

DOWNEY UNIFIED SCHOOL DISTRICT  
Instructional Services

**MIDDLE SCHOOL COURSE OUTLINE**

**Course Title:** Math Lab (One Semester)

**Grade Level:** 7

**Prerequisites:** Teacher recommendation

**Course Description:**

*Math Lab* is designed for students who are not achieving the grade level expectancies for pre-algebra (seventh grade math) and require additional mathematics instruction. In this course, students' deficiencies will be identified, and intensive whole class as well as individualized instruction will focus on these areas.

**Student Performance**

**Objectives for this**

**Course:**

Students will:

1. Develop and use reasoning skills.
2. Use mathematics as a tool with which to investigate new math concepts.
3. Collect, organize and interpret data.
4. Develop problem-solving skills.
5. Gain an understanding of numbers and their representations.
6. Develop estimation and approximation skills.
7. Use strategies such as guess and check, make a chart and table, reduce to a simpler problem, find a pattern, and draw pictures to solve problems.
8. Review critical skill areas of mathematics including operations with signed numbers and order of operations.
9. Gain additional understanding of fractions and decimals; use these numbers to solve application problems.
10. Gain additional understanding of ratio, proportion, and percents; use these numbers to solve application problems.
11. Set-up and solve problems involving measurement, perimeter, area, and volume.
12. Plot points on a number line graph and on coordinate ( $x$ - $y$ ) graphs.

## Math Lab – continued

### Instructional Strategies

- A. Lecture, discussion, and demonstration
- B. Written Assignments
- C. Use of instructional computer software (individualized, based on each student's needs as diagnosed.)

### Instructional Units

At the beginning of the course, students are assessed to determine their instructional needs in mathematics. The instruction will be determined based on the students' deficiencies as identified in this assessment. If possible, the teacher should try to cluster the students' needs together and then focus on a key area/topic every week. The week will most likely be structured based upon the access to a computer lab. Days may alternate direct instruction, followed by a day of individualized computer instruction; or each day may include whole group and individualized instruction.

Topics of instruction may include, *but are not limited to*:

- Greatest Common Factor
- Prime and Composite Numbers
- Divisibility Rules
- Least Common Multiple / Lowest Common Denominator
- Place Value
- Order of Operations
- Fractions
  - Simplifying/Reducing
  - Equivalent Fractions
  - Improper Fractions/Mixed Numbers
  - Ordering and Comparing Fractions
  - Operations (+, -, x, ÷) with Fractions
- Decimals
  - Rounding of Decimals
  - Decimal Form to Fraction Form, and *vice versa*
  - Ordering and Comparing Decimals
  - Operations (+, -, x, ÷) with Decimals
- Exponents
- Multiplying and Dividing by Powers of 10

## **Math Lab – continued**

- Problem Solving
- Coordinate Graphs and Ordered Pairs

## **Evaluation**

Student progress will be evaluated by:

- A. Completion and quality of assignments
- B. Attendance
- C. Class participation
- D. Tests / quizzes
- E. Homework

## **Materials and Resources**

Textbook:

Mathematics: Concepts and Skills (Course 2)

Larson, Boswell, Kanold, Stiff

McDougal Littell Publishing Company