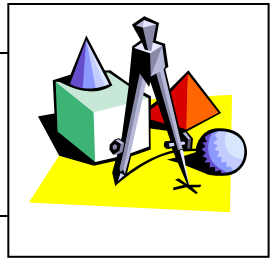
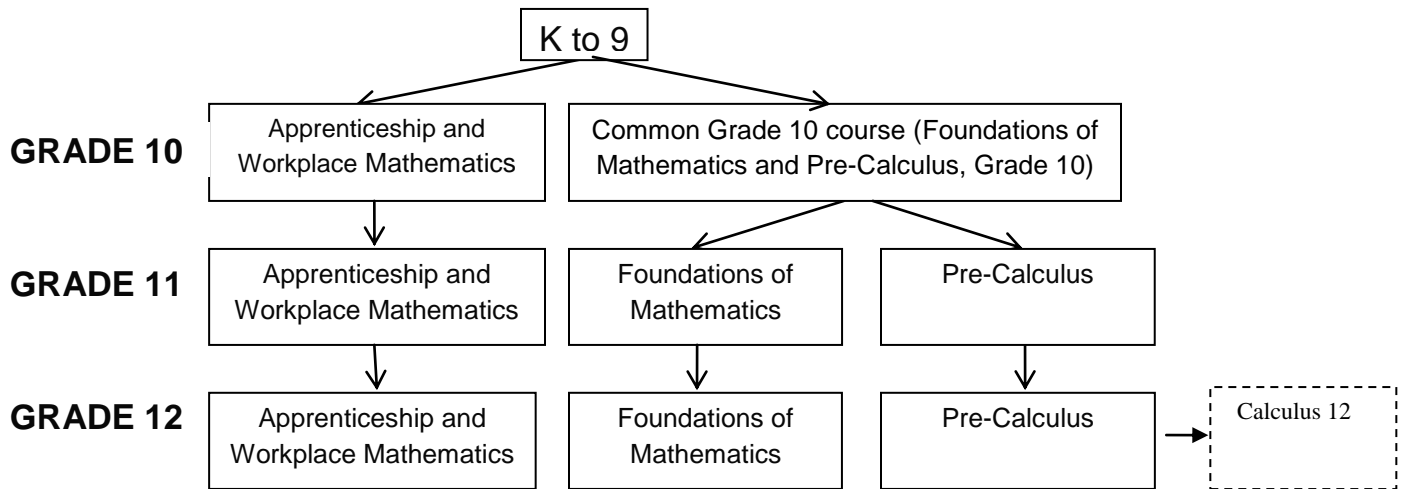


# MATHEMATICS 10-12 PATHWAYS / COURSE SELECTION



- The new courses have been designed in consultation with post-secondary institutions and industry. The goals of all three pathways are to provide prerequisite attitudes, knowledge, skills and understandings for specific post-secondary programs or direct entry into the work force.
- Students entering Math 10 in September 2010 or later will be choosing courses from the following pathways:



- All three pathways provide students with mathematical understandings and critical-thinking skills.

## Apprenticeship and Workplace Mathematics

- For entry into the majority of trades and direct entry into the work force.

## Foundations of Mathematics

- For entry into post-secondary studies that do not require the study of theoretical calculus.

## Pre-Calculus Mathematics

- For entry into post-secondary studies that require the study of theoretical calculus.
- It is strongly recommended students in this pathway also take **Calculus 12**.




*By choosing their pathway carefully, students will be better able to pursue mathematical learning that is suited to their current interests and future plans. It is a step towards ending the age-old complaint "when are we ever going to use this stuff?"*

# ACADEMIC REVIEW OF GRADE 8/9/10 MATHEMATICS CURRICULUM

- The aims of the following tables are to have students work with their teachers to reflect on their learning from math 8 and 9, then identify their areas of strength and personal interest.
- By identifying particular skills and topics that lead into outcomes emphasized in the upcoming grade 10 courses, we hope to support students and parents in making a decision about which mathematics pathway best suits a child's interests and strengths.

## RECOGNIZING STUDENT STRENGTHS AND INTERESTS:

- Using information provided by your teacher write your % for each concept in the table
  - concepts that are not included in the tables are those that lead into both math pathways
- Identify how interested you are in the concept:
 

 LIKE
 NEUTRAL
 DISLIKE

Like neutral dislike	(Chapter) Concepts <small>Text: MathLinks chapter references</small>	(%)		Like neutral dislike	(Chapter) Concepts <small>Text: MathLinks chapter references</small>	(%)
<b>MATH 8</b>						
	(Ch4) Understanding Percent				(Ch6) Fraction Operations	
	(Ch5) 3-D Objects, Nets, Surface Area				(Ch9) Linear Relations	
	(Ch7) Volume				(Ch10) Solving Linear Equations	
<b>MATH 9</b>						
	(Ch1) Symmetry and Surface Area				(Ch3) Powers and Exponents	
	(Ch4) Scale Factors and Similarity				(Ch7) Multiplying and Dividing Polynomials	
	(Ch10) Circle Geometry				(Ch 8) Solving Linear Equations	

