

Grade 5

Alternate Activity Menus for Math



Sharon Drummond

Elementary Enrichment Resource Teacher

2009



This work is licensed under a [Creative Commons Attribution-NonCommercial-Share Alike 3.0 Unported License](https://creativecommons.org/licenses/by-nc-sa/3.0/).

Alternate Activity Menus for Math Grade 5

Contents

Purpose and Organization

How to use this package

Menus and Rubrics:

Term 1 Strand 1 – Patterning Tic-Tac-Toe Menu

Term 1 Strand 2 – Numeration List Menu

Term 1 Strand 3 – Data Management 2-5-8 Menu

Term 2 Strand 1 – Measurement Game Show Menu

Term 2 Strand 2a – Addition and Subtraction Tic-Tac-Toe Menu

Term 2 Strand 2b – Multiplication and Division 2-5-8 Menu

Term 2 Strand 3 – 2D Geometry List Menu

Term 2 Strand 4 – Variables and Equations Dinner Menu

Term 3 Strand 1 – Fractions and Decimals 2-5-8 Menu

Term 3 Strand 2 – Theoretical Probability List Menu

Term 3 Strand 3 – Geometry and Spatial Sense Game Show Menu

Term 3 Strand 4 – Area, Capacity, Mass, and Volume Baseball Menu

Blackline Masters:

Free-Choice Proposal Form

\$1 Contract

Product Cube

Purpose and Organization

The purpose of this package is to give classroom teachers another means to differentiate math instruction for the students in their classrooms. The package includes an alternate activity menu for each of the units of math that are covered each term. The menus are organized to align with the *Nelson Math* program, as delivered using the LKDSB Math Framework. The menus have been adapted from those found in *Differentiating Instruction with Menus: Math*, by Laurie E. Westphal.

How to use this package

There are different ways of using these menus in the classroom. One or two tasks could be chosen by the teacher as additional practice for students as part of the regular math program. They could be used for students who tend to complete learning tasks in math quickly. Because all of the activities offer choice, and many have a creative element, students may find this an enjoyable way to extend their mathematical learning. The activities also encourage students to find connections between math and the real world, as well as require them to solve meaningful mathematical problems.

The other use of the package, and the one for which it is intended, is as alternate math activities for students who are particularly strong in math or in a particular area of math. In this case, it is important that an assessment of prior knowledge is done at the beginning of a unit of instruction. Through pre-tests, the teacher can determine which students in the class have already mastered particular concepts that will be taught during the upcoming unit. Students who achieve mastery of all expectations can work through the activity menu as an alternative to completing the regularly assigned tasks. Those students who have mastered many of the concepts, but still need instruction in some areas, can work through the menu during the lessons they have previously learned, and join the class during lessons where they need further instruction. In this case, the



Pre-tests can be easily created by taking the end of unit test and changing the numbers in each question. This allows a teacher to accurately determine the areas of the unit where groups of students need the most instruction. This also provides a study guide for students to help them to prepare for an end of unit test or chapter task. The pre-test then becomes a useful tool for both assessment of prior learning and for letting students know what to expect for the culminating task.



student could attempt the most difficult problems in that lesson first, and once they have demonstrated understanding, return to work on their alternate activity menu.

Guidelines for Products

To ensure that each student has equal opportunity to create a quality product, the \$1 Rule should be followed. That is, if the product requires materials from a student, they should spend no more than \$1 to create that final product. This also encourages students to problem-solve and often results in a more creative product. A \$1 Rule Contract is provided at the back of this package.

Most of the menus have a Free Choice option. Before beginning work on a Free Choice activity, students should consult with the teacher to ensure that the project they want to create meets the expectations of the curriculum. A Free Choice Proposal Form is included at the back of this package as a framework for students in designing their own project.

Descriptions of products used in the menus are on the following three pages. These are intended only as a guide for teachers and students. Teachers should alter the expectations for each product to suit the needs of particular classrooms and students, and students should be encouraged to be creative in their presentation for assignments. The following pages are taken from *Differentiating Instruction with Menus: Math* by Laurie E. Westphal.

<p>Acrostic</p> <ul style="list-style-type: none"> • Neatly written or typed • Target word written down the left side of the paper • Each descriptive word chosen must begin with one of the letters from the target word • Each descriptive word chosen must be related to the target word 	<p>Advertisement</p> <ul style="list-style-type: none"> • At least 8.5"x11" • A slogan should be included • Colour picture of item or service • Include price, if applicable • Can be developed on the computer 	<p>Board Game</p> <ul style="list-style-type: none"> • At least four thematic game pieces • At least 25 coloured squares • At least 20 question/activity cards • Include a thematic title on the board • Include a complete set of rules • At least the size of an open file folder (11"x17")
<p>Brochure/Pamphlet</p> <ul style="list-style-type: none"> • At least 8.5"x11" • Three fold format – front fold has the title and picture • Must have both pictures and written text • Information should be in paragraphs • At least five facts should be included • Can be developed on the computer 	<p>Cartoon/Comic Strip</p> <ul style="list-style-type: none"> • At least 8.5"x11" • Should have at least six cells • Must have meaningful dialogue • Must include colour • Can be developed on the computer 	<p>Collage</p> <ul style="list-style-type: none"> • At least 8.5"x11" • Pictures must be neatly cut out • Label items as required in the task
<p>Commercial</p> <ul style="list-style-type: none"> • Approximately 3-5 minutes in length • Script must be turned in before play is presented • Can be presented live or recorded • Props or some form of costume should be used • Can include more than one person 	<p>Concentration Cards</p> <ul style="list-style-type: none"> • At least 20 index cards (10 matching sets) • Both pictures and words can be used • Information should be placed on only one side of the card • Include an answer key that shows the matches • All cards must be submitted in a carrying bag 	<p>Crossword Puzzle</p> <ul style="list-style-type: none"> • At least 20 significant words or phrases should be included • Develop appropriate clues • Include puzzle and answer key
<p>Experiment</p> <ul style="list-style-type: none"> • Neatly written or typed • Should include a testable problem, a hypothesis with explanation, a materials list with specific measurements, procedures, data, and a conclusion • Graphs should be labelled and complete if included 	<p>Flipbook</p> <ul style="list-style-type: none"> • At least 8.5"x11" folded in half • All information and opinions are supported by facts • Created with the correct number of flaps cut in the top • Colour is optional • Name written on back 	<p>Letter</p> <ul style="list-style-type: none"> • Neatly written or typed • Uses proper letter format • At least three paragraphs in length • Must follow type of letter stated in menu (e.g., friendly, persuasive, informational)
<p>Map</p> <ul style="list-style-type: none"> • At least 8.5"x11" • Accurate information included • Includes at least 10 relevant 	<p>Mind Map</p> <ul style="list-style-type: none"> • At least 8.5"x11" paper • Must have one central idea • Follow the "no more than four" 	<p>Mobile</p> <ul style="list-style-type: none"> • At least 10 pieces of related information • Includes colour and pictures

