

# Math/Science 9



## Course Handbook

2021-2022

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# Science and Math 9 course Outline 2021-2022

Springbank Community High School

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Welcome to Science and Math 9 at SCHS! I am very much looking forward to learning with you this year. This is a combined course in which we will complete the requirements for both Science and Math 9. Keeping classes together in this way allows us to study both subjects individually, and also to take advantage of opportunities to enrich our understanding with some combined projects and/or assignments.

Generally, we will work through the curricula one unit (Science) or chapter (Math) at a time, so even though your schedule may say 'Math' for Day one and 'Science' for day two, please consider math and science to be one course, working through topics one by one.

You are required to keep this handbook with you in a binder and to bring it to each class. It contains important information about how your grades are calculated, how you are expected to organize yourself

***We will be placing great emphasis this year on coming to each class prepared. This means that you bring the following with you to every class:***

- A ***binder*** (1.5 inches is ideal) containing loose-leaf paper, graph paper, and section dividers. Your math binder will need to have four sections. Your science binder will need six.
- A ***coiled notebook*** (about 200 pages), kept inside each of your binders. This should be ruled or better yet, grid paper.
- A ***pencil***, a ***pen***, and a ***highlighter***
- A ***calculator***. For math 9, any calculator that can take a square root is acceptable, but an inexpensive scientific calculator is best. Graphing calculators are acceptable for class but cannot be used on the PAT.
- A ***small geometry set*** and a ***set of pencil crayons*** will be useful for some classes. They can be kept in lockers and students will be permitted to get them when necessary.
- Your ***laptop*** will be needed daily

## ***A note about electronics***

- Use electronics appropriately. This includes knowing when to not use them at all. ***Phones are NOT PERMITTED to be used at all*** in the classroom (except in very rare circumstances determined by your teacher) and should be left silent in the bottom of your bag. Laptops are to be closed and away unless they are being used for class work

## ***Homework and Assignments:***

Expect to spend about one half hour per school night working on math and/or science homework, completing assignments, reading your text and going over material from the day's class. Assignments and due dates will be posted on the calendar in the Moodle course and on the Weebly Website. There is no such thing as a school night with no homework! All assignments are to be handed in at the ***beginning of class*** on the day they are due.

***Homework checks*** will occur on a regular basis and recorded in Power School. This is not for marks. It is so your parents can see how often you are or are not completing assigned work.

## ***Lates and Absences:***

Please be on time for class. If you are late, quietly wait at the door until you are let into class. Quizzes will often be given at the beginning of class so if you are late you will have less time to finish. Excessive tardiness will be dealt with by administration if we are unable to resolve the issue. Please inform me as early as possible if you know that you will be absent, so that we can work together to make sure that you keep abreast of your classwork while you are away. ***If you are absent from class it is your responsibility to find out what you missed and to complete all missed work.*** A missed class is not an excuse for not handing in assignments or being prepared for quizzes and tests.

## ***Exams and Quizzes:***

***If you are going to be away for an exam or quiz, you must notify the teacher prior to your absence, by way of a phone call, message, or telling the teacher you will be away.*** If you have been excused you are expected to write the exam the first day you are back in class and it is your responsibility to approach me about it.

***Extra Help:*** Extra help is always available. Please ensure you ask for help in class and/or make an appointment to see me at a mutually convenient time.

# How will we **RISE**?



## **R**esponsibility

- At all times, you are responsible for your own effort and attitude and how you interact with others. Always treat classmates, staff, and our learning space with respect.

## **I**ntegrity

- Be someone who is worthy of trust and admiration.
- Work submitted as your own must be created entirely by you.
- Credit others where credit is due: this includes citing information used in your work and also crediting and thanking those who help you on your way.

## **S**trength

- One of the best ways to learn is to fail. Embrace this, learn, and try again.
- This building is full of caring people. Seek help and support when you need it – from friends, teachers, and counsellors.
- Understand that we all experience stress and problems. How we deal with them and overcome them demonstrates strength in our character.

## **E**xcellence

- Excellence can never be achieved without a foundation of responsibility, integrity, and strength.
- Excellence is PERSONAL excellence. Your personal excellence may look very different than another person's. Set realistic goals and strive to meet them.

## **Outcomes of Study in Math:**

These are the outcomes on which you will be assessed in Math 9. They will be assessed as they appear in the chapters of the *Math Makes Sense 9* textbook.

