

## Interactive Mathematics Program, Year 4

### Course Overview:

<b>Grade Level:</b>	High School
<b>Instructor:</b>	Mrs. Schmitt
<b>Contact Info:</b>	Joanne_Schmitt@csd49.org
<b>Classroom:</b>	Room 115
<b>Class Periods:</b>	4 <sup>th</sup> , 6 <sup>th</sup>
<b>Credit:</b>	1.0 per trimester
<b>Pre-requisite:</b>	Completion of previous coursework with grade of C or better.
<b>Course Description:</b>	

IMP 3 covers the following concepts often found in traditional Algebra 1,2 and Geometry courses:  
Algebra, Geometry, Probability, Graphing, Statistics, Trigonometry.

The focus of the course will be on *thinking* and the development of ideas. Your work will not be evaluated simply on the basis of a percentage of “right” answers but on your ability to explain and justify your work.

### Essential Content, Processes and Skills:

Students will be able to understand and apply concepts and procedures relating to the performance expectations as outlined in the three state Integrated Mathematics Courses.

Students will use appropriate tools for the completion of these tasks. These tools may include, but are not limited to: rulers, protractors, compasses, scientific graphing calculators, websites, applets, web pages, internet searches, Excel, presentation devices, overheads, ...

### Enduring Understanding/Guiding Questions:

Students may explore the following types of questions in their quest for math excellence:

- How do I solve difficult problems?
- What techniques might make these problems easier?
- How is math a universal language?
- How can I demonstrate the relationship between these events?
- How and when can I use technology to make problem-solving easier?
- How and when can I use technology to present solutions to problems?
- When is the “correct” answer not the best solution to the problem?
- Why is the use of rational numbers necessary in our world?
- How can I best show the rate of change in a situation?
- What other ways can I think of to solve this problem?
- How can I state in words what will happen next?
- What role does this play in the unit problem?
- What role does this play in the world around us?
- How can I organize this differently?

To accomplish your goals, you will have to be an active learner, because the book does not teach directly. Your role as a mathematics student will be to experiment, to investigate, to ask questions, to make and test conjectures, and to reflect, and then to communicate your ideas and conclusions both orally and in writing. You will do some of your work in collaboration with fellow students, just as users of math in the “real world” often work in teams.

### Course Assessments:

State/District Required Assessments:

- WASL, Mathematics 1, Mathematics 2, or Mathematics 3 test
- Student Work Samples for 4-yr Portfolio (done in Advisory)

Other possible Assessments may include:

- Selected Response
- Created Response
- Performance/Project
- Personal Communication
- Class Participation
- Student Self-Assessment
- Teacher made Exams and Quizzes
- Homework Completion

**Course Instructional Resources/Technology:**

- **District Approved/Required Materials:** Key Curriculum Press Interactive Mathematics Program, Year 4 (IMP 4)
- **Teacher Resources:**
  - IMP 4 Supplemental/Support Materials
  - Graphing Calculator
  - LCD Projector
  - Computer
  - Document Camera
- **Student Resources:**
  - IMP 4 textbook (loaned out by the instructor)
  - Graphing Scientific Calculator (TI-83, -84 or -89, *not* TI-85 or -86)
  - 5 spiral notebooks or one binder with 5 sections
  - College Ruled Paper
  - Graph Paper
  - Pencil and Blue/Black pen
  - An assortment of colored pencils or pens
  - Protractor
  - Ruler with both inch and centimeter scales

**Course Calendar (tentative):**

Trimester	Units	Unit Exam Date
1: Sept. 8- Dec. 3	1: High Dive 2: The Pollster's Dilemma	1: Oct. 23 2: Dec. 3
2: Dec. 7- Mar. 18	3: Know How 4: The World of Functions 5: Additional Material	3: Jan 8 4: Feb 26 5: Mar. 12
3. Mar. 22- Jun. 18	6: As the Cube Turns Additional Material	6: May 21 Final Exam Jun. 17 Final Project Jun. 18

### Grading System:

The grades for this class are weighted as follows:

Daily class assignments	20%
In-class participation	10%
daily warm up	5%
Tests/quizzes	45%

Extra credit is assigned to the homework category

The grading scales for this class are:

- A 95 to 100
- A- 92 to 94.99
- B+ 89 to 91.99
- B 84 to 88.99
- B- 81 to 83.99
- C+ 78 to 80.99
- C 73 to 77.99
- C- 70 to 72.99
- D+ 67 to 69.99
- D 60 to 66.99
- F 0 to 59.99

### Evidence of Work:

Students will be required to turn in homework daily, participate in class discussions and presentations, turn in a portfolio summary of their work at the end of each unit, complete periodic quizzes and a final exam for each unit. In addition, students will select two pieces of work to put in their 4-year Portfolio (kept with the Advisor) each trimester.

#### **Calvin and Hobbes**

