

# MathStar Research Lesson Plan

**Grade Level:** 9<sup>th</sup>/10<sup>th</sup>

**Instructor:** Marlene Anderson

**Class Time:** 10:15 am

**Location:**

House Municipal School  
309 Apple St.  
House, NM 88121  
Computer Lab.

**Date:** 3/4/02

**# of Students:** 7

**Class Type (check one):**

Regular  SPED  Bilingual/ESL  Other

**Comments:** (*Describe social/ cultural context of school*)

House is a small, rural community with low cultural diversity. There are approximately 80 students k-12<sup>th</sup> grade.

## I. Description of Unit: (*1 to 2 sentences*)

This unit focuses on using ratios and proportions to explore the concept of similarity. Students will use the properties of proportions to prove triangles are similar and solve real-life problems.

### A. How does this lesson fit into the unit?

- **Previously learned concepts** (*What concepts are needed to do this lesson?*)
  - Simplifying ratios
  - Solving Proportions
  - Problem Solving with Proportions
  - Identifying Similar Polygons
  - Identifying Similar Triangles
- **Concepts to be learned in this lesson**
  - Use similarity theorems to prove that two triangles are similar.
  - Use similar triangles to solve real-life problems.
- **Concepts to be used in future lessons**
  - Scale Drawings in real-life situations
  - Dilations

### B. Instructional sequence for unit (*Where does this unit fit in the curriculum for the year?*)

- Exploring ratios
- Comparing rates
- Using ratios
- Setting up and solving proportions
- Geometry and Proportions – Similarity
- Dilations

## II. Plan of the research lesson

### A. Goals of the research lesson: (*What do you want your students to learn in this research lesson?*)

Students will work to discover what makes two triangles similar and will use this knowledge of similar triangles to solve real-life situations.

### B. How does the lesson fit into the overarching lesson study goal?

(*Example of overarching lesson study goal: Students will be confident in their ability to learn.*)

Through the use of the Geometry Sketchpad, students will further discover the concept of similarity, boosting their moral and becoming more confident in their ability to learn and discover new concepts.

**C. Steps of the research lesson:** *(See attached table)*

**D. Things to prepare/materials:**

Computer Lab

Overhead Projection and transparency

Worksheet Grid

Line up measuring tapes and protractors