(dates are approximate and may shift in either direction by a day or two)

### **MA.9.6 - Number**

**MA.9.6.N1** - N1 Understand powers and exponents

**MA.9.6.N2** - N2 Model, explain and apply exponent laws

**MA.9.6.N3a** - N3a Compare and order rational numbers

**MA.9.6.N3b** - N3b Solve problems involving rational numbers

**MA.9.6.N4** - N4 Explain and apply order of operations with exponents

**MA.9.6.N5** - N5 Determine the square root of positive rational square numbers

**MA.9.6.N6** - N6 Determine the approximate square root of positive rational numbers

### **MA.9.7 - Patterns & Relations**

**MA.9.7.PR1** - PR1 Generalize patterns using linear equations

**MA.9.7.PR2** - PR2 Use linear relations to solve problems

**MA.9.7.PR3a** - PR3a Model problems with linear equations

**MA.9.7.PR3b** - PR3b Solve problems with linear equations

**MA.9.7.PR4a** - PR4a Model problems with linear inequalities

**MA.9.7.PR4b** - PR4b Solve problems with linear inequalities

**MA.9.7.PR5** - PR5 Demonstrate understanding of polynomials up to degree of 2

**MA.9.7.PR6** - PR6 Add and subtract polynomial expressions

**MA.9.7.PR7** - PR7 Multiply and divide polynomial by monomial

### **MA.9.8 - Shape & Space**

**MA.9.8.SS1** - SS1 Use circle properties to solve problems

**MA.9.8.SS2** - SS2 Find surface area of composite 3D objects to solve problems

**MA.9.8.SS3** - SS3 Show understanding of similarity of polygons

**MA.9.8.SS4** - SS4 Draw and interpret scale diagrams 2D shapes

**MA.9.8.SS5** - SS5 Show understanding of line & rotational symmetry

### **MA.9.9 - Statistics & Probability**

**MA.9.9.SP1** - SP1 Describe effects on collection of data

**MA.9.9.SP2** - SP2 Select and defend choice of population or sample

**MA.9.9.SP3** - SP3 Plan, collect, display and analyse data

**MA.9.9.SP4** - SP4 Understand role of probability in society

You will be assigned a level of achievement according to the results on your quizzes, exams and projects. Your level of achievement is based on the percentage you get correct on each assessment. The levels of achievement correlate to the percentages as follows:

- Mastery (90 – 100%)
- Advancing (80 - 89%)
- Progressing (70 – 79%)
- Emerging (60 – 69%)
- Beginning (50 – 59%)
- Limited (25 – 49%)
- No Mark (0 – 24%)

**Your Grade in math will be determined as follows:**

#### **Outcomes:**

Assessed by Quizzes /Assignments / Projects/Chapter Tests/Section Exams

85%

#### **Assessment of Learning 15%, comprised of:**

Final Exam

15%

## Math Grade Records:

It is important to keep on top of your learning and to understand how your grades are calculated in high school! Outcomes are worth 85% of your final grade in math. You will be assessed on 25 different outcomes listed on the previous page.

Your Math outcomes will be grouped as follows. The dates of each assessment are approximate and may shift a couple of days in either direction.

### Section 1

Associated Chapters	Outcomes	Topic Quiz Dates	Chapter Test Dates	Section Exam Date(s)
Chapter 3	MA.9.6.N3a	September 17	September 24	November 25 - 26
	MA.9.6.N3b	September 22		
Chapter 7	MA.9.8.SS2	October 1	October 13	
	MA.9.8.SS3			
	MA.9.8.SS4			
	MA.9.8.SS5	October 6		
Chapter 2	MA.9.6.N1	November 16	November 23	
	MA.9.6.N4			
	MA.9.6.N2	November 19		

### Section 2

Associate Chapters	Outcomes	Topic Quiz Dates	Chapter Quiz Dates	Section Exam Date(s)
Chapter 5	MA.9.7.PR5	January 12	January 19	March 23 - 24
	MA.9.7.PR6			
	MA.9.7.PR7			
Chapter 6	MA.9.7.PR3a	January 24	February 2	
	MA.9.7.PR3b			
	MA.9.7.PR4a	January 28		
	MA.9.7.PR4b			
Chapter 4	MA.9.7.PR1	March 11	March 21	
	MA.9.7.PR2	March 16		

