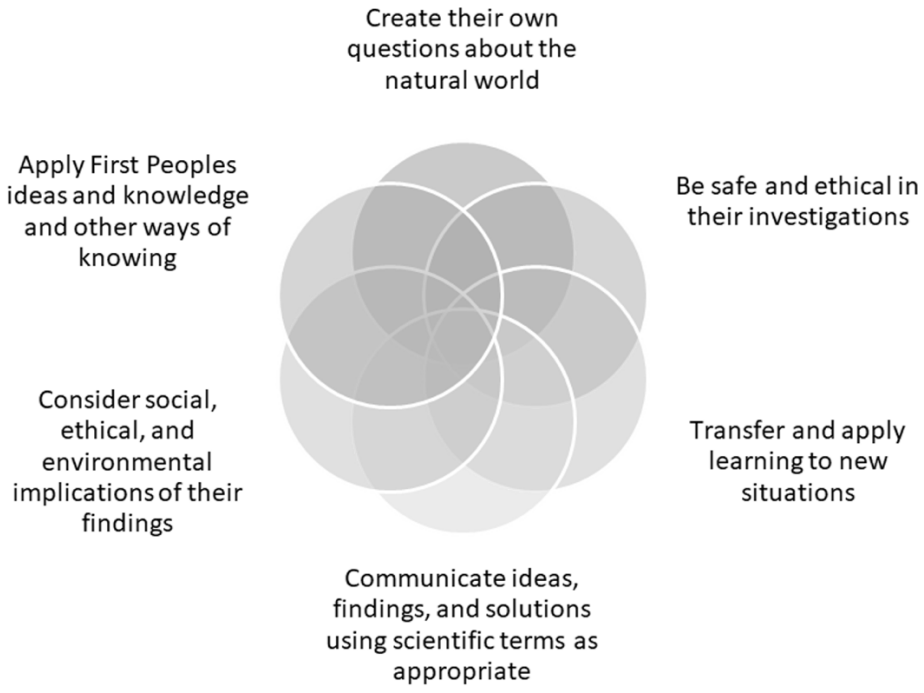
Workplace Math 10 Course Outline

Material Covered:

Workplace Mathematics 10 is designed to develop practical math skills that apply to everyday life, employment, and future training. The course begins with **Measurement and Conversion**, where students work with both the metric and imperial systems, practice converting between them, and estimate real-world lengths. In **Area and Volume**, students explore shapes, perimeter, and area, use nets to build objects, and calculate surface area and volume. The **Data and Probability** unit introduces chance and uncertainty, covering independent and dependent events, experimental versus theoretical probability, and measures of central tendency such as mean, median, and mode. In **Creating and Interpreting Graphs**, students learn to represent and analyze data using bar graphs, histograms, line graphs, circle graphs, and pictographs or infographics. The **Trigonometry** unit builds problem-solving skills with right triangles, including the Pythagorean Theorem, trigonometric ratios, and finding missing sides or angles. Finally, **Financial Literacy** helps students understand income, gross pay, deductions, and net pay. Throughout the course, emphasis is placed on applying mathematics to real-world situations, developing confidence, and strengthening problem-solving skills.

These are the Curricular Competencies for the course:



Textbook:

No textbook is required for this course.

Course Design:

This course is designed to support independent student learning without the use of a textbook. Each unit includes clear instructional notes, guided practice, and worksheets that allow students to build skills step by step. Quizzes are provided at the end of each unit to check understanding, while projects are integrated throughout the course to connect mathematics to real-world applications and problem solving. To measure overall progress, students complete two cumulative exams: one at the halfway point and one at the end of the course. The combination of practice, projects, quizzes, and cumulative assessments ensures that students are both developing their skills and applying them independently in meaningful contexts.

Grading:

Your understanding in this course will be assessed through both practice and testing. Worksheets, worth 40% of your grade, give you the chance to show your learning as you work through the material and build your skills. Projects, worth 20%, give you the chance to apply math concepts in creative and practical ways. Quizzes and cumulative exams, each worth 20%, allow you to show how well you can apply the information that you have retained over time. Together, these four parts provide a clear picture of your progress and understanding.