<p>locations</p> <ul style="list-style-type: none"> • Includes compass rose, legend, scale, and key 	<p>rule – no more than four words coming from any one word</p> <ul style="list-style-type: none"> • May be created on the computer (e.g., Smart Ideas) 	<ul style="list-style-type: none"> • Has at least three layers of hanging information • Hangs in a balanced way
<p>Model</p> <ul style="list-style-type: none"> • At least 8" by 8" by 12" • Parts of model must be labelled • Should be in scale when appropriate • Must include a title card • Name written on model in ink 	<p>News Report</p> <ul style="list-style-type: none"> • Must address the who, what, where, when, why, and how of the topic • Script of report must be turned in with project, or before if performance will be "live" • Must be either performed live or recorded 	<p>Newspaper Article</p> <ul style="list-style-type: none"> • Must be informational in nature • Must follow standard newspaper format • Must include picture with caption that supports article • At least three paragraphs in length • Neatly written or typed
<p>Play</p> <ul style="list-style-type: none"> • Must be 5-10 minutes long • Script must be turned in before play is presented • Must be presented to an audience • Should have props and/or costumes • Can include more than one person 	<p>Poster</p> <ul style="list-style-type: none"> • On Bristol board • Includes at least 5 pieces of important information • Must have title • Must contain both words and pictures • Name written on back 	<p>PowerPoint or Smart Notebook – Standalone</p> <ul style="list-style-type: none"> • Should have at least 10 informational slides plus one title slide with student name • Limit each slide to 15-20 words • Slides must have colour and at least one graphic per page • Animation and sound is optional, and should not distract from the information
<p>PowerPoint or Smart Notebook – Presentation</p> <ul style="list-style-type: none"> • At least 10 informational slides plus one title slide with student name • Slides must have colour and at least one graphic per page • Animation and sound is optional, and should not distract from information being presented • Presentation should be timed and flow with the oral presentation 	<p>Product Cube</p> <ul style="list-style-type: none"> • All six sides of the cube must be filled with information • Name must be printed neatly at the bottom of one of the sides of the cube 	<p>Questionnaire</p> <ul style="list-style-type: none"> • Neatly written or typed • Includes at least 10 questions (and, if appropriate, possible answers) • Questions must be helpful on gathering information on the topic being studied

<p>Recipe/Recipe Card</p> <ul style="list-style-type: none"> • Must be written neatly or typed on an index card or piece of paper • Must have a list of ingredients with measurements for each • Must have numbered steps that explain how to make the recipe 	<p>Scrapbook</p> <ul style="list-style-type: none"> • Cover of scrapbook must have meaningful title and the student's name • Must have at least five themed pages • Each page will have at least one picture • All photos will have captions 	<p>Song/Rap</p> <ul style="list-style-type: none"> • Words must make sense • Can be presented to an audience or taped • Written words will be turned in before performance or with the taped song • Should be at least 2 minutes in length
<p>Speech</p> <ul style="list-style-type: none"> • Must be at least 2 minutes in length • Should not be read from written paper • Note cards can be used • Written speech must be turned in before speech is presented • Voice must be clear, loud, and easy to understand 	<p>Story</p> <ul style="list-style-type: none"> • Must be neatly written or typed • Must have all of the elements of a well-written story (setting, characters, problem, events, and solution) • Must be appropriate length to allow for story to unfold 	<p>Trading Cards</p> <ul style="list-style-type: none"> • Includes at least 10 cards • Each card should be at least 3" by 5" • Each should have a coloured picture • Includes at least three facts on the subject of the card • Cards must have information on both sides • All cards must be submitted in a carrying bag
<p>Venn Diagram</p> <ul style="list-style-type: none"> • At least 8.5"x11" • Must have a title for the entire diagram and a title for each section • Must have at least six items in each section of the diagram • Name must be written on the back • May use computer (e.g. Smart Notebook) 	<p>Video</p> <ul style="list-style-type: none"> • Can be taken with a digital camera or video camera • Turn in a written script or story board with project • Covers important information • Name must be included at the beginning or end of the video, and must be on the label if a VHS or DVD is used • Can use computer to edit (e.g. Microsoft Movie Maker) 	<p>Worksheet</p> <ul style="list-style-type: none"> • Must be 8.5"x11" • Neatly written or typed • Must cover the specific topic or question in detail • Must be creative in design • Must have at least one graphic • An answer key with complete solutions must be turned in • A rubric is optional

Grade 5 Math – Term 1, Strand 1

Patterning and Algebra

Guidelines: Choose 3 in a row (vertical, horizontal, or diagonal) to complete. Creativity in presentation is encouraged!

<p>Design a 5x5 tiled floor with a repeating pattern using three colours of colour tiles. How many of each colour tile would you need to continue the pattern for a 25x25 area? Include the pattern rule, a table, and a graph to explain how you know.</p>	<p>Create three different problems that could use the pattern rule $n \times 3$ to find the solution. Prove that this rule would work for each problem using manipulatives and tables.</p>	<p>Design and construct a simple robot using household items (paper cups, paper towel rolls, etc). Create a plan that a teacher could use to have students build their own robot. In your plan, include a procedure for building the robot, and a table that shows how much of each item the teacher will need for different class sizes.</p>
<p>Create a lesson that you could use to teach the class how to find pattern rules. Include several examples.</p>	<p>Free Choice: Must be outlined on a proposal form and approved before beginning work.</p>	<p>Your school is having a bake sale, and each student must bring between 30 and 50 servings of a baked good to sell. Find a recipe for the baked goods you would like to sell, and explain how you could figure out how much of each ingredient you would need to buy. Show two ways of solving the problem.</p>
<p>You are planning a birthday party and want to take a group of friends to the movies. Your parents have given you \$100 to spend on the party. Do research to find out how much movie admission costs. How many friends could you take? If you decided to buy popcorn and a drink for each friend for the movie, how many friends could you take? Show your work.</p>	<p>Find a real life example of something that uses a repeating number pattern. Either take a photo of the object or draw an accurate picture of it. On a poster, show how you know that the object uses a repeating pattern using pictures, numbers and words. Include the pattern rule.</p>	<p>Is it better to use a table or manipulatives when solving patterning problems? Explain your answer using examples.</p>

PATTERNING AND ALGEBRA Term 1 Strand 1	Level 1	Level 2	Level 3	Level 4
Knowledge and Understanding <i>The student:</i> -creates, identifies, and extends geometric patterns -builds models and makes tables to represent a number pattern	Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>
	Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>
Problem Solving/Thinking <i>The student:</i> -creates a plan of action for extending numeric and geometric patterns -carries out a plan using patterns in problem solving	Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>
	Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>
Communication <i>The student:</i> -explains mathematical thinking clearly using a variety of modes -uses appropriate vocabulary and terminology in oral, visual, and/or written forms	Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>
	Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>
Application of Learning <i>The student:</i> -transfers knowledge and skills to new contexts and makes connections between concepts	Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>

Task 1: _____

Task 2: _____

Task 3: _____

Grade 5 Math – Term 1, Strand 2

Numeration

Guidelines:

1. You may complete as many of the activities as you like in the given time period.
2. You must complete activities totalling at least 100 000 points.
3. You may be as creative as you like within the guidelines listed below.