	<b>← AVERAGES →</b>	
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The average on the left hand side represents **Apprenticeship & Workplace** related outcomes

	<b>← AVERAGES →</b>	
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The average on the right hand side represents **Foundations and Pre-Calculus** related outcomes

- For questions #3-5 below please circle YES or NO

- 3) Do you need more time to think and understand new or difficult math concepts? YES NO
- 4) Do you find it difficult to complete math homework assignments on time due to extra curricular commitments or a job? YES NO
- 5) Do you often see your math teacher outside of regular class time for extra help? YES NO

### LOOKING AHEAD TO THE GRADE 10 CURRICULUM

- The table below lists a basic description of the topics for each grade 10 course
- Both math 10 courses have a provincial exam at the end. <http://www.bced.gov.bc.ca/exams/>
- You may find it helpful to check off concepts below that are of interest to you.

<p style="text-align: center;"><b>Apprenticeship and Workplace Mathematics 10</b></p>	<p style="text-align: center;"><b>Foundations of Mathematics and Pre-Calculus 10</b></p>
<ul style="list-style-type: none"> <li>○ SI and imperial measurements</li> <li>○ Unit conversions</li> <li>○ Problems with linear and area measurements of 2-D shapes and 3-D objects</li> <li>○ Spatial reasoning and problem-solving strategies</li> <li>○ Similarity of polygons (comparing side lengths and angles)</li> <li>○ Trigonometry using Sin, Cos, Tan ratios</li> <li>○ Angle geometry</li> <li>○ Unit pricing and currency exchange</li> <li>○ Income calculations, such as wages, salary, commission, piecework</li> <li>○ Pythagorean Theorem</li> <li>○ Formula manipulation and application in topics above</li> </ul>	<ul style="list-style-type: none"> <li>○ SI and imperial measurements</li> <li>○ Unit conversions</li> <li>○ Surface area and volume of 3-D objects problems</li> <li>○ Factors of whole numbers (Prime factors, GCF, LCM, square and cube roots)</li> <li>○ Simplifying irrational numbers</li> <li>○ Radical numbers</li> <li>○ Powers with integral and rational exponents</li> <li>○ Multiplying and factoring polynomial expressions</li> <li>○ Domain and range of data, graphing functions and relations</li> <li>○ Linear relations and slope; equations of lines</li> <li>○ Function notation</li> <li>○ Solve systems of linear equations (graphically and algebraically)</li> </ul>

- Further information about each pathway can be found at: [http://www.bced.gov.bc.ca/irp\\_math.htm](http://www.bced.gov.bc.ca/irp_math.htm)

*Based on the academic and curriculum information in this section of the handout, we hope you are starting to get a better idea about which pathway might be the right choice for you! Continue on to the career interest survey to get a better idea.*

# CAREER INTEREST SURVEY

## HOW TO USE THIS SURVEY:

- 1) Check **ALL** the circles in each section that best describes you and what you like to do.
- 2) Then count up the total number of circles checked in each section.
- 3) Write the total in each box at the bottom of each section where it says "Total # checked".

### GROUP 1

#### Activities that sound interesting to me are:

- Teaching people how to stay healthy
- Taking care of sick people or animals
- Working in a fast paced environment
- Responding to emergencies
- Working as a member of a team

#### Personal qualities that describe me are:

- Compassionate and Caring
- Good listener
- Good at following directions
- Conscientious and careful
- Patient

#### In my free time I enjoy:

- Volunteering in a hospital or shelter
- Taking care of pets
- Working at being healthy

#### School subjects that I enjoy or do well in:

- Math
- Science (biology, chemistry)
- Physical Education

Group 1

Total # shaded =

### GROUP 2

#### Activities that sound interesting to me are:

- Predicting earthquakes
- Planning or designing using technology
- Doing experiments or research in a lab
- Putting together or building things
- Explaining patterns or drawing graphs

#### Personal qualities that describe me are:

- Like to solve problems
- Observant
- Practical
- Like using my hands
- Precise or good at following directions

#### In my free time I enjoy:

- Gaming (playing or designing)
- Experimenting
- Figuring out how things work

#### School subjects that I enjoy or do well in:

- Math
- Biology
- Physics (electricity, motion)

Group 2

Total # shaded =

### GROUP 3

**Activities that sound interesting to me are:**

- Reading or writing stories or articles
- Creating scenery for or acting in plays
- Designing advertisements
- Taking photographs
- Listening to or playing music

**Personal qualities that describe me are:**

- Imaginative or creative
- Outgoing
- Like using my hands to create things
- Performer
- Patient

**In my free time I enjoy:**

- Painting pictures or drawing
- Organizing things
- Writing

**School subjects that I enjoy or do well in:**

- Choir/chorus/band
- Creative writing or public speaking
- Art or Drama

**Group 3**

Total # shaded =

### GROUP 4

**Activities that sound interesting to me are:**

- Growing plants
- Raising animals
- Using tools or operating machines
- Putting together or building things
- Protect the environment / nature

