you will need:

| BRICKS | WHITE | BLACK |
|---------------|----------|----------|
| 1x2 | 0 | 2 |
| 1x8 | 0 | 4 |
| 2x3 | 1 | 1 |
| 2x4 | 1 | 2 |
| 2x8 | 1 | 0 |
| TOTALS | 3 | 9 |

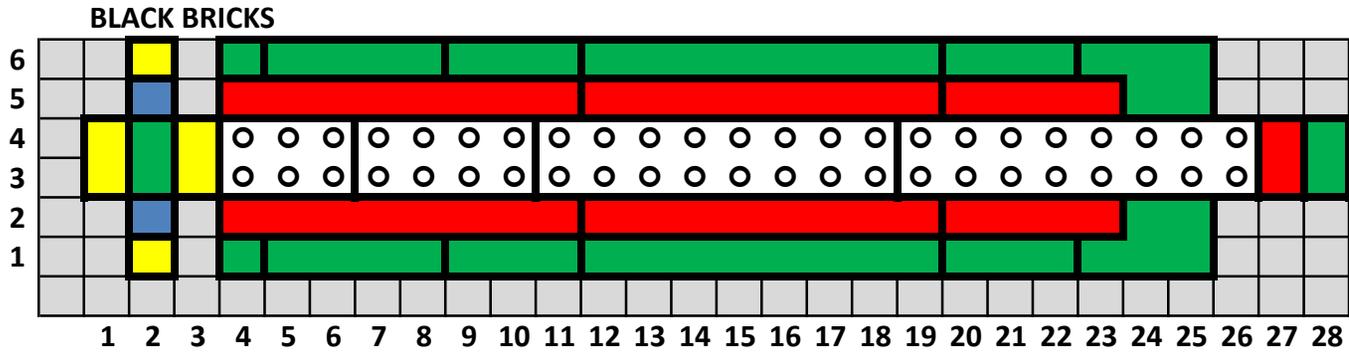
STEP 4: VISUAL REPRESENTATION (Shown in WHITE and BLACK)



Above image represents actual brick color.

USS Norfolk Model

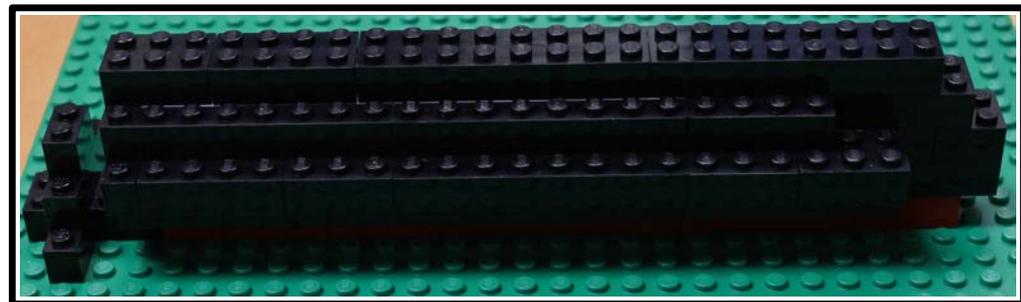
Step 5: Lay down the fifth layer (Black bricks shown in White)



For this step, you will need:

| BRICKS | BLACK |
|---------------|----------|
| 2x3 | 1 |
| 2x4 | 1 |
| 2X8 | 2 |
| TOTALS | 4 |

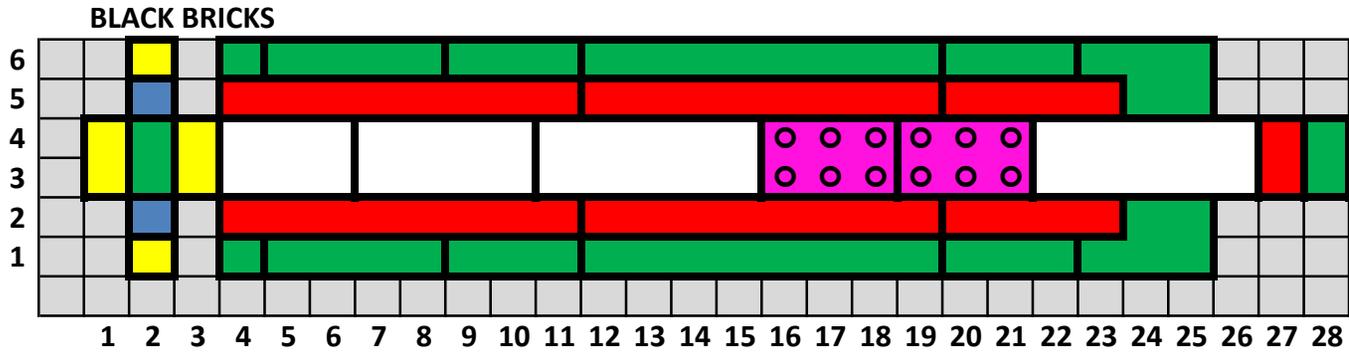
STEP 5: VISUAL REPRESENTATION (Shown in BLACK)



Above image represents actual brick color.

USS Norfolk Model

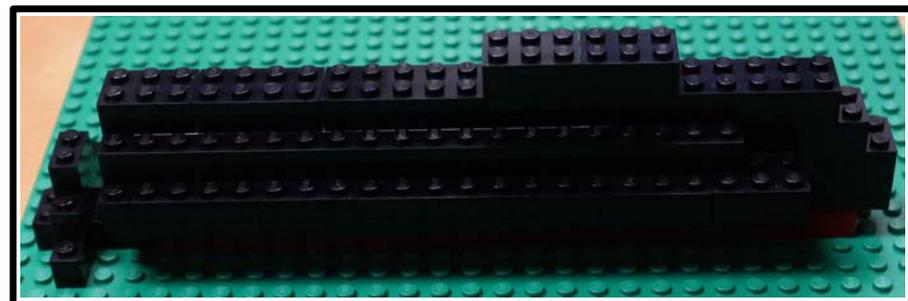
Step 6: Lay down the sixth layer (Black bricks shown in Pink)



For this step, you will need:

| BRICKS | BLACK |
|---------------|----------|
| 2x3 | 2 |
| TOTALS | 2 |

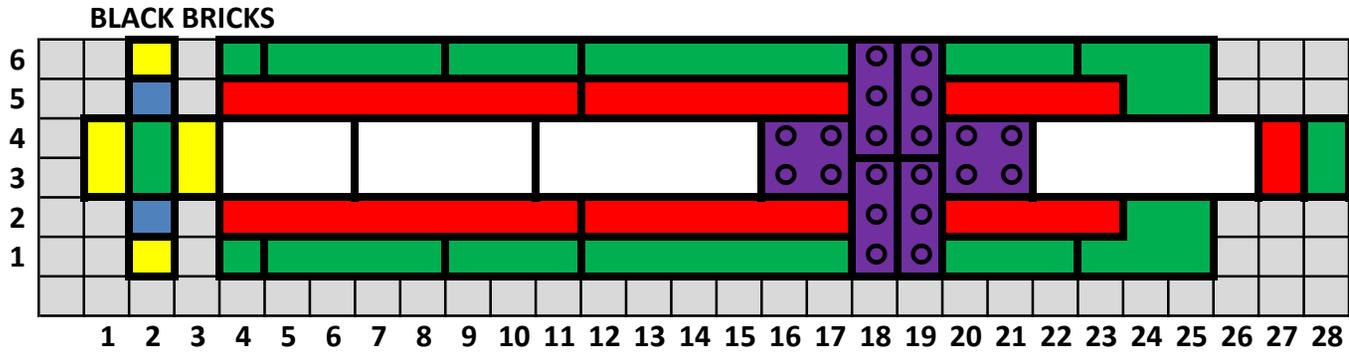
STEP 6: VISUAL REPRESENTATION (Shown in BLACK)



Above image represents actual brick color.