Plan to Do	Activity to Complete:	Point Value
	Find the populations of ten towns in Ontario. Put them in order from least to greatest.	15 000
	Think of 4 five-digit mystery numbers. Write clues for your classmates to try to discover each numbers. Be creative when you use place value in your clues.	20 000
	If you had \$100 000, what would you buy? Research to find the advertised cost of each item. Create a list, showing how you would spend the money. You must not go over \$100 000, and you cannot have any more than \$.99 remaining.	30 000
	Create a set of 10 trading cards, each with a different number between .01 to 100 000. Each trading card should show at least three different ways of representing the number.	20 000
	Create a SMART Notebook or PowerPoint presentation that compares the heights or lengths of at least 10 objects. Some of the objects should be very small, and some should be very large. Explain how you used numbers to compare.	25 000
	Create a poster that instructs students on how to round numbers. Include an explanation of why using rounding is helpful.	20 000
	Create a crossword puzzle (and answer key) where the answers are numbers written in words, and the clues use many different ways of representing numbers.	20 000
	Pretend that you are inviting one friend over for a sleepover party. You want to rent two DVDs, buy snacks to eat, and have your favourite cereal for breakfast. Find the price of each item. Write a letter to a parent explaining approximately how much it will cost to have your friend sleep over and explain how you know.	20 000
	The Government of Canada is creating a new page on their website called “Canada by the Numbers”. Create a chart of at least 10 interesting number facts about Canada (e.g. area, population, etc.). Then write a letter to the website developer explaining which of your numbers should be exact, and which numbers can be rounded.	30 000
	Develop a game that would test your classmates’ knowledge of representing numbers from .01 to 100 000	25 000
	Create a flipbook for the number 97 531.02. For each digit, show one way that digit can be represented. Use your knowledge of place value.	20 000
	Find at least 10 real life examples of numbers displayed in our community. Use one example of a number in the ten thousands, one in the thousands, one in the hundreds, all the way down to a single digit number. Include some decimal numbers. Take a photograph of each example. Display your photos on a number line from least to greatest.	30 000
	Free Choice: Must be outlined on a proposal form and approved before beginning work.	10 000 To 30 000

I plan to do _____ activities totalling _____ points.

Student’s Signature

Teacher’s Initials

NUMBER SENSE AND NUMERATION Term 1 Strand 2	Level 1	Level 2	Level 3	Level 4
<p>Knowledge and Understanding</p> <p><i>The student:</i></p> <ul style="list-style-type: none"> -represents, compares, and orders whole numbers and decimal numbers from 0.01 to 100 000 -demonstrates an understanding of place value in whole and decimal numbers from 0.01 to 100 000 -round decimal numbers to the nearest tenth 	<p>Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/></p> <p>Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/></p> <p>Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/></p>	<p>Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/></p> <p>Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/></p> <p>Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/></p>	<p>Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/></p> <p>Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/></p> <p>Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/></p>	<p>High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/></p> <p>High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/></p> <p>High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/></p>
<p>Problem Solving/Thinking</p> <p><i>The student:</i></p> <ul style="list-style-type: none"> -creates and carries out a plan to solve problems involving the ordering of whole and decimal numbers 	<p>Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/></p>	<p>Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/></p>	<p>Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/></p>	<p>High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/></p>
<p>Communication</p> <p><i>The student:</i></p> <ul style="list-style-type: none"> -explains mathematical thinking clearly using a variety of modes -uses appropriate vocabulary and terminology in oral, visual, and/or written forms 	<p>Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/></p> <p>Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/></p>	<p>Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/></p> <p>Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/></p>	<p>Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/></p> <p>Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/></p>	<p>High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/></p> <p>High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/></p>
<p>Application of Learning</p> <p><i>The student:</i></p> <ul style="list-style-type: none"> -makes connections between math concepts and the real world 	<p>Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/></p>	<p>Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/></p>	<p>Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/></p>	<p>High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/></p>

Task 1: _____

Task 2: _____

Task 3: _____

Grade 5 Math – Term 1, Strand 3

Data Management

Directions: Choose activities from the menu below to total 10 points. Place a checkmark in each box to show which activities you will complete.

2 Points:

- Using a newspaper or website, locate two different graphs. Write a brief summary describing what each graph is showing.
- Create a poster that shows different ways of organizing data. Include a real-life example for each method, tell the benefits of using that method, and explain when it should be used to show data.
- Create a brochure that explains mean, median, and mode. It should explain how to find each and what each tells about the data.

5 Points:

- Design a survey and obtain your classmates' answers to a question of your choice. Present your information on a poster. Include an explanation of why you feel this information is important, and what conclusions you can draw from your survey.
- Create a graph showing how students spend their class instructional time during one five day week. What conclusions can you draw from this information?
- Find a table or graph that shows data for something you are interested in. Display this data using another method that you think shows the information more clearly. Explain why you chose your method of displaying data.
- Using the sports section of the newspaper or a website, research the statistics of at least 20 players in one sport. After gathering the data, record the mean, median, and mode for the players. Explain what each number means in the sport.

8 Points:

Complete ONE of the following tasks. You may present the results of your investigation in any method you choose. In your presentation, you must include tables showing your data, two graphs to display the data, information about how you know the method you used to collect your data is appropriate, and the mean of at least one set of data.

- Our school wants to purchase some new outdoor equipment for daily physical activity. The principal needs information that will help determine which equipment to buy and also provide justification for the choice. The principal has asked you to obtain this data: What type of equipment should be purchased? How much time do students in each grade spend doing daily physical activity?
- Grade 5 girls are taller than grade 5 boys. Design an experiment to determine whether this is a true statement.
- Free choice – Prepare a proposal form and submit it to your teacher for approval.

