**New Prospect Elementary School**

**School to Home Math Engagement for Families**

**Second Grade: 2023-2024**

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| **Math Unit** | **Links to Resources (Parents)** | **Links to Resources (Teachers)** |
| **Unit 1**  **Using Tables, Graphs, and Charts** | [Passing Cars](https://nrich.maths.org/7249)   * This activity can be modified to collect the data on cars that pass in front of your house.   [Healthy Snack Shop](https://nrich.maths.org/14852)   * This data collection activity engages students in the full statistical reasoning process and the data could be used to try to create a real healthy snack shop at your school! | [Illustrative Math Tasks](https://im.kendallhunt.com/k5/teachers/grade-2/units.html)  [Virtual Graph Creater](https://nces.ed.gov/nceskids/graphing/classic/bar.asp) |
| **Unit 2**  **Building Fluency with Addition and Subtraction** | [Doubles Facts Game](https://www.splashlearn.com/math/doubles-facts-games)  [Addition and Subtraction Practice – Super Sums](https://www.splashlearn.com/math/doubles-facts-games)  [Word Problem Generator](https://tangmath.com/wordproblems)  [Place Value Basketball](https://www.topmarks.co.uk/learning-to-count/place-value-basketball)  [Place Value Chart](https://www.topmarks.co.uk/place-value/place-value-charts)  [Tutorial – How to Play “Knock Out!”](https://www.youtube.com/watch?v=bCqOWKBK4to)  [120 Interactive Chart](https://toytheater.com/120-chart/)  [Kakooma Game](https://tangmath.com/kakooma) – Practices Addition and Subtraction  [Break Apart Game](https://tangmath.com/breakapart) – Practices Addition and Subtraction  [Create a Bar Graph](https://nces.ed.gov/nceskids/createagraph/)  [Pictograph Game](https://www.abcya.com/games/fuzz_bugs_graphing) | [Illustrative Math Tasks](https://im.kendallhunt.com/k5/teachers/grade-2/units.html)  [Numberless Word Problems](https://numberlesswp.com/)  [Tutorial – How to Play “Knock Out!”](https://www.youtube.com/watch?v=bCqOWKBK4to) |
| **Unit 3**  **Measuring Lengths and Distances** | [Length Games](https://www.splashlearn.com/math/length-games)  [Measure It](https://www.funbrain.com/games/measure-it)  [Measurement](https://pbskids.org/games/measurement)  [Number Line](https://www.didax.com/apps/number-line/)  [Number Line Zoom](https://www.mathsisfun.com/numbers/number-line-zoom.html)  [Number Bubble Skip Counting](https://www.abcya.com/games/number_bubble_skip_counting) - (Skip Count by 10’s)  [Skip Count Race](https://toytheater.com/skip-count-race/)  [Number Race](https://www.abcya.com/games/number_race)  [Number Grid Pattern](https://www.abcya.com/games/100_number_grid) | [Illustrative Math Tasks](https://im.kendallhunt.com/k5/teachers/grade-2/units.html) |
| **Unit 4**  **Extending Place Value Understanding to 1,000** | [Base Ten Triple Spin](https://www.mathlearningcenter.org/sites/default/files/pdfs/home-learning/family-games/FamilyGames_BaseTenTripleSpin.pdf)  [Show A Number Four Ways - Game](https://hcpss.instructure.com/courses/106/files/2236872/download?verifier=dsoEHrcU5qSId69Fg2rJNEft6C1QZ4Bp7bVALwBn&wrap=1)  [Math Jigsaw Puzzles within 1,000](https://hundreds-chart-game.com/100s-board-jigsaw-801-to-1000/)  [Jump a Ten Game](https://student-activities.mathlearningcenter.org/?69f65a2e) | [Illustrative Math Tasks](https://im.kendallhunt.com/k5/teachers/grade-2/units.html)  [Base Ten Triple Spin](https://www.mathlearningcenter.org/sites/default/files/pdfs/home-learning/family-games/FamilyGames_BaseTenTripleSpin.pdf)  [Jump a Ten Game](https://student-activities.mathlearningcenter.org/?69f65a2e) |