USS Norfolk Model

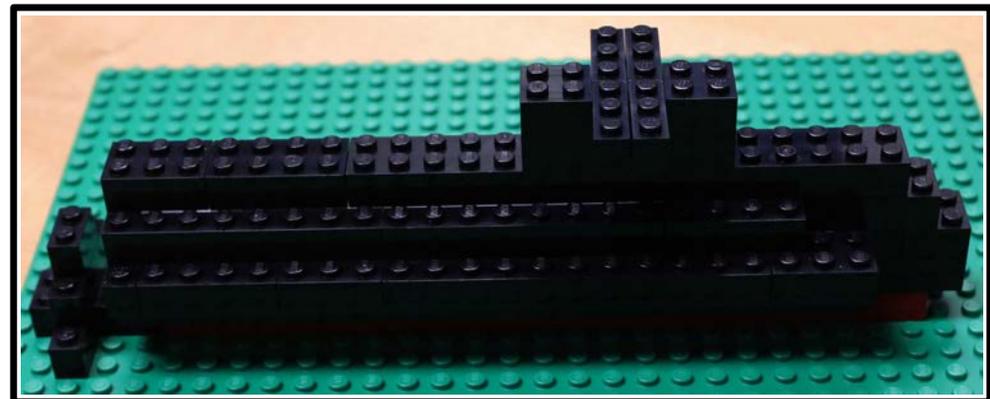
Step 7: Lay down the seventh layer (Black bricks shown in Purple)



For this step, you will need:

| BRICKS | BLACK |
|---------------|----------|
| 1x3 | 4 |
| 2x2 | 2 |
| TOTALS | 6 |

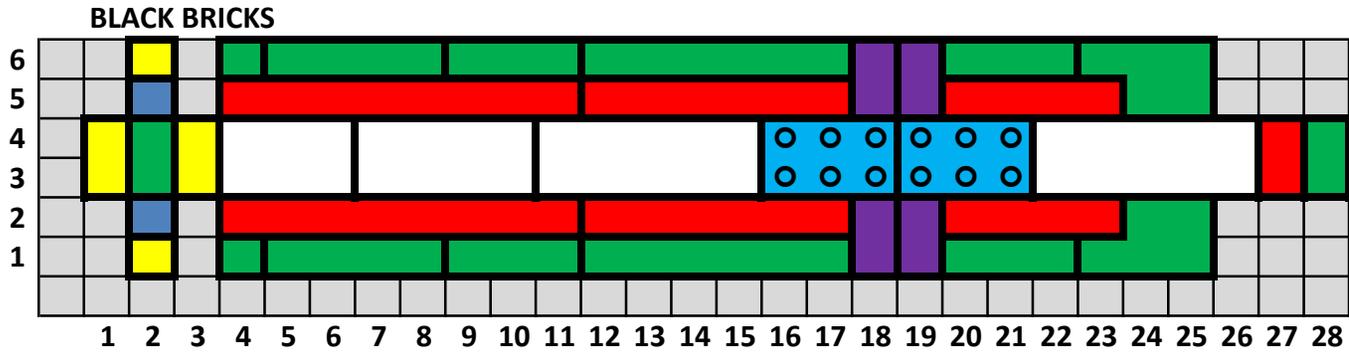
STEP 7: VISUAL REPRESENTATION (Shown in BLACK)



Above image represents actual brick color.

USS Norfolk Model

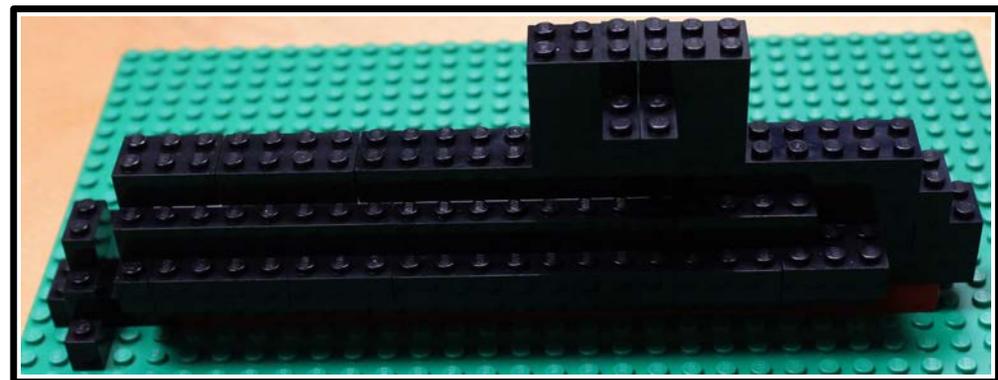
Step 8: Lay down the eighth layer (Black bricks shown in Light Blue)