DATA MANAGEMENT Term 1 Strand 3	Level 1	Level 2	Level 3	Level 4
Knowledge and Understanding <i>The student:</i> -collects and organizes data and displays the data in charts, tables, and graphs -calculates the mean for a small set of data	Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/> Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/> Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/> Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/> High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>
Problem Solving/Thinking <i>The student:</i> -carries out a plan to organize and display data -interprets and draws conclusions from primary and secondary data	Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/> Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/> Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/> Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/> High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>
Communication <i>The student:</i> -explains mathematical thinking clearly using a variety of modes, including charts, graphs, and tables -uses appropriate vocabulary and terminology in oral, visual, and/or written forms	Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/> Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/> Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/> Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/> High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>
Application of Learning <i>The student:</i> -transfers knowledge and skills to new contexts and makes connections between math concepts and the real world	Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>

Task 1: _____

Task 2: _____

Task 3: _____

Grade 5 Math – Term 2, Strand 1

Guidelines for Measurement Game Show Menu

- You must choose at least one activity from each topic area.
- You may not do any more than two activities from each topic.
- All free-choice proposals must be turned in and approved by the teacher before beginning work on that activity.
- You must complete activities totalling at least 100 points.



Measurement Game Show Menu

Length	Perimeter	Time	Temperature	Points
Create a mobile showing the different units for measuring length, with an example of an object that would be best measured with each unit.	Choose three differently shaped items that you think have perimeters that are close to the same. Estimate the perimeter. Measure the perimeter of each item and present your information in a chart.	Create a Concentration card game for your classmates to practice telling time to the nearest second. Include 24 hour clocks.	Create a worksheet that your classmates could use to practice calculating differences in temperature. Use questions that show the temperature in numbers as well as ones that have thermometers.	10
Create a Smart Notebook presentation about how to choose the best unit for measuring length. Include examples to show why choosing the best unit is important.	Create a map of your classroom on grid paper. You will have to do some measuring! Estimate the perimeter of the room, then show how you could find the perimeter.	Choose 8 of your favourite songs. If you started the first song at exactly noon, what time would the last song finish playing at to the nearest second? Create a playlist of your songs using analog clocks to show the time that four songs end, and a digital clock showing the time using a 24 hour clock for the other four.	Use www.weather.ca to find the temperatures for three cities in different parts of Canada. Record this information for five days in a chart. Write a news article that includes at least five facts about the temperature differences.	20
Design a new unit for measuring length. Create a commercial that explains the new unit, tells how it is measured, and provides equivalents in metric units. Explain why this new unit would be useful.	Your teacher wants to buy new borders for the bulletin boards in the classroom. You only have a 30cm ruler. Develop a plan to figure out how much border is needed. Carry out your plan and present the information in whatever form you choose.	How much older (to the second) will you be at the end of the very last day of school than you are right now? Include the date and time you started this task, written in numeric format. Show your work.	Using a thermometer, measure the temperature of two different locations in your school for one week. Create a table to record you information. Write a conclusion that shares your findings and explains why the temperatures in the two areas might be different.	30
Free Choice	Free Choice	Free Choice	Free Choice	20-50
Total:	Total:	Total:		Total:

MEASUREMENT Term 2 Strand 1	Level 1	Level 2	Level 3	Level 4
Knowledge and Understanding <i>The student:</i> -selects and justifies the most appropriate unit to measure length -estimates and calculates the perimeter of polygons -estimate, measure, and represent time intervals and elapsed time -measures and records temperatures to determine and represent temperature changes over time	Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/> Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/> Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/> Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/> Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/> Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/> Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/> Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/> Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/> Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/> High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/> High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/> High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>
Problem Solving/Thinking <i>The student:</i> -creates and carries out a plan for solving problems involving measurement -uses critical thinking during the problem solving process	Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/> Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/> Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/> Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/> High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>
Communication <i>The student:</i> -explains mathematical thinking clearly using a variety of modes	Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>
Application of Learning <i>The student:</i> -transfers knowledge and skills to new contexts and makes connections between concepts	Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>

Task 1: _____

Task 2: _____

Task 3: _____

Grade 5 Math – Term 2, Strand 2

Addition and Subtraction

Guidelines: Choose 3 in a row (vertical, horizontal, or diagonal) to complete. Creativity in presentation is encouraged!

<p>Design a lesson using Smart Notebook to teach your class how to add and subtract decimals to the hundredths. Show at least two ways of calculating the answer, and demonstrate how to estimate to show your answers are reasonable. Use manipulatives (such as base ten blocks) from the gallery.</p>	<p>Go to http://www.kidsastronomy.com to research how long it takes for planets to orbit the sun. Round times to the nearest day. Create 3 two-step problems using this information. Include an answer sheet showing your work.</p>	<p>You have \$23.00 to buy two books from the latest Scholastic order form. Decide which two items you will buy. How much money will you have left after you place your order? Show how you know. What could you buy with the change?</p>
<p>Choose 4 of your favourite foods. Go to two different stores (or use advertisements) to find out how much they charge for each of those foods. Where should you buy the items? Explain your choice.</p>	<p>Free Choice: Must be outlined on a proposal form and approved before beginning work.</p>	<p>Create a poster that shows how you can use base ten blocks or regrouping to add or subtract decimal numbers to the hundredths.</p>
<p>Approximately how many hours do you spend at school in one week? One month? One school year? Show how you know and estimation to show that your answer is reasonable.</p>	<p>Create a brochure that shows two strategies for adding or subtracting decimal numbers to the hundredths. Explain which strategy you feel is best and why.</p>	<p>Use an atlas or Google maps to plan a trip to either Vancouver or Halifax. You must start in your home town and stop in three cities along the way. How many kilometres will you have to drive to reach your final destination? Explain how you can estimate the distance, then calculate how far it actually is. Show your work.</p>

NUMBER SENSE AND NUMERATION Term 2 Strand 2A	Level 1	Level 2	Level 3	Level 4
Knowledge and Understanding <i>The student:</i> -adds and subtracts decimals numbers to hundredths, including money amounts -uses estimation to help judge the reasonableness of a solution	Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>
	Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>
Problem Solving/Thinking <i>The student:</i> -creates a plan to solve problems involving addition and subtraction -carries out a plan to solve problems involving addition and subtraction	Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>
	Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>
Communication <i>The student:</i> -explains mathematical thinking clearly using a variety of modes	Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>
Application of Learning <i>The student:</i> -applies knowledge and skills to familiar and new concepts -makes connections between math concepts and the real world	Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>
	Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>

Task 1: _____

Task 2: _____

Task 3: _____

Grade 5 Math – Term 2, Strand 2B

Multiplication and Division

Directions: Choose activities from the menu below to total 10 points. Place a checkmark in each box to show which activities you will complete.