**Personal qualities that describe me are:**

- Like to solve problems
- Observant
- Pays attention to detail or follows instructions
- Like using my hands
- Logical thinker

**In my free time I enjoy:**

- Being physically active
- Being in the outdoors
- Figuring out how things work

**School subjects that I enjoy or do well in:**

- Math
- Art/Sculpture
- Science (geology, biology)

**Group 4**

Total # shaded =

## GROUP 5

**Activities that sound interesting to me are:**

- Interviewing people
- Using office equipment or computers
- Making forms or banners
- Working with money
- Being in charge of a group project

**Personal qualities that describe me are:**

- Practical
- Independent or motivated
- Organized or efficient
- Like to work with others people
- Patient

**In my free time I enjoy:**

- Using computers to create things
- Organizing things
- Planning activities

**School subjects that I enjoy or do well in:**

- Computers
- Language Arts
- Math

**Group 5**

Total # shaded =

## GROUP 6

**Activities that sound interesting to me are:**

- Helping people solve problems
- Working with children or others
- Planning a meal
- Being outdoors
- Being a leader

**Personal qualities that describe me are:**

- Friendly
- Open
- Outgoing
- Good at making decisions
- Good listener

**In my free time I enjoy:**

- Tutoring/babysitting children
- Helping with a community project
- Coaching kids in a sport

**School subjects that I enjoy or do well in:**

- Language Arts
- History
- School government/leadership

**Group 6**

Total # shaded =

**CAREER INTERESTS SUMMARY:** Transfer your totals for each group number into the table below

Group number	Total Points	Subject Area
Group 1		Health & Medicine
Group 2		Science, engineering & Technology
Group 3		Arts & Communication
Group 4		Trades & agriculture
Group 5		Business & Management
Group 6		Public Service

## GRADUATION REQUIREMENTS & POST SECONDARY ADMISSIONS

- To graduate, all students must complete a grade 10 mathematics course as well as another math course at the grade 11 or 12 level. <http://www.bced.gov.bc.ca/graduation/>

Sample Future Plans	Most Relevant Coursework
<ul style="list-style-type: none"> <li>Technical College</li> <li>Trade School</li> <li>Direct Entry into Workforce</li> </ul>	Apprenticeship and Workplace Mathematics 10-12
<ul style="list-style-type: none"> <li>Math</li> <li>Science</li> <li>Engineering</li> <li>Medicine</li> <li>Commerce</li> </ul>	Foundations of Mathematics and Pre-Calculus 10 <i>followed by</i> Pre-Calculus 11 and 12 <i>followed by</i> Calculus 12
<ul style="list-style-type: none"> <li>Social Sciences</li> <li>Humanities</li> <li>Fine Arts</li> <li>Undecided</li> </ul>	Foundations of Mathematics and Pre-Calculus 10 <i>followed by</i> Foundations of Mathematics 11 and 12

- Students may need to take courses from more than one math pathway to satisfy certain post-secondary program entrance requirements.
- Students, parents, and educators are encouraged to research the admission requirements for post-secondary programs of study as they vary by institution and by year. For specific program requirements, you should contact the specific institution you are interested in or search for specific program requirements using Education Planner's website <http://www.educationplanner.ca>

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### USEFUL LINKS

Education Planner: <http://www.educationplanner.ca/>

BC Ministry of Education: <http://www.gov.bc.ca/bced/>

BC Ministry of Education Graduation Requirements: <http://www.bced.gov.bc.ca/graduation/>

BC Ministry of Education Provincial Exams: <http://www.bced.gov.bc.ca/exams/>

Math Curriculum Document: [http://www.bced.gov.bc.ca/irp/irp\\_math.htm](http://www.bced.gov.bc.ca/irp/irp_math.htm)

BC Association of Math Teachers: <http://bctf.ca/bcamt/>

***"Which math course is best-suited to my child?"***

*While there is no "rule" about which math course is right for each student, the decision can be made easier by considering your child's areas of strength in Math 8 and 9, current interests, and future plans (education and career). Please take the time to review your responses, do some research, and ask questions before making your decision.*

*These math courses have been designed to improve student engagement and success in math during their high school years. Ideally, the course choices made in high school will also reflect a student's post-secondary interest. If a student reaches post-secondary and requires a different math pathway, almost all colleges (and some universities) offer the required high school level math courses for upgrading.*

**COURSE RECOMMENDATION / CHOICE**

	Look at evidence to support your choice	AW 10 and/or FPC 10
<b>Strengths</b>	p.2 Table: AVERAGES → %	
<b>Interests</b>	p.2 Table: like, neutral dislike ← AVERAGES p.3 Table: Looking Ahead to the Gr.10 curriculum	
<b>Career or Future plans</b>	p.6 Table: Career Interest Summary p.7 Table: Sample Future Plans & Relevant Course Work	
<b>Student:</b> _____		
<b>Math Teacher:</b> _____		

***THOUGHTS, COMMENTS, QUESTIONS AND CONCERNS:***

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