Lab Template

Text: CORD
Volume: _____ Chapter: _____
Unit number: __9___ Title of unit: _Ratios and Propotions_____
Developed by *(Include contact information)***: Ryan Seidel**
Date: 6/28/2012

Attach the Following Documents:

1. **Lab Instructions**
2. **Student Handout(s)**
3. **Rubric and/or Assessment Tool**

Short Description (Be sure to include where in your unit this lab takes place):

In this lab students measure objects to find common ratios.

Insert Title Here

LAB PLAN

TEACHER: *(Teacher Prep/Lab Plan)*

- **Lab Objective**
  To calculate ratios and proportions.
- **Statement of prerequisite skills needed** *(Vocabulary, Measurement Techniques, Formulas, etc.)*
  Students need to be able to measure objects, reduce fractions and proportions, and convert measurements.
- **Vocabulary**
  Diameter, Circumference, Proportional, ratio
- **State Standards addressed:** *(Highlight "Green" Standards, you may use your District's Power Standards if applicable)*
  - **Math:** 6.3.A Identify and write ratios as comparison of p-p and p-w, relationships. 6.3.E Identify the ratio of the circumference to the diameter of the circle as the constant pi
  - **Reading:** Students need to be capable of reading technical information to follow lab directions
  - **Writing:** 3.1 Students write clearly and effectively
  - **Leadership:** Students will work together to interpret data about the group and brainstorm predictions about changes to the data.
  - **SCAN Skills/Workplace Skills:** Writing B. Records information completely and accurately. Arithmetic D. Uses tables, graphs diagrams and charts to obtain or convey quantities of information.

- **Teacher Preparation:** *(What materials and set-up are required for this lesson?)*
  - Materials: Various circular objects such as cans, balls, tires ect. Measuring devices, string, lab guide.
  - Set-Up Required: none

- **Lab Organizational Strategies:**
  - Grouping/Leadership/Presentation Opportunities: Students are previously grouped and have group roles assigned to them.
  - Cooperative Learning: Students work together to develop procedures to calculate ratios.
  - Expectations: Students need to be actively engaged in the lab for the effects to work for the whole class. Lack of participation is not acceptable.
  - Time-line: This lab should take one class period including debrief.

- **Post Lab Follow-Up/Conclusions** *(to be covered after student completes lab)*
  - Discuss real world application of learning from lab:
  - Career Applications: Manufacturing, Agriculture, Health Services
  - Optional or Extension Activities: Analysis of sliding or multi-variable ratios such as dosing schedules in medicine.

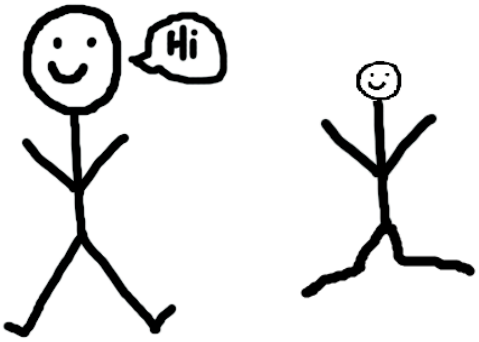
Ratios and Proportions Lab

Name:
Group Role:

Objective: You should be able to calculate ratios and determine if two ratios are proportional.

Are these items proportional? Discuss in your group.

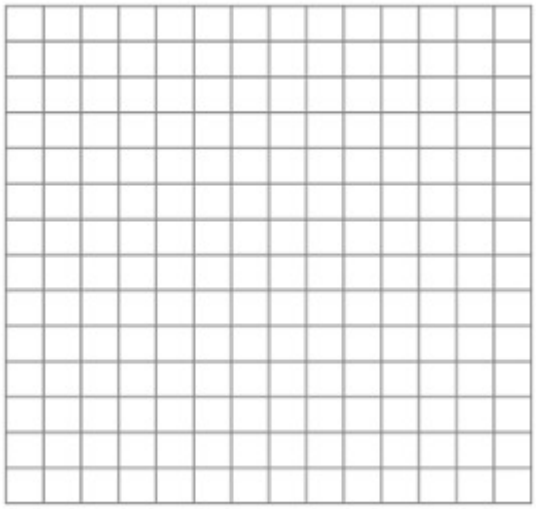
1:5 AND 3.2:16



What Do you think the term proportion means?

Find 5 circular objects in the room. Measure the circumference and the diameter and fill in the table to the right.

Diameter	Circumference	C:D



Create a graph of the data with your diameter on the x axis and the circumference on the y axis.

Add a third column to the table and find the unit rate ratio of the Circumference to the Diameter. What do you notice about the table and the graph? Record some brilliant observations here.