2 Points:

- Create a game your classmates could use to practice multiplication facts to 12×12
- Create a collage showing ways we use multiplication and division in our everyday lives.
- Create a multiplication problem. Show two different ways of solving it. Explain which method you prefer, giving reasons why you feel it is the best method.
- Write a procedure for multiplying a two-digit number by another two-digit number. Include examples

5 Points:

- Do some research about a game called Mancala. Create your own Mancala set. If you wanted everyone in your class to be able to create their own Mancala game that is the same as the one you created, what supplies would you need?
- Choose an activity that you do at least several times a week. How long do you spend doing this activity each time? How long do you spend doing this activity in one week? One month? One year? Show how you can estimate each length of time before calculating your answers.
- Running a dishwasher takes approximately 40L of water. Washing dishes by hand takes 36L of water. Create a presentation for your class to convince them to wash dishes by hand using information about how much water they could save over several periods of time.
- Design a poster explaining how knowing how to divide a four digit number by a one digit number can help you divide $\$73.26$ by 6.

8 Points:

- Create a video that shows your classmates how to multiply and divide numbers using several different methods. Include mental math strategies, algorithms, and manipulatives.
- Do some research to design a field trip for your class. Your principal has agreed to pay for the bus, but students must pay for everything else. Each student can pay no more than \$25. Write a proposal for your teacher explaining where you should go, what you will do on the trip, how much it will cost in total, and how much each student will have to pay. Be sure to explain how you know your calculations are accurate.
- Free choice – Prepare a proposal form and submit it to your teacher for approval.

NUMBER SENSE AND NUMERATION Term 2 Strand 2B	Level 1	Level 2	Level 3	Level 4
<p>Knowledge and Understanding</p> <p><i>The student:</i></p> <ul style="list-style-type: none"> -multiplies and divides whole numbers using a variety of methods -multiplies two-digit whole numbers by two-digit whole numbers -divides three-digit whole numbers by one-digit whole numbers 	<p>Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/></p> <p>Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/></p> <p>Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/></p>	<p>Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/></p> <p>Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/></p> <p>Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/></p>	<p>Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/></p> <p>Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/></p> <p>Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/></p>	<p>High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/></p> <p>High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/></p> <p>High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/></p>
<p>Problem Solving/Thinking</p> <p><i>The student:</i></p> <ul style="list-style-type: none"> -carries out a plan to solve problems involving multiplication and division -using critical thinking when solving problems involving multiplication and division 	<p>Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/></p> <p>Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/></p>	<p>Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/></p> <p>Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/></p>	<p>Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/></p> <p>Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/></p>	<p>High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/></p> <p>High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/></p>
<p>Communication</p> <p><i>The student:</i></p> <ul style="list-style-type: none"> -organizes mathematical thinking clearly using a variety of modes 	<p>Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/></p>	<p>Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/></p>	<p>Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/></p>	<p>High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/></p>
<p>Application of Learning</p> <p><i>The student:</i></p> <ul style="list-style-type: none"> -applies knowledge and skills to familiar and new concepts -makes connections between math concepts and the real world 	<p>Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/></p> <p>Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/></p>	<p>Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/></p> <p>Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/></p>	<p>Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/></p> <p>Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/></p>	<p>High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/></p> <p>High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/></p>

Task 1: _____

Task 2: _____

Task 3: _____

Grade 5 Math – Term 2, Strand 3

2D Geometry

Guidelines:

1. You may complete as many of the activities as you like in the given time period.
2. You must complete activities totalling at least 100 points.
3. You may be as creative as you like within the guidelines listed below.

Plan to Do	Activity to Complete:	Point Value
	Find a simple picture (either a photo or cut from a magazine) that has a line of symmetry. Cut the picture in half along that line of symmetry. Using a grid, draw the other half.	15
	Use Smart Notebook or another computer program to create your own shape picture using polygons. Write a description of your shape picture using math language. Challenge a classmate to follow your directions to create the same shape picture.	20
	Create a worksheet for a classmate to help them practice measuring angles and side lengths to classify triangles. Include an answer sheet.	15
	Create a set of trading cards including one card for each of the shapes in a set of pattern blocks. On one side, include the number of sides, angles, vertices, lines of symmetry, number of parallel sides and information about side lengths and angles. On the other side, draw a picture of a real object that contains that shape.	20
	Create a game called "Guess that Shape!" where your classmates use clues to figure out which shape you're talking about.	25
	Create a scrapbook of photos or pictures from magazines that show triangles. Classify each triangle using the angles and sides.	20
	Create a presentation for your class that shows how to classify triangles as acute, obtuse, or right angled.	20
	Design a logo for an existing product. Your logo must have one line of symmetry, one right angle, one obtuse angle, and one acute angle, and seven different polygons including the three types of triangles. Explain how your logo design meets these requirements.	30
	Collect 12 objects that are real life examples of polygons. Use string, tape, or large hoops to construct a Venn diagram. Classify the objects three times, using a different sorting rule each time. Take a photo of each. Use your photos to create a poster explaining your sorting rules.	25
	What would the measure of each angle in a regular 18-sided shape be? Develop and carry out a plan to determine the measure of the angles. Present your information in a method of your choice. Be sure to explain what worked well and what you would do differently next time.	25
	Write a song or poem about ways to classify different shapes.	20
	Write an original story about a regular polygon and its adventures. The special properties of the shape should help in its story.	30
	Free Choice: Must be outlined on a proposal form and approved before beginning work.	10 to 30

I plan to do _____ activities totalling _____ points.

Student's Signature

Teacher's Initials

GEOMETRY and SPATIAL SENSE Term 2 Strand 3	Level 1	Level 2	Level 3	Level 4
Knowledge and Understanding <i>The student:</i> -distinguishes among polygons, regular polygons, and other two-dimensional shapes -identifies and classifies acute, right, obtuse, and straight angles -measures and constructs angles up to 90°	Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/> Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/> Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/> Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/> Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/> Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/> Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/> High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/> High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>
Problem Solving/Thinking <i>The student:</i> -uses critical thinking during the problem solving process	Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>
Communication <i>The student:</i> -explains mathematical thinking clearly using a variety of modes -communicates for different audiences and purposes using a variety of modes	Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/> Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/> Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/> Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/> High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>
Application of Learning <i>The student:</i> -transfers knowledge and skills to new contexts	Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>

Task 1: _____

Task 2: _____

Task 3: _____

Grade 5 Math – Term 2, Strand 4

Variables and Equations Cafe Menu

Choose one Appetizer, one Main Course, and one Dessert

Appetizers

Create a worksheet for your classmates to practice finding the missing number in equations. Include an answer sheet with the full solutions.

