

Grades 6 & 7 Numeracy Experiences and Tasks

The following is a collection of numeracy experiences and tasks developed during 2020-2021 by Janice Novakowski for the SD38 Transitional Learning week plans. A numeracy experience or task was included every week in the plans during the school year. Building awareness of how we use and apply mathematics in our daily lives and to understand the world around us is a goal of the numeracy experiences. Numeracy tasks are often framed around four types: fair share, plan and design, reasoned estimates, and modeling mathematics. When engaging in a numeracy task, students typically use the five numeracy processes: interpret, apply, solve, analyze, and communicate.

Look in a newspaper, flyers or on a website. Where do you see numbers? Record the five smallest numbers and the five largest numbers you find on a piece of paper, representing them on a number line. How are numbers used to organize information, represent value or importance or communicate ideas? Share your thinking in a written response.

Look around your home, on a website or in book, magazine or newspaper. Where can you find fractions, decimal numbers and percents used to communicate information? Write down the numbers you find. What are the most common fractions/decimals/percents you find? Why do you think that is?

When might you need to add or multiply numbers together when you are doing things at home? Write a math problem about this and show how you solved it.

What is the temperature outside each day? Write down the low and high temperatures for each day for three days in a row. How do the temperatures change? How could you describe these changes? Can you generalize a pattern? Record your findings with charts and/or graphs.

You and two classmates are given 87 pencil crayons to share for the school year. How could the three of you share the pencil crayons fairly? What do you need to consider other than quantity? Record your findings with pictures, numbers and words.

Look around your home, out your window or in your neighbourhood. How are patterns used in design? How are patterns used in structures or how buildings/homes are numbered or organized? Record your findings with pictures, numbers and words.

You and someone from your family went to the store with \$75.00 in cash. You bought some groceries for \$61.35. How much change did you get back? What different combinations of bills and coins could the cashier give you your change with? How could you represent this financial exchange?

You and someone from your family went to the store with \$25 to buy some fruit for the week. The prices are: Apple \$0.75 Banana \$2.00 Mango \$2.75 Orange \$1.85 Melon \$4.89 What could you buy with \$25? Record this financial transaction using a multiplication equation for each type of fruit and a total sum cost and what change you would receive.

Create a math game that utilizes probability. This game could use dice, spinning a spinner, or turning over cards. You could make up your own card or dice game or make a board game. Consider the theoretical probability (what should happen mathematically) for this game. Write the instructions and explain the probability involved in the game. Explain the instructions to your family and play your game!

Choose something you are interested in to investigate such as a sport, music, or an animal or an issue that is important to your family, our community or the world. What math can you use to help you understand the topic of your investigation? What data or information can you collect? Create a drawing, a diagram, a graph or an infographic to share your findings.

There are 72 oranges in a box. What all the different ways they could be organized in rows, columns or layers in the box? How could you solve this problem? How might thinking about factors or multiples help you think about this problem. Show your answer and how you solved it with diagrams, numbers and words.

What angles can you find in your home? Make a chart with columns for items with angles that are 90° , less than 90° and more than 90° . Record all the angles you find by drawing the different angles on the chart and including their angle measurements.

Find the night time and day time temperatures for five cities in Canada for one day this week. Create a double bar graph to show the difference in temperatures

between day and night. Record an equation to calculate the temperature difference for each city. What city had the greatest temperature difference?

Draw a map of your home or a path or route you take when you walk to a park or go for a walk. Indicate with arrows and number of steps or distance, how you move through the space you have recorded on your map. What positional language could you use to label your map? For example, walk up three steps or turn 90° right at the tree. What 2D shapes will you use to represent the different items in your map? What scale will you use for your map? Include a legend/key on your map to indicate the scale and what the shapes represent.

Create a boardgame that includes a path or grid to follow and cards with directions on them (move forward two spaces, turn 90 degrees before your next move, move back three spaces, etc). You could use a file folder or a piece of cardboard from your recycling. Where will the path or game start? Where will it end? What will its setting be? What shapes and number patterns can you include in your game? Play your game with your family.