Measurement and Conversion

Goal:

To build confidence in using both the metric and imperial systems and to develop accuracy in converting and estimating measurements in real-world contexts.

Objectives:

By the end of this unit, you should be able to:

- identify and use metric and imperial units of length
- convert between metric and imperial systems accurately
- apply conversion strategies in practical situations
- make reasonable estimates of metric and imperial lengths

What to Do in this Unit:

- Ask your teacher for the Unit 1 Notes and Worksheet and complete all the work as directed there.
- When you are ready, submit your worksheet for Unit 1 to your teacher for marking.
- Ask your teacher for the Unit 1 Quiz and hand in once complete.

Area and Volume

Goal:

To strengthen spatial reasoning by working with perimeter, area, surface area, and volume, and by constructing and analyzing 3D objects from nets.

Objectives:

By the end of this unit, you should be able to:

- calculate perimeter and area of common shapes
- use nets to create and analyze 3D objects
- determine the surface area of prisms and cylinders
- calculate the volume of prisms and cylinders in real-life problems

What to Do in this Unit:

- Ask your teacher for the Unit 2 Notes and Worksheet and complete all the work as directed there.
- When you are ready, submit your worksheet for Unit 2 to your teacher for marking.
- Ask your teacher for the Unit 2 Quiz and hand in once complete.
- Ask you teacher for Project #1: Room Design. Submit for marking once complete.

Data and Probability

Goal:

To develop an understanding of probability and data analysis in order to make predictions, assess risk, and interpret information.

Objectives:

By the end of this unit, you should be able to:

- describe and calculate probability in real-life situations
- distinguish between independent and dependent events
- compare experimental and theoretical probability
- calculate and interpret measures of central tendency (mean, median, mode)

What to Do in this Unit:

- Ask your teacher for the Unit 3 Notes and Worksheet and complete all the work as directed there.
- When you are ready, submit your worksheet for Unit 3 to your teacher for marking.
- Ask your teacher for the Unit 3 Quiz and hand in once complete.
- Ask your teacher for Cumulative Exam #1 (Units 1-3). Hand in to your teacher when complete.

Creating and Interpreting Graphs

Goal:

To represent and analyze data using a variety of graphs and visuals, and to interpret information presented in multiple formats.

Objectives:

By the end of this unit, you should be able to:

- construct bar graphs, histograms, line graphs, and circle graphs
- read and interpret data from different graph types
- create and analyze pictographs and infographics
- choose appropriate graph types to represent given data

What to Do in this Unit:

- Ask your teacher for the Unit 4 Notes and Worksheet and complete all the work as directed there.
- When you are ready, submit your worksheet for Unit 4 to your teacher for marking.
- Ask your teacher for the Unit 4 Quiz and hand in once complete.

Trigonometry

Goal:

To apply the Pythagorean Theorem and trigonometric ratios to solve problems involving right triangles in practical situations.

Objectives:

By the end of this unit, you should be able to:

- apply the Pythagorean Theorem to find missing side lengths
- use trigonometric ratios (sine, cosine, tangent) to solve problems
- calculate missing angles in right triangles
- solve real-world problems involving right triangles

What to Do in this Unit:

- Ask your teacher for the Unit 5 Notes and Worksheet and complete all the work as directed there.
- When you are ready, submit your worksheet for Unit 5 to your teacher for marking.
- Ask your teacher for the Unit 5 Quiz and hand in once complete.

Financial Literacy

Goal:

To understand how income and deductions affect earnings and to build skills in interpreting pay information for workplace readiness.

Objectives:

By the end of this unit, you should be able to:

- describe different types of income
- calculate gross pay, including regular and overtime wages
- identify common deductions from pay
- calculate net pay and interpret pay statements

What to Do in this Unit:

- Ask your teacher for the Unit 6 Notes and Worksheet and complete all the work as directed there.
- When you are ready, submit your worksheet for Unit 6 to your teacher for marking.
- Ask your teacher for the Unit 6 Quiz and hand in once complete.
- Ask you teacher for Project #2: Living Large. Submit for marking once complete.
- Ask your teacher for Cumulative Exam #2 (Units 4-6). Hand in to your teacher when complete

Congratulations, you have finished Workplace Math 10!