

## Lab Framework

**Text:**CORD Classic

**Unit number and title:**6 Working with Lines and Angles

**Developed by:**Joy Cruz

**Date:**6-26-07

### Lab Title

## Working with Lines and Angles

**Contact Information:** (jcruz@cloverpark.k12.wa.us)

**Short Description:** Student will use origami as a method to demonstrate knowledge of key geometric vocabulary.

### LAB PLAN

**TEACHER:** Teacher Prep/ Lesson Plan

- **Lab Objective**

Student will use origami to demonstrate working knowledge of key geometric vocabulary.

- **Statement of pre-requisite skills needed** (i.e., vocabulary, measurement techniques, formulas, etc.)

Student is able to read and follow written instruction to produce a product.

- **New Vocabulary**

point

line

ray

line segment

angle

measure

perpendicular

parallel

- **Materials List**

Origami instructions

Origami paper

Student lab worksheet

Poster board to mount project (provided by student)

- **GLEs addressed**

Math: 1.2.1 Identify or describe angles in pictures, diagrams, illustrations and in the environment.

1.2.1 Explain and provide examples of how angles are formed.

1.2.4 Determine whether measurement has been done correctly.

1.3.1 Produce a sample scale drawing and explains how it is an example of similarity.

1.3.1 Use mathematical conventions to label vertices, line segments, and angles.

1.3.2 Create a three dimensional scale drawing with particular geometric properties.

4.2.2 Represent mathematical information in graphs or other appropriate forms.

5.3.1 Understand that mathematics is used extensively in daily life outside the classroom.

Reading: 2.1.6 Apply comprehension monitoring strategies for informational and technical materials, complex narratives, and expositions: monitor for meaning, create mental images, and generate and answer questions.

3.2.2 Apply understanding of complex information, including functional documents, to perform a task.

Writing: 1.4 — Edits text.

1.5 — Publishes text to share with an audience.

2.2 — Writes for different purposes.

4.1 — Analyzes and evaluate others' and own writing.

- **Leadership Skills**

**Student will present his/her project at grade level exhibition.**

- **SCAN Skills**

1. Student uses tables, graphs, diagrams, and charts to obtain or convey quantities.

2. Student communicates thoughts, ideas, information, and messages in writing.

3. Student participates in conversation, discussion, and group presentations.

4. Student selects an appropriate model to replicate and responds appropriately as the situation requires.

5. Student monitors progress toward goal attainment and motivates self through goal achievement and supports peer partner.

- **Set-up information**

Students will be given the project guideline and expectations. Each student is responsible for his/her selection of origami animal, as well as, presenting final product on a poster board at the grade level exhibition.

- **Lab organization(-Grouping/leadership opportunities/cooperative learning expectations; -Timeline required)**

\* One week project. Students will have 15 mins each class period, as well as, time at home to complete the project.

Students will be able to pick a peer partner to review and edit work BEFORE assembling his/her poster board. Peer review and edit forms are to be turned in for leadership participation points for this project as part of the scoring rubric.

- **Teacher Assessment of student learning** (scoring guide, rubric)

• 2 = proficient    1 = emerging    0 = developing

• Follows assignment guidelines    2    1    0

• Creates origami animal    2    1    0

• Work and display are legible and neatly presented    2    1    0

• Uses conventions in peer editing process    2    1    0

- **Summary of learning** (to be finished after student completes lab)

-discuss real world application of learning from lab

-opportunity for students to share/present learning

1. Students will practice public speaking (at grade level exhibition) to articulate the process used to complete this problem based activity. 2. Students will have the opportunity to edit and modify work to meet standards (follow rubric guidelines). 3. Students will have the chance to write reflectively in class about the project and self score all aspects of the project.

- **Optional activities**  
Students will design a zoo that includes every student's animal at a later date to incorporate basic architecture and city planning constraints as detailed in the Lakewood ordinances.
- **Career Applications**  
Students can learn about careers that deal with animals and engineering.

## **LAB TITLE: Unit 9: Working with Lines and Angles**

---

### **STUDENT INSTRUCTIONS:**

- **Statement of problem addressed by lab**

You will use origami to demonstrate working knowledge of key geometric vocabulary. You will be able to read and follow written instruction to produce a 3-D product.

- **Grouping instructions and roles**

- \*One week project. You will have 15 mins each class period, as well as, time at home to complete the project.

- 

You will be able to pick a peer partner to review and edit work BEFORE assembling his/her poster board. Peer review and edit forms are to be turned in for leadership participation points for this project as part of the scoring rubric.

There are no partner duplicates. The teacher reserves the right to make changes if a situation so dictates!

- **Procedures** – steps to follow/instructions

You will use the rubric and project guidelines at school and at home to complete your chosen origami animal.

- **Outcome instructions**

You will present your project at your grade level exhibition. As a class we will later create a zoo that houses each of your animals. Our zoo will align with the city of Lakewood's ordinances.

- **Assessment instructions** (peer-teacher)

1. You will be scored by the rubric provided. 2. You will also be expected to write a reflective response about this project. 3. You will complete a project survey that will give me feedback about this project.

## Lab Data Collection

**Student:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Unit:** \_\_\_\_\_

**Lab Title:**

**Criteria:** Write the problem/objective in statement form

**Data Collection:** Record the collected/given data

**Calculations:** Complete the given calculations to solve for an answer(s)

**Summary Statement:**

**Other Assessment(s)**