| **Unit 5**  **Representing Sums and Differences within 1,000** | [Bar Graph Games](https://www.mathgames.com/skill/2.12-interpret-bar-graphs)  [Mental Math Strategies](https://www.topmarks.co.uk/maths-games/7-11-years/mental-maths)  [Word Problem Generator](https://tangmath.com/wordproblems)  [Adding Tens Game](https://youvegotthismath.com/adding-10-game/)  [Adding Multiples of 100](https://www.splashlearn.com/math/add-using-multiples-of-100-games)  [Subtracting 100 from 3-digit Numbers](https://www.splashlearn.com/s/math-games/subtracting-100-from-3-digit-numbers)   * The game involves working with a set of problems on subtraction to find answers to a group of problems, which helps young learners solidify their understanding of the concept. Students subtract 100 from 3-digit numbers, three at a time. This game requires learners to work with numbers within 1,000. Students will drag and drop the items at the correct places to solve the problems.   [Addition and Subtraction Games](https://www.topmarks.co.uk/maths-games/5-7-years/addition-and-subtraction)  [Peter Pig’s Money Counter](https://www.practicalmoneyskills.com/play/peter_pigs_money_counter)  [US Mint Coin Classroom](https://www.usmint.gov/learn/kids/games)  [Wordwall: Two-Step Word Problems](https://wordwall.net/en-us/community/2-step-word-problems) | [Illustrative Math Tasks](https://im.kendallhunt.com/k5/teachers/grade-2/units.html)  [US Mint Coin Classroom](https://www.usmint.gov/learn/kids/games) |
| **Unit 6**  **Exploring Geometry and Patterns** | Shapes Scavenger Hunt – wouldn't load  [Shape Concentration Game](https://www.nctm.org/Classroom-Resources/Illuminations/Interactives/Concentration/)  [Magical Shape Hunt](https://pbskids.org/peg/games/magical-shape-hunt/)  [Last Shape Wins](https://www.mathlearningcenter.org/sites/default/files/pdfs/home-learning/family-games/FamilyGames_LastShapeInWins.pdf)  [Fill For Less](https://student-activities.mathlearningcenter.org/?9232965e)  [Tangram Builder](https://mathigon.org/tangram)  [Symmetry Matching](https://www.topmarks.co.uk/symmetry/symmetry-matching)  [Symmetry Invaders](https://www.teacherled.com/2015/01/06/symmetry-invaders/) | [Illustrative Math Tasks](https://im.kendallhunt.com/k5/teachers/grade-2/units.html)  [Last Shape Wins](https://www.mathlearningcenter.org/sites/default/files/pdfs/home-learning/family-games/FamilyGames_LastShapeInWins.pdf)  [Fill For Less](https://student-activities.mathlearningcenter.org/?9232965e) |
| **Unit 7**  **Measuring Time and Money** | [Money Tic-Tac-Toe](https://www.mathlearningcenter.org/sites/default/files/pdfs/home-learning/family-games/FamilyGames_MoneyTicTacToe.pdf)  [Counting Money](https://www.abcya.com/games/counting_money)  [Teaching Time Games](https://www.teachingtime.co.uk/)  [Practice Telling Time](https://mrnussbaum.com/clockworks-online-game) | [Illustrative Math Tasks](https://im.kendallhunt.com/k5/teachers/grade-2/units.html)  [Money Tic-Tac-Toe](https://www.mathlearningcenter.org/sites/default/files/pdfs/home-learning/family-games/FamilyGames_MoneyTicTacToe.pdf) |
| **Unit 8**  **Reasoning with Equal Groups** | [Coconut Even or Odd](https://www.topmarks.co.uk/learning-to-count/coconut-odd-or-even)  [Left Turn Otto](https://www.mathnook.com/math/left-turn-otto-even-odd.html)  [Cowboy Game](https://toytheater.com/cowboy/)   * Students lasso cows and determine the total number lassoed when the cows are corralled in an array. | [Illustrative Math Tasks](https://im.kendallhunt.com/k5/teachers/grade-2/units.html) |
| **Unit 9**  **Culminating Capstone Unit** |  | [Culminating Capstone Unit](https://lor2.gadoe.org/gadoe/file/59e0c9c4-bd8b-415b-868e-573d03f53dcf/1/Grade-2-GaDOE-Mathematics-Capstone-Project.pdf) |