Develop 4 problems that use the number expression $n \times 6$. Include solutions that use manipulatives and/or tables to prove the number expression is true.

Explain three different ways of solving the equation $4 \times n + 2 = 10$. Show your work for each method. Explain which method you think is best, giving reasons for your answer.

Main Course

Create a short video or Smart Notebook presentation that explains why using variables and number expressions is helpful in solving problems that use number patterns. Include examples.

One basketball has the same mass as three baseballs. Two baseballs have the same mass as three tennis balls. The school equipment room has 15 basketballs, 6 baseballs, and 8 tennis balls. Create three problems that use this information. Show how you can use variables and equations to solve each problem.

Choose a novel from the classroom library. Read for 20 minutes and keep track of how many pages you read in that time. How long will it take you to read the whole book? If you read for 20 minutes every day, estimate how many books you could read in one year. Show your work, using expressions and variables.

Dessert

Write a comic strip where the variable x tries to find his value.

Brainstorm a list of situations and the number expressions that might represent them. Create a set of concentration cards that allows users to match them. Be sure to include addition, subtraction, multiplication, and division in your situations.

Look through newspapers, magazines, or on the internet to find at least 6 examples of situations that could be expressed using variables and number expressions. Create a poster for your examples and the expressions that accompany them.

Create a bulletin board display that shows how the equal sign is like a balance scale. Use the number 16 to show as many examples as possible.

PATTERNING and ALGEBRA Term 2 Strand 4	Level 1	Level 2	Level 3	Level 4
Knowledge and Understanding <i>The student:</i> -demonstrates an understanding of variables as changing or unknown quantities -determines the missing number in equations	Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>
	Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>
Problem Solving/Thinking <i>The student:</i> -creates and carries out a plan to determine the value of a variable in an equation -uses critical thinking processes in problem solving	Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>
	Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>
Communication <i>The student:</i> -explains mathematical thinking clearly using a variety of modes -uses appropriate vocabulary and terminology in oral, visual, and/or written forms	Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>
	Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>
Application of Learning <i>The student:</i> -transfers knowledge and skills to new contexts and makes connections between concepts	Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>

Task 1: _____

Task 2: _____

Task 3: _____

Grade 5 Math – Term 3, Strand 1

Fractions and Decimals

Directions: Choose activities from the menu below to total 10 points. Place a checkmark in each box to show which activities you will complete.

2 Points:

- Create a poster with five diagrams that show equivalent fractions for $\frac{3}{4}$.
- Create a cube that shows 6 different ways of representing the number $1\frac{1}{2}$. Include illustrations.
- Can you use multiplication and division to change mixed numbers to improper fractions and vice versa? Explain your thinking using examples.

5 Points:

- Use the internet to find a picture of a quilt that is divided into fractions, or find a real quilt and take a photo of it. Illustrate each fraction you find in the quilt, then draw and label one equivalent fraction for each.
- Create a Smart Notebook presentation that shows how knowledge of mixed numbers is useful for telling time.
- Using at least one of each type of pattern block, create a design that has at least 15 pieces. Express the area of the whole design covered by each type of shape using fractions. Show your work.
- Choose 5 fractions that you feel would be most difficult to convert into tenths or hundreds. Explain the reasons for your choices.
- Create an advertisement that advertises a special item for sale. Use equivalent fractions to try to trick the buyer into paying more money for the same amount of product.

8 Points:

- Create a how-to video that shows students how to put fractions (including improper fractions and mixed numbers) in order from greatest to least. Use models in your explanations. Include a short commercial for a product that could be sold using fractions.
- You are having a pizza party in your class, and each student gets two pieces of pizza. Get a menu from a local pizza delivery shop, and determine how many pizzas you should order if you ordered large pizzas. Explain your answer using improper fractions and mixed numbers. Show how the information changes if you ordered medium pizzas. Which size do you think would be better to order? Explain why.
- Free choice – Prepare a proposal form and submit it to your teacher for approval.

NUMBER SENSE and NUMERATION Term 3 Strand 1	Level 1	Level 2	Level 3	Level 4
Knowledge and Understanding <i>The student:</i> -represents, compares, and orders fractional amounts with like denominators -demonstrates the concept of equivalent fractions -demonstrates the relationship between fractions and equivalent decimal forms	Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>
	Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>
	Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>
Problem Solving/Thinking <i>The student:</i> -uses critical thinking during the problem solving process	Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>
Communication <i>The student:</i> -explains mathematical thinking clearly using a variety of modes -uses math conventions, vocabulary, and terminology in oral, visual, and written forms	Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>
	Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>
Application of Learning <i>The student:</i> -transfers knowledge and skills to new contexts -makes connections between math and the real world	Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>
	Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>

Task 1: _____

Task 2: _____

Task 3: _____

Grade 5 Math – Term 3, Strand 2

Theoretical Probability

Guidelines:

1. You may complete as many of the activities as you like in the given time period.
2. You must complete activities totalling at least 100 points.
3. You may be as creative as you like within the guidelines listed below.

Plan to Do	Activity to Complete:	Point Value
	Create a probability line with six locations. Choose an event (track and field, field trip, etc) and add a statement about the even to each of the locations on the line.	15
	Use Smart Notebook to design and explain an experiment that uses two chance items (e.g. two dice, one coin and one spinner). Use an organized list or a chart to show all of the possible outcomes of the experiment, then express each probability as a fraction. Which outcomes are most likely? Which are least likely?	25
	Design an experiment that uses a variety of coins which will be drawn out of a bag. Predict the probability of five outcomes and explain why you made your predictions. Then, test your predictions by conducting the experiment. Express all probabilities as fractions. Describe your experiment and explain your results.	25
	If you were playing a game where you had to predict the sum of the numbers on two rolled dice, which number would have the best chance of winning? Explain how you know.	20
	Write and perform (or record) a song about probability featuring a character who has really bad luck. Be sure to use probability language.	20
	Create a collage showing many ways we use probability in everyday life.	15
	A gumball machine has equal numbers of seven different colours of gumballs and costs 25 cents to use. Develop a model that could be used to simulate the colour of gumball you will get each time you use the machine. Using your model, predict the probability of getting all 7 colours of gumball if you spend \$2.00, \$5.00, and \$10.00. Express the probabilities using fractions.	20
	Write an acrostic poem using the word PROBABILITY.	15
	Create a mind map showing your knowledge of probability.	15
	Think of several ways you could choose a person to go first in a game (eg. Flip a coin, choose a number between 1 and 10). Using what you know about probability, which method of choosing do you think is best? Explain why.	15
	Create a worksheet to help students practice turning probabilities into fractions. Include a solution sheet.	15
	Design an experiment in which you create short game that uses probability. Create two sets of rules: one that is fair, and one that is not fair. Have classmates play each version of the game 10 times. Explain why one version is more fair, using information from your experiment to support your answer.	30
	Free Choice: Must be outlined on a proposal form and approved before beginning work.	10 to 30

I plan to do _____ activities totalling _____ points.

