

Math – Design a Ship

MATH CONCEPTS INCLUDED

Converting fractions to decimals
Working with scale
Basic multiplication
Basic division

AGE

Grades 6-10. This lesson can also be used with older students in Remedial Math level classes.

TIME ALLOWANCE

Depending on the level of the students this may take 2-3 hours for the math portion, and an additional hour for the ship construction

OBJECTIVES

1. Students will learn what schematic diagrams are, while becoming familiar with the NOAA research vessel Ronald H. Brown
2. Students will use some creativity and design a ship (research, cruise, fishing, etc.)
3. Students will use basic math to calculate square footages (multiplication)
4. Students will draw their ship to scale, and calculate the real life size. All measurements on the drawings must be annotated with the distances reported in inches (fractions and decimals), and their real-world equivalents
5. Students will build models of their ship, based on their drawings

MATERIALS

- Rulers
- Graph paper
- Materials for constructing ships – construction paper, cardboard, glue, scissors
- Schematic diagrams of the Ronald H. Brown NOAA Research Vessel, as an example of how to draw their designs (attached)

INSTRUCTION:

Day 1

Math – Design a Ship

1. Teacher will introduce the concept of models and scale. Teacher will distribute diagrams of the Ronald H. Brown research vessel as examples of what a diagram of a ship might look like.
2. Students will measure distances on the diagrams, and convert them into real life measurements using the scale.

Day 2

3. Students will sketch their own ship, and determine a scale.
4. Annotate all lines in the sketch, indicating the scale measurements and the real world measurements

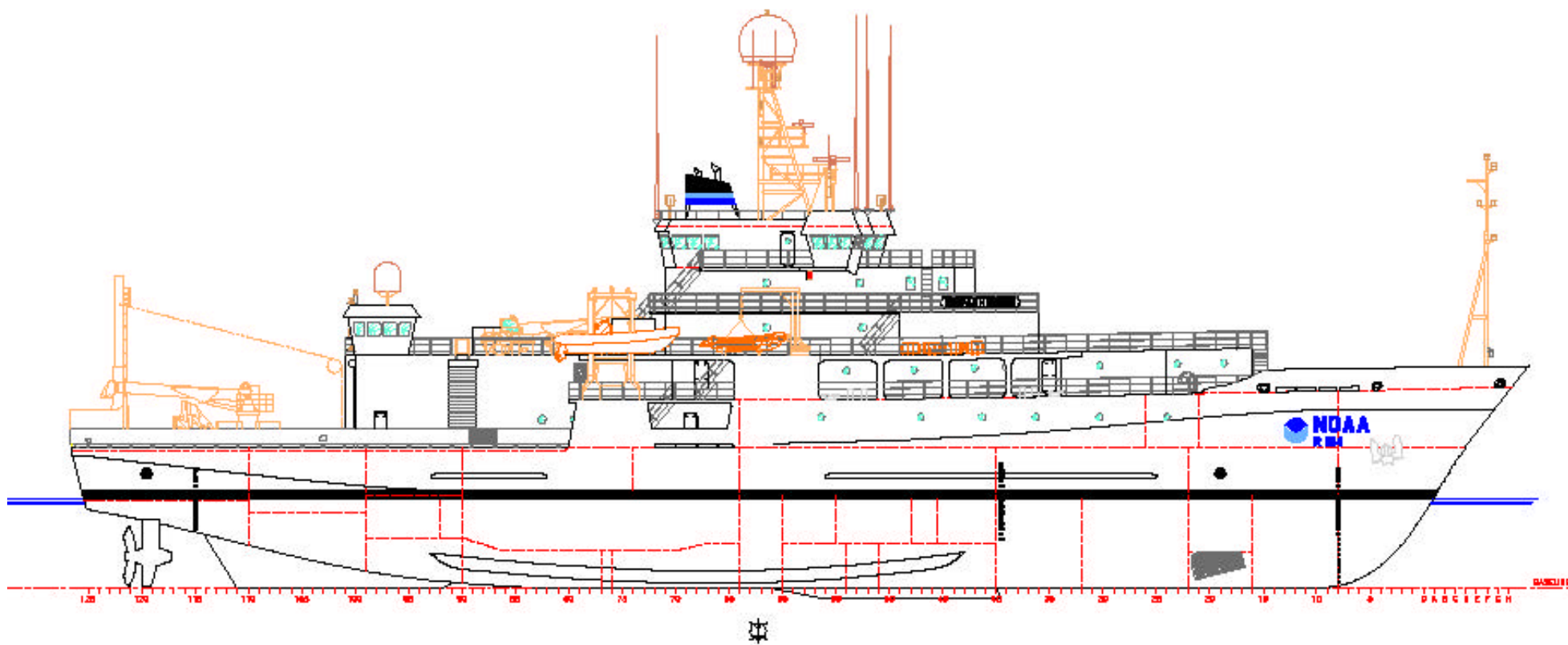
Day 3

5. Build the ship. Students should bring any special materials they need.

EVALUATION / ASSESSMENT

Students turn in drawings, all calculations, and model for grading. Students will be graded on how accurate their model is, compared to their drawings.

NOAA Research Vessel - Ronald H. Brown
<http://www.moc.noaa.gov/rb/>



OUTBOARD PROFILE