Choose a small object or toy. Using what you have learned about shapes and measurement, use paper or cardboard to create a box that will hold the object, including a lid. What type of 3D shape will you create? What measurements of the object will you need to take? Draw a plan to begin and then create your box, testing it to make sure your object will fit. What is the volume of your box? If you wanted to create a box to hold two of your objects, what shapes or measurements would you need to adjust?

You have \$20 to buy some art supplies at a store. The prices are: A big box of 72 pencil crayons \$3.95 Scissors \$2.99 Pad of white paper \$4 Pad of coloured construction paper \$6 Gluestick \$0.99 Tape \$1.50 Watercolour paints and brush \$6.99 Black fineline marker \$1.79 Ball of string \$2.75 Create a budget to show a list of what you plan to buy. Add the GST and PST into your budget for a total of 12% tax. Include the total amount of the purchase and what your change will be from \$20.

Create a calendar for one week. Label the day of the week and date and for each day, choose four specific times of day, recording the time using the 24-hour clock (ie. 14:30) and indicate what you did at that time. What else could you keep track of on your calendar? Special days also help us measure time. What special events or days might you include on your calendar. What do you or your family use calendars for? Can you find some different examples of calendars in your home?

Monday was BC's Family Day. Create a survey question to ask as many people in your family as you can. You might ask them something like "What is your favourite colour?" or "What is something you hope for in 2021?" or think of your own idea! Record their answers (collect data) in a table or chart and then create a graph to share your findings (represent data). What type of graph do you think is most suitable for the question you asked? What does the graph say about your family (interpret data)?

Play the game Face-Off or Salute to practice adding or multiplying. If you forget how to play, there are videos on Ms Novakowski's YouTube channel. You can choose to play an integer version if you like. Can you make up your own math game using cards or dice to practice addition and/or multiplication facts? Where might you get an idea from for your game? Draw or write how to play the game or create your own math game video and then play your game with your family.

We are now in the season of spring. Choose to 1) Use a tally chart to record the signs of springs you notice outside such as flowers blooming or leaves growing on trees, puddles, etc. What other changes do you notice? Is everyone wearing winter jackets still? What sign of spring do you see the most of? Use the data from your tally chart to create a bar graph. Include a title and label each part of the graph. OR 2) Create a double line graph sharing the change in temperature over four days using both morning and night temperatures.

Find two things to measure and compare. Use the metric units centimetres and record your measurements in decimal form. You might find two flowers growing outside, two puddles or two people in your family. Use algebraic thinking to think about the difference in size between the two things you measure. How much wider/taller/deeper is one than the other? How will you record your findings? Extend your thinking by considering ratios to describe the two measurements.

Hexagons are a geometric shape but they also occur in nature. There are hexagonal rock formations, insect eyes are hexagons as are many forms in snowflakes and bees create hexagons. Create a model or draw a picture of one or more examples of where hexagons are found in nature. Why do you think hexagons are such a good shape used for design both by humans and in nature?

There are different kinds of maps such as physical and political. Find a map in a book or online to look at. What different features do maps have? What numbers and words

can you find on maps? How could you include some of those features, like symbols, scales or legends/keys, to one of your maps?

Choose a country or place in the world you are curious about. Find it on a map and watch a video or read a little bit about it. Draw your own map of the place and include some things you learn about the place such as special buildings or mountains, rivers or oceans or trees or animals that live there. What measurements and symbols could you include on your map? Measurements could include the size of the largest lake, height of the tallest mountain or building or how long a river is. What scale will you use for your map?

You are going to plan a garden. The garden box is a rectangle. You want to plant some radish, carrot and lettuce seeds. They are all very small seeds and you have 240 seeds to plant all together. Plan and share two different ways to plan how you will plant the seeds in your garden and record the math equations that show how you planted the seeds .

Use a website, video or book to find out more about insects and how important they are to the Earth. What mathematical information can you find out and share in a poster or infographic?

Learn more about the importance of pollinators. For example, 75% of food crops on Earth rely on pollinators. How many different foods do you have in your home that grow because of pollinators? Sort them into different types of plants and create a graph of these foods. What do you notice? Create a chart or infographic to share the importance of pollinators.

Use some of the mathematics you have learned this year to plan and design something for the summer such as a picnic for your family or a toy, obstacle course or game to play with. What will you need to think about? Draw and label your plan. What math will help you with your plan?