### Section 3

Associated Chapters	Outcomes	Topic Quiz Dates	Chapter Quiz Dates	Section Exam Date(s)
Chapter 1	MA.9.6.N5	April 27	May 4	June 9 (- 10)
	MA.9.6.N6	May 2		
Chapter 8	MA.9.8.SS1	May 10	May 13	
Chapter 9	MA.9.9.SP4	June 3	June 7	
	MA.9.9.SP1			
	MA.9.9.SP2			
	MA.9.9.SP3	Project: ~ Due June 8		

You will be assigned a level of achievement according to the results on your quizzes, exams and projects. Your level of achievement is based on the percentage you get correct on each assessment. The levels of achievement correlate to the percentages as follows:

- Mastery (90 – 100%)
- Advancing (80 - 89%)
- Progressing (70 – 79%)
- Emerging (60 – 69%)
- Beginning (50 – 59%)
- Limited (25 – 49%)
- No Mark (0 – 24%)

You will be assessed on each outcome 3 times in the following manner: topic quizzes, chapter tests and section exams comprised of 3 chapters on one exam. The 2 most recent “marks” will be used to calculate your grade.

Your midterm will cover all the topics to date and may be used to replace your lowest outcome score up to that date.

Record your Math “grades” here:

Quizzes, exams and projects are worth 85% of your final grade in Math. Record them and your marks below:

Outcome	Level of Achievement		
	Assessment 1	Assessment 2	Assessment 3
MA.9.6.N1			
MA.9.6.N2			
MA.9.6.N3a			
MA.9.6.N3b			
MA.9.6.N4			
MA.9.6.N5			
MA.9.6.N6			
MA.9.7.PR1			
MA.9.7.PR2			
MA.9.7.PR3a			
MA.9.7.PR3b			
MA.9.7.PR4a			
MA.9.7.PR4b			
MA.9.7.PR5			
MA.9.7.PR6			
MA.9.7.PR7			
MA.9.8.SS1			
MA.9.8.SS2			
MA.9.8.SS3			
MA.9.8.SS4			
MA.9.8.SS5			
MA.9.9.SP1			
MA.9.9.SP2			
MA.9.9.SP3			
MA.9.9.SP4			

\*\* Marks will be posted on Powerschool. It is your responsibility to check Powerschool regularly and keep track of your grades. Be sure to talk to me immediately if you notice any issues or are missing a mark that you think that you have handed in.

## **Topics of Study in Science:**

**\*\*Note:** *units will not be studied in the same order as presented in the textbook*

### **Unit 1: Biological Diversity – Unit Exam November 8**

Key concepts in this unit will include:

- Biological Diversity, Species concept, diversity within species
- Habitat diversity, populations and niches
- Sexual and Asexual reproduction, inheritance, chromosomes and cell division
- Natural and Artificial Selection

### **Unit 2: Matter and Chemical Change – Unit Exam January 5**

Key topics in this unit will include:

- WHMIS and safety
- Substances and properties
- Endothermic and exothermic reactions, reactants and products, conservation of mass, reaction rates
- Atomic theory and the periodic table
- Introduction to chemical nomenclature

### **Unit 3: Space Exploration – Unit Exam March 2**

Key concepts in this unit will include:

- Technologies for space observation and exploration, satellites and orbits
- Describing position and motion in space
- Distribution of matter and composition and characteristics of bodies in space
- Life support and communication technologies

### **Unit 4: Electrical Principles and Technologies – Unit Exam April 14**

Key topics in this unit will include:

- Forms of energy and transformation of energy
- Generation, storage, and transmission of electrical energy
- Electric charge and current, circuits
- Measures and units of electrical energy
- Electrical Resistance and Ohm's Law

### **Unit 5: Environmental Chemistry – Unit Exam December 2**

Key topics in this unit will include:

- Chemicals essential to life, substrates and nutrients
- Air and water quality, hazards, probabilities, and risk assessment, evidence of toxicity
- Organic and inorganic materials
- Acids and bases
- Concentration, Dispersal, stability and biodegradability

### **Your Grade in Science will be determined as follows:**

Formative Assessment (Homework Checks)	0%
Quizzes, Labs and Projects	45%
Labs	5%
Projects	15%
Quizzes	25%
Unit Exams	40%
Final Exam	15%