**Engagement Activities to do that are NOT Online:**

**Unit 1:**

* **Mystery Box**
  + Create a mystery box of different items around our home. Have your child pull out one item at a time. Once all items are pulled, have them categorize them based on their attributes. Then have them create a picture graph.
* **Make a Graph**
  + Have students go on a home scavenger hunt to analyze colors in their home or room. For instance, students may choose to investigate the colors of blankets, containers, or curtains. You could also go for a walk and tally the different colors of buildings/houses on your street or in your neighborhood. After determining the item(s) to investigate and the color of each in a tally chart, students can transfer the data to a graph. Students may also consider using an [online graph maker](https://nces.ed.gov/nceskids/graphing/classic/bar.asp) to display their data.
* **Create a Food Graph**
  + Encourage your child to look at food in your home. Examples are types of: snacks, vegetables, fruits, sweets, drinks. Have your child create a pictograph or a bar graph with up to 4 categories to represent a specific food type in your home. Have him or her generate questions and ask and answer questions about the data.
* **Generating Questions**
  + Have your children generate questions about different types of objects in your home. Examples might be:
    - What size (or color) Lego blocks are the most common?
    - What is the most common stuffed animal in the house?
    - Which color shirt is the most common in our house?
  + Some examples of objects to investigate include, but are not limited to: Legos, toys, blocks, stuffed animals, animal crackers, colored goldfish, shirts.
  + Encourage your child to sort the items by similarities they notice. ***Have your child create a picture graph or a bar graph to represent up to 4 categories of these objects in your home.***
* **Collecting Data in Nature**
  + Since this learning plan is all about nature, take a walk around your neighborhood. Gather items like leaves or rocks. Have your child categorize them and then create a picture graph with items. Can they change the picture graph into a bar graph? What are the similarities or differences?
  + Take a walk around your neighborhood. Have your child take tallies of how many different types of animals they see (birds, squirrels, chipmunks, dogs, cats). ***After they have gathered the data, have them create an investigative question about what they have gathered. (Why are there more birds than squirrels? Why are there more dogs than cats?***

**Unit 2:**

* **Collect and Count**
  + Encourage students to find collections at home to count with their families such as socks, blocks, paper clips, coins, etc. Students can group the counters by tens and ones and count to find the total.

**Unit 3:**

* **Measurement Scavenger Hunt**
  1. Go on a measurement scavenger hunt. Measure and compare objects in the house or neighborhood.
* **Recycle!**
  1. Encourage students to make additional items at home out of recycled materials. Students can measure and compare the lengths of the things that they build with rulers, yardsticks, and tape measures.
* **Comparing Lengths!**
  1. Find and compare lengths of objects around the house. Encourage students to use a strategy of their choice to find the difference in the lengths of the objects.

**Unit 4:**

* **Collect and Count – Revisited!**
  + Encourage students to find collections at home to count with their families such as socks, blocks, paper clips, coins, etc. Students can group the counters by hundreds, tens, and ones and count to find the total.
* **10 More/10 Less OR 100 More/100 Less**
  + **Materials:** paper with the digits 0-9 written on them, paper with “10 more,” “10 less,” “100 more,” “100 less,” a cup or a bowl.
    - Parents can play a game of 10 more or 10 less and 100 more and 100 less. Write the digits 1-9 on separate pieces of paper and put them in a cup or bowl. Write 10 more, 10 less, 100 more, 100 less on separate pieces of paper and put them in a second bowl or cup. Each player will pick 3 pieces of paper out of the cup or bowl to make a 3-digit number. Then pick a piece of paper from the second bowl or cup telling them to add or subtract 10 or 100 from their number.
* **Mystery Number**
  + Parents can play a riddle game with their child. Think of a number and then give clues as to what the number may be.
    - For example, “I am thinking of a two-digit number. My number is greater than 50 but less than 70. It is an odd number. After they guess, give them another clue. For example, there is an even number in the tens place.
    - As students become fluent at the riddle game, the complexity increases. For example, “I am thinking of a number. I have 2 hundreds, 15 tens, and 5 ones. What number am I thinking of?
* **Comparing Numbers – WAR!**
  + **Materials:** You will need one deck of cards with face cards removed. The ace will represent the ones digit.
  + **Directions:** 
    - Remove all the face cards.
    - The ace will represent the ones digit.
    - Shuffle the cards and place them face down.
    - Decide who goes first by drawing one card from the pile.
    - Whomever pulls the largest number goes first.
    - The first player draws three cards placing them face up.
    - The second player draws three cards placing them place up.
    - Make the largest number with your cards.
    - Players compare their numbers.
    - Whomever makes the largest number wins that round.
    - Play several rounds.
  + **Variation:** alternate making the largest number with making the smallest number.