For this step, you will need:

| BRICKS | BLACK |
|---------------|----------|
| 2x3 | 2 |
| TOTALS | 2 |

STEP 8: VISUAL REPRESENTATION (Shown in BLACK)



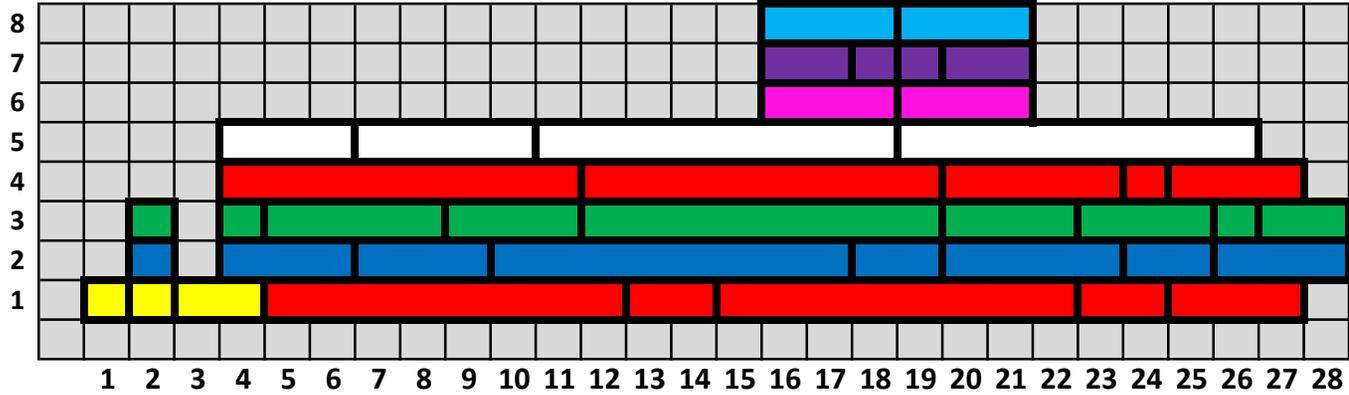
Above image represents actual brick color.

USS Norfolk

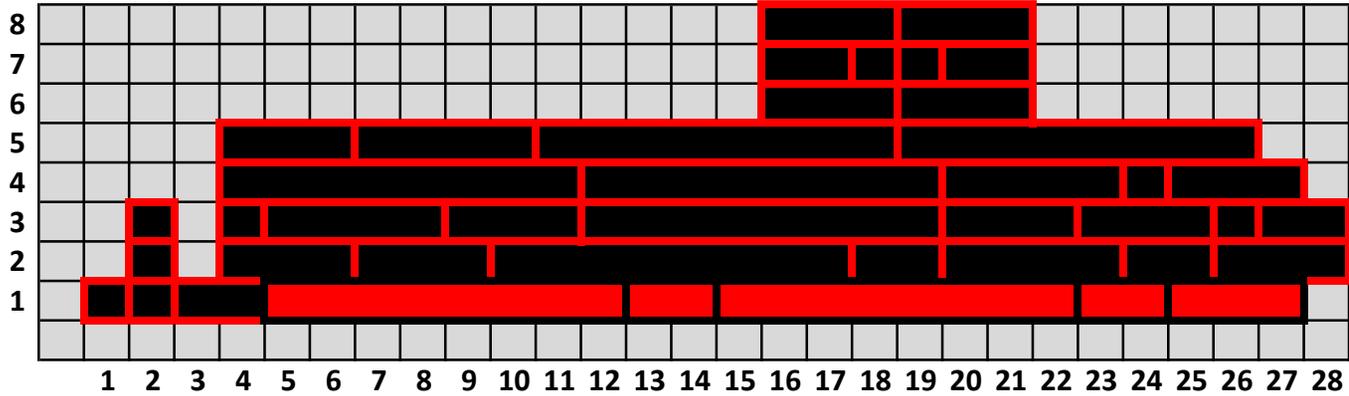
Final Ship Dimensions

NOTE: Figure shown by level, not actual brick color.

SIDE VIEW



FINAL DESIGN



NOTE:
Ship shown in actual brick colors.