

Center for Occupational Research and Development

Applied Mathematics Units 1-33

TASK/COMPETENCY	ENABLING OBJECTIVE/ EARNING ACTIVITY	LEGO Dacta PRODUCTS
Unit 1. Learning Problem Solving Techniques	1. Read a problem and decide what is given and what is to be found. 2. Develop a plan for solving the problem. 3. Carry out your plan to solve the problem. 4. Check the answer and decide if it is reasonable.	Motorized Machines #917, #1032 #9608, #9607 #9753 Computer Control #958, #968 #942, #943 #9753
Unit 2. Estimating Answers	1. Make rough estimates. 2. Round and truncate whole numbers to a given number of digits. 3. Round and truncate decimal numbers to a given number of digits. 4. Estimate answers to problems that involve several steps. 5. Check the answers to problems to make sure they are reasonable.	Motorized Machines #917, #1032 #9608, #9607 Computer Control #958, #968 #942, #943
Unit 3. Measuring in English and Metric Units	1. Use the common measurement units for length... and weight (mass) in the English system. 2. Use the common measurement units for length... and weight (mass) in the metric system. 3. Convert measurement units from one form to another and carry out calculations that involve various measurement units. 4. Read measurements taken with common measuring tools. 5. Use tools to measure quantities and solve problems that involve these measurements.	Computer Control #958, #968
Unit 4. Using Graphs, Charts, and Tables	4. Read and draw line graphs. 5. Interpolate readings on a graph.	Computer Control #942, #943
Unit 5. Dealing with Data	1. Recognize a problem that needs more data. 2. Collect the data you need	#944, #945 Motorized Machines

	to solve a problem.	#917, #1032
	3. Organize the data to help you solve the problem.	#9608, #9607
	4. Interpret or use that data so you can solve the problem.	
Unit 6. Working with Lines and Angles	3. Calculate the circumference and area of circles.	Computer Control #958, #968 #942, #943
	4. Solve work-related problems that involve common figures.	#944, #945
Unit 7. Working with Shapes in Two Dimensions	2. Calculate the perimeter and area of common figures.	Computer Control #958, #968
	3. Calculate the circumference and area of circles.	#942, #943 #944, #945
	4. Solve work-related problems that involve common figures.	
Unit 9. Using Ratios and Proportions	1. Read and interpret ratios.	Motorized Machines #917, #1032
	2. Compare ratios.	#9608, #9607
	3. Recognize and write proportions from given information.	Computer Control #958, #968 #942, #943
	4. Distinguish between direct and indirect relationships.	#944, #945
	5. Solve proportions in practical, work-related problems.	
Unit 10. Working with Scale Drawings	1. Read and use the scale of a drawing.	Computer Control #958, #968
	3. Find distances and directions on land maps.	
Unit 11. Using Signed Numbers and Vectors	1. Identify signed numbers.	Computer Control #958, #968
	2. Find the absolute value of signed numbers.	#942, #943
	3. Combine signed numbers.	
Unit 13. Precision, Accuracy, and Tolerance	1. Distinguish between counting and measuring, and between precision and accuracy.	Computer Control #958, #968 #942, #943
	2. Read and write measurements to show precision.	
	4. Use significant digits to indicate the accuracy of a measurement.	
	5. Use precision tools to make measurements.	
	6. Calculate with measurements and round the results.	
Unit 15. Using Formulas to Solve Problems	1. Read and write a formula.	Motorized Machines #917, #1032
	2. Rearrange the parts of a	

	formula to fit your problem. 3. Substitute values into the formula and find an answer.	#9608, #9607 #9753 Computer Control #958, #968 #942, #943 #9753 Motorized Machines #917, #1032 #9608, #9607 #9753 Computer Control #958, #968 #942, #943 #9753
Unit 16. Solving Problems That Involve Linear Equations	1. Translate a problem into an equation. 2. Recognize and work with the parts of an equation. 3. Simplify and solve an equation. 4. Check the solutions of the equation and the problem.	
Unit 17. Graphing Data	1. Graph data as points on a coordinate system.	Computing Graphing and Control #915, #916 #942, #943 Computer Control #958, #968 #942, #943
Unit 27. Inequalities	1. Order two ore more numbers using appropriate symbols such as $<$, $>$, $=$, $<=$, $>=$.	
Unit 31. Solving Problems with Computer Graphics	3. Use a computer graphics program to create bar graphics, circle graphs, and line graphs.	Computer Graphing and Control #0055, #0056 #915, #916 Line graphs only #942, #943