Student's Signature

Teacher's Initials

DATA MANAGEMENT and PROBABILITY Term 3 Strand 2	Level 1	Level 2	Level 3	Level 4
Knowledge and Understanding				
<i>The student:</i> -collects and organizes data from probability experiments	Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>
-determines the probability of outcomes based on probability experiments	Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>
-lists all possible outcomes of a simple probability experiment	Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>
-represents the results of a probability experiment using a model	Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>
Problem Solving/Thinking				
<i>The student:</i> -creates a plan of action for conducting an experiment	Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>
-identifies and uses patterns when analysing data	Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>
Communication				
<i>The student:</i> -explains mathematical thinking clearly using a variety of modes	Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>
-uses math conventions, vocabulary, and terminology	Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>
Application of Learning				
<i>The student:</i> -makes connections between math and the real world	Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>

Task 1: _____

Task 2: _____

Task 3: _____

Grade 5 Math – Term 3, Strand 3

Guidelines for Geometry Game Show Menu

- You must choose at least one activity from each topic area.
- You may not do any more than two activities from each topic.
- All free-choice proposals must be turned in and approved by the teacher before beginning work on that activity.
- You must complete activities totalling at least 100 points.



Geometry Game Show Menu

Nets	Coordinate Grids	Transformations	Points
Create a matching game where students match a picture or photo of an object to its net. Be sure to include an instruction card that gives tips for how to match the net to the correct object.	Create a map of an imaginary location. Include a coordinate grid. Create a legend for your map showing ten important places, and include the coordinate grid location for each.	Use grid paper to draw a simple figure. Draw a second congruent figure in a new position. Write a set of instructions explaining how you moved the shape. Include three examples, and be sure to use translation, rotation, and reflection.	10
Create your own modern sculpture using 3D shapes. First, create your design out of real objects and take a photo of the creation. Then, create the nets for the 3D shapes you used to create a smaller version of the same sculpture.	Using a letter and number grid system, create a treasure hunt game for your classmates to practice using grids to mark location.	Create a flipbook for the following terms: translation, reflection, rotation, orientation, congruence, and transformation. Include a definition and picture for each term.	20
Create a how-to video in which you instruct students on how to create a net for a 3D shape. In your video, you should give step-by-step instructions as well as handy tips for making creating nets easier. Be sure to demonstrate by creating your own net.	Create a newspaper article or present a live news report about the importance of using coordinate grids. Include information about how to use a grid and give examples of where coordinate grids are used.	Take 10 photos of real life objects (e.g. patterns on wallpaper, tiled floors) that use transformations of shapes. Include a brief explanation of how each shape is translated, reflected, or rotated.	30
A candy company has designed a new chocolate bar that is in the shape of a pentagonal prism. They want the box for the chocolate bar to be in the same shape as the chocolate itself, but want the packaging to be as inexpensive as possible. Create as many different possible nets for the pentagonal prism box as possible. Explain what strategy you used to find all the different nets. Then explain which net should be used to create the packaging, and explain why this net is the best choice.	Draw a cartoon picture on coordinate grid paper. Use at least 25 points. Write instructions for drawing the same picture using the coordinates. Give it to a friend to test.	Use two pattern blocks and translation, reflection, and rotation to create a simple design on grid paper. Include a set of instructions so another student could recreate your design correctly.	40
Free Choice	Free Choice	Free Choice	20-40
Total:	Total:	Total:	Total:

DATA MANAGEMENT and PROBABILITY Term 3 Strand 3	Level 1	Level 2	Level 3	Level 4
Knowledge and Understanding <i>The student:</i> -locates an object using a coordinate system -identifies, performs, and describes translations -identifies prisms and pyramids from their nets -constructs nets of prisms and pyramids	Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/> Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/> Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/> Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/> Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/> Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/> Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/> Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/> Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/> Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/> High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/> High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/> High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>
Problem Solving/Thinking <i>The student:</i> -creates and analyses designs by translating and/or reflecting a shape -understands problems relating to properties of three-dimensional figures	Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/> Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/> Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/> Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/> High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>
Communication <i>The student:</i> -explains mathematical thinking clearly using a variety of modes -uses math conventions, vocabulary, and terminology	Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/> Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/> Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/> Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/> High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>
Application of Learning <i>The student:</i> -makes connections between math and the real world -applies knowledge and skills in familiar contexts	Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/> Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/> Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/> Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/> High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>

Task 1: _____

Task 2: _____

Task 3: _____

Grade 5 Math – Term 3, Strand 4

Area, Capacity, Mass & Volume Baseball

Look through the following choices and decide how you want to make your game add up to 100 points. Singles are worth 10 points, Doubles are worth 30 points, Triples are worth 50 points, and Homeruns are worth 100 points. Choose any combination you want. Your points must equal (or go over) 100.

Singles – 10 Points Each

- Complete a Venn diagram that compares area to perimeter.
- Make a cube with the following sides: perimeter, area, volume, capacity, and mass. The sixth side will have the title Measurement. Include information about each type of measurement, the units used, and what each is used to measure in the real world.
- Create a collage showing objects that have different types of measurement printed on them. Be sure to include examples of area, capacity, mass, and volume.
- Create a number line showing pictures and the mass of at least 10 objects. You must have objects that can be measured in grams, kilograms, and tonnes. Arrange the pictures in order from smallest to largest.
- Design a worksheet to help your classmates practice calculating the area of different shapes using grids. Include an answer sheet.

Doubles – 30 Points Each

- Design a demonstration for your class to show how you can use water to find the volume of an irregular object. Explain why this works.
- Create a poster that shows how to calculate the area of a rectangle.
- Gather 8 rectangular prisms of different sizes. Determine the volume of each prism, using appropriate units. Create a chart showing your information from the smallest container to the largest.
- You have 24 metres of fence to create a rectangular play area for your new puppy. Decide how to lay out the fence to make the area as large as possible. Show how you know.
- If you construct the same three dimensional object twice, once out of stone and once out of plastic, which measurements would be the same? Which would be different? Explain how you know.

Triples – 50 Points Each

- Your neighbours are purchasing a new pool. Their backyard is quite large (20 metres wide and 25 metres long). They also want to have a vegetable garden and a patio area. Using grid paper, design their backyard so all three areas are a reasonable size. Explain why you feel this is the best layout for their backyard, using your knowledge of area in your explanation.