**Unit 5:**

* **Restaurant Game**
  + Play restaurant at home. Encourage your child to make a menu and take orders from family members. Use play money or base ten models to find the total cost of the meal and the change that will be needed.

**Unit 6:**

* **Fractions are Everywhere!**
  + Families can continue to build the understanding of fractions at home when sharing things around the house. For example, if there is one cookie for two kids, how can they share? Ask one child to break the cookie in half, then compare the pieces. Are they the same? The same could be done with drinks or paper to draw on. Fractions are everywhere!

**Unit 7:**

* **Real World Money Ideas**
  + Use an old cupcake or muffin tin and write in each one a different amount. You can use an erasable pen or use just the cupcake liners instead. Have your child count out each amount represented in the bottom of each pan or liner.
  + If you have change in jars you are collecting, have your child count out the change.
  + Ask how many more coins they need to make a whole dollar.
  + If there are enough of the same types of coins, have them count them separately and then ask how many it will take of each coin to make 100. For example, if there are 5 nickels, have them skip count to get a total and then how many nickels it takes to make 100.
* **Introducing a Budget**
  + Show children the sales flyer from a store. Give them a budget and see how many items they can purchase. Change the budget each time you play.
  + Playing games like Monopoly is engaging but can also educate children on the value of money.
  + Assign your child a chore and give each chore a money value. Have them add up the value of their chores for the month.
* **Money WAR!**
  + Math games are a way to practice mathematical concepts in an enjoyable format. One possible game is similar to the card game, War.
  + **How to play:**
    - Parents can place different types of coins inside of a paper or plastic cup.
    - Have the child shake their cup and pull out a coin without showing it.
    - Then the parent pulls out a coin and they lay their coins down.
    - Each player tells the name and value of their coin and the player whose coin has the larger value takes the other player’s coin.
    - The player must also say the total value of their coins when the new coin is added to their collection.
    - The first to reach a dollar first (100) wins!
* **Create a Clock!**
  + Create a clock using a paper plate. Use two different colors of construction paper to make the hands. You can use a brad or a paper clip to adhere the hands to the paper plate. Then have your child write the numbers for the clock. Your homemade clock can be used to tell the time or calculate elapsed time for their homework time, dinner time, play time, or any other time during the day.
* **Elapsed Time at Home**
  + Families can talk about elapsed time through many daily activities. For example, talk about what time they get up for school, how long it takes them to get dressed, and what time they arrive at school. Help their student calculate the elapsed time. Keep a chart of the time they get home, do their homework, eat dinner, and go to bed. Discuss the elapsed time.

**Unit 8:**

* **Even and Odd Numbers**
  + Parents can practice even and odd numbers when folding clothes, putting up groceries or other chores around the home. Talk with your child about matching their socks. Have your child count the canned goods to see if every can has a match.
  + A good explanation of even and odd is through the website Mighty Owls. [Even Steven and Odd Todd](https://www.mightyowl.com/units/even-steven-and-odd-todd-even-and-odd-numbers) explains even and odd numbers with pictures. You will have to create a free account to access the read aloud.
* **Math in Our World: Blanket Squares**
  + Students are posed the following problem:
    - Jasmine is crocheting a blanket for her baby brother. So far, she has completed 4 squares. She needs to make 24 squares to complete the blanket. She can choose how many squares go in each row and column.
      * Show what’s happening. Use pictures, models, or numbers.
      * What do you notice? What do you wonder?
      * What math questions can you ask about this situation?
      * Answer all the questions you can!
  + *Source: Math Learning Center*