- Design a creature using centimetre cubes. Determine the volume and capacity of your creature. Create a “Wanted” poster for your creature that includes a picture, description including measurements, and any other information you want people to know about the creature.

- Create a lesson to teach the class how to break irregular shapes into rectangles to find the area. Use real life examples and diagrams in your explanation. You may use Smart Notebook if you wish.

Homeruns – 100 Points Each

- Create an entertaining Math video in which you teach viewers about the different ways we can measure objects. Include information about how to find perimeter, area, volume, capacity, and mass. Explain why sometimes one unit is more appropriate than another (for example, why we sometimes use litres instead of millilitres). Use math language and real world examples of how measurements are important.



_____ **Singles (10 points each)**

_____ **Doubles (30 points each)**

_____ **Triples (50 points each)**

_____ **Homeruns (100 points)**

MEASUREMENT Term 3 Strand 4	Level 1	Level 2	Level 3	Level 4
Knowledge and Understanding <i>The student:</i> -estimates and measures the area of regular and irregular polygons -selects the most appropriate standard units for measurement -determines the relationships between perimeter and area of rectangles -determines the relationships between capacity and volume	Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>
	Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>
	Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>
	Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>
Problem Solving/Thinking <i>The student:</i> -creates a plan of action for analysing measurement data -justifies selection of appropriate units for measurement	Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>
	Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>
Communication <i>The student:</i> -explains mathematical thinking clearly using a variety of modes -uses math conventions, vocabulary, and terminology	Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>
	Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>
Application of Learning <i>The student:</i> -makes connections among concepts -applies knowledge and skills in familiar contexts	Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>
	Limited T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Some T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	Considerable T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>	High Degree T1 <input type="checkbox"/> T2 <input type="checkbox"/> T3 <input type="checkbox"/>

Task 1: _____

Task 2: _____

Task 3: _____

\$1 Contract

I did not spend more than \$1.00 on my _____.

Student Signature

Date

My child, _____, did not spend more than \$1.00 on the product he/she created.

Parent Signature

Date

\$1 Contract

I did not spend more than \$1.00 on my _____.

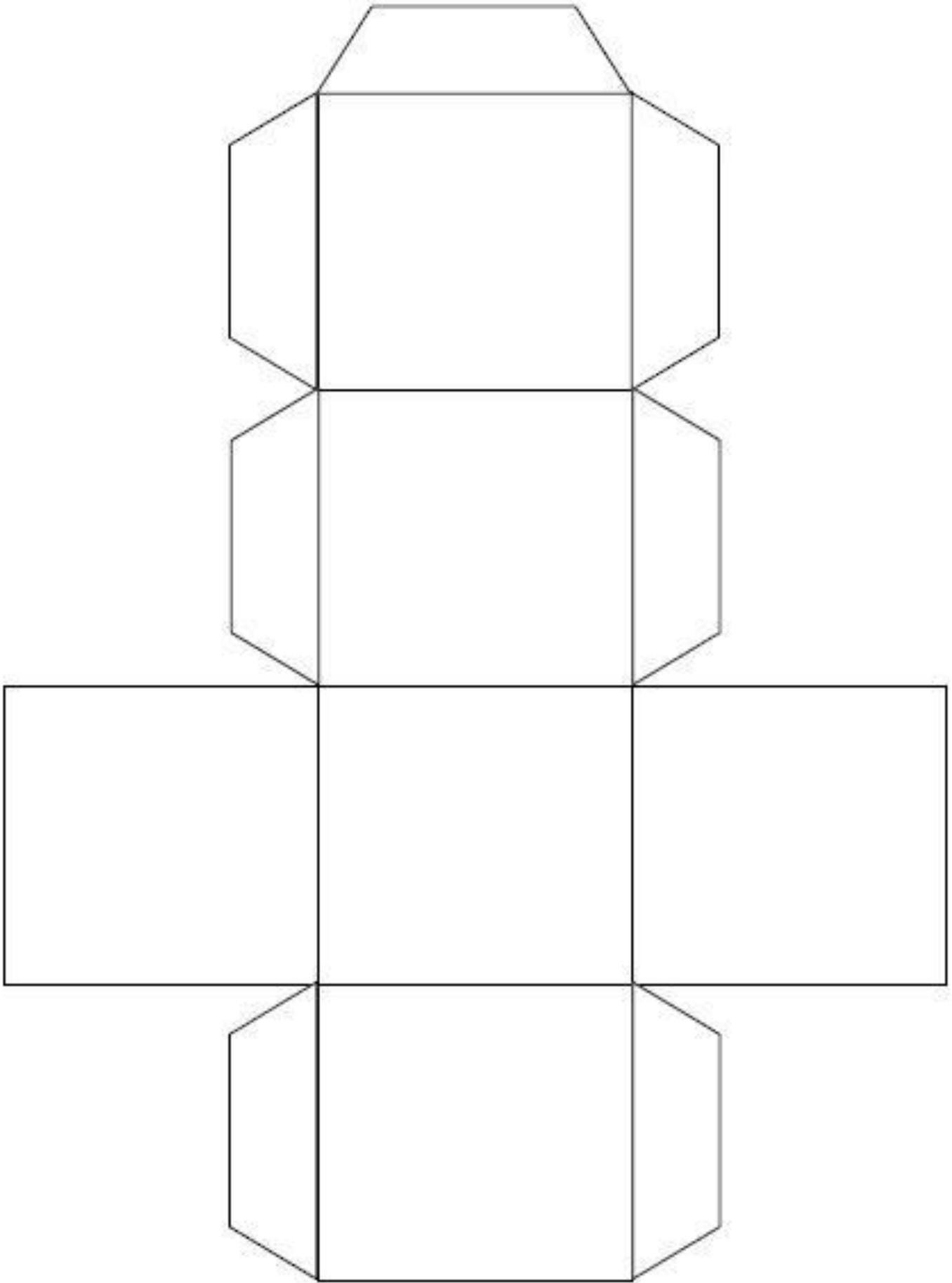
Student Signature

Date

My child, _____, did not spend more than \$1.00 on the product he/she created.

Parent Signature

Date



Resources

Kelleher, et al. (2004). *Nelson Mathematics 5*. Nelson Education Ltd.

Ministry of Education. (2006, 2008). *A Guide to Effective Instruction in Mathematics, Kindergarten to Grade 6*. Queens Printer for Ontario.

Ontario Ministry of Education. (2005). *The Ontario Curriculum Grades 1-8 : Math (Revised)*. Queen's Printer for Ontario.

Westphal, L. E. (2007). *Differentiating Instruction with Menus: Math*. Waco, TX: Profrack Press, Inc.

Photo (cover):

D-Kay <http://www.flickr.com/photos/8089996@N06/>

