**New Prospect Elementary School**

**School to Home Math Engagement for Families**

**Third Grade: 2023-2024**

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| **Math Unit** | **Links to Resources (Parents)** | **Links to Resources (Teachers)** |
| **Unit 1**  **Building a Strong Foundation** | [Mental Math Games](https://www.topmarks.co.uk/maths-games/7-11-years/mental-maths)  [Word Problem Generator](https://tangmath.com/wordproblems)  [Fuzz Bugs Graphing](https://www.abcya.com/games/fuzz_bugs_graphing)  [Graphing Game](https://mrnussbaum.com/math/graphing-day)  [Can You Fill It?](https://pbskids.org/cyberchase/games/can-you-fill-it) | [Illustrative Mathematics](https://im.kendallhunt.com/K5/teachers/grade-3/units.html)  [Blog – 12 Practices to Improve Mental Math](https://www.prodigygame.com/main-en/blog/mental-math-practices/)  [Data Talks](https://www.youcubed.org/resource/data-talks/)  [Math Teaching Resources](https://www.k-5mathteachingresources.com/) |
| **Unit 2**  **Exploring Multiplication** | [Candy Shop Arrays](https://www.education.com/game/candy-shop/)  [Create a Bar Graph Online](https://nces.ed.gov/nceskids/createagraph/)  [Pictograph Games](https://www.abcya.com/games/fuzz_bugs_graphing)  [40 Fun Ways to Teach Multiplication](https://www.weareteachers.com/22-fun-hands-on-ways-to-teach-multiplication/)  [Multiply by 2 – Matching Game](https://www.education.com/game/multiply-by-2-matching/?gclid=Cj0KCQjwwY-LBhD6ARIsACvT72MW6HEfebaPVzCNnDbCuu5QtYs-AkKWcLl4nus3y1ZtKXBBYuqHfEwaAl3BEALw_wcB)  [Multiplication Math Games](https://www.multiplication.com/games/all-games)  [Coconut Multiples](https://www.topmarks.co.uk/times-tables/coconut-multiples)  [Pictograph Game](https://www.softschools.com/math/data_analysis/pictograph/games/)  [Frog Jump Multiplication](https://student-activities.mathlearningcenter.org/?57947ed4)  [Number Race](https://www.abcya.com/games/number_race)  [Number Grid Fireworks](https://www.abcya.com/games/100_number_grid)  [Multiplying With Pictures](https://www.iknowit.com/lessons/b-multiplying-with-pictures-up-to-5x5.html)  [Repeated Addition and Multiplication](https://mathskills4kids.com/repeated-addition-and-multiplication-for-equal-groups)  [DO the D’s](https://drive.google.com/file/d/1XVmrnimMwfJtSQZkQqe7-94Rgrw5uj_u/view)  [Multiplying by 2, 4, and 8](https://drive.google.com/file/d/1R4L4rWDtWDD30F7a9vadrDGFIvmSgGWM/view)  [Zip Lining Lunch Ladies x2](https://mrnussbaum.com/zip-lining-lunch-ladies-multiplication-by-2)  [Zip Lining Lunch Ladies x4](https://mrnussbaum.com/zip-lining-lunch-ladies-multiplication-by-4)  [Zip Lining Lunch Ladies x8](https://mrnussbaum.com/zip-lining-lunch-ladies-multiplication-by-8)  [Multiplying by 3 and 6](https://drive.google.com/file/d/1fQnbJF5SkcXTrcPDayjBwkg127jfl9y_/view)  [Zip Lining Lunch Ladies x3](https://mrnussbaum.com/zip-lining-lunch-ladies-multiplication-by-3)  [Zip Lining Lunch Ladies x6](https://mrnussbaum.com/zip-lining-lunch-ladies-multiplication-by-6)  [Times This](https://drive.google.com/file/d/1uFfpskCohoxDrnodma62pqtU6cRuCFMd/view)  [Multiplying by 9 and 10](https://drive.google.com/file/d/1EZRcqKfuxYUuIx77PHFPHmYiS5CAMduJ/view)  [Zip Lining Lunch Ladies x9](https://mrnussbaum.com/zip-lining-lunch-ladies-multiplication-by-9)  [Multiplication Chart](https://toytheater.com/multiplication-chart/)  [Interactive Multiplication Chart](https://www.roomrecess.com/Tools/MultiplicationChart/play.html)  [Multiply 3 Numbers](https://www.splashlearn.com/math/associative-property-games) - Associative Property Practice  [Find the Missing Partial Product](https://www.splashlearn.com/math/associative-property-games) - Associative Property Practice  [Partial Products Interactive](https://apps.mathlearningcenter.org/partial-product-finder/)  [Area and Arrays](https://toytheater.com/area-climber/)  [Area and Perimeter Explorer](https://toytheater.com/area-perimeter-explorer/) | [Math Flips](https://mathvisuals.wordpress.com/math-flips/)  [Virtual Math Resources](https://www.kentuckymathematics.org/virtual_resources.php)  [Math Rubric](https://exemplars.com/sites/default/files/2020-06/2020_jigsaw_revised.pdf)  [Frog Jump Multiplication](https://student-activities.mathlearningcenter.org/?57947ed4)  [DO the D’s](https://drive.google.com/file/d/1XVmrnimMwfJtSQZkQqe7-94Rgrw5uj_u/view)  [Multiplying by 2, 4, and 8](https://drive.google.com/file/d/1R4L4rWDtWDD30F7a9vadrDGFIvmSgGWM/view)  [Student Reflection Sheet](https://exemplars.com/sites/default/files/2020-06/student_reflection.pdf)  [Multiplying by 3 and 6](https://drive.google.com/file/d/1fQnbJF5SkcXTrcPDayjBwkg127jfl9y_/view)  [Times This](https://drive.google.com/file/d/1uFfpskCohoxDrnodma62pqtU6cRuCFMd/view)  [Multiplying by 9 and 10](https://drive.google.com/file/d/1EZRcqKfuxYUuIx77PHFPHmYiS5CAMduJ/view)  [Illustrative Mathematics](https://im.kendallhunt.com/K5/teachers/grade-3/units.html) |
| **Unit 3**  **Relating Multiplication to Division** | [Division 4 in a Row](https://www.multiplication.com/games/play/division-4-row)  [Complete the Division Expression](https://www.splashlearn.com/s/math-games/complete-the-division-expression-for-arrays)  [Break Apart](https://tangmath.com/breakapart)  [Missing Divisor](https://toytheater.com/missing-divisor/)  [Solve Me Mobiles](https://solveme.edc.org/mobiles/?toosmall=no)  [Pan Balance - Numbers](https://www.nctm.org/Classroom-Resources/Illuminations/Interactives/Pan-Balance----Numbers/)  [Word Problem Generator](https://tangmath.com/wordproblems)  [Create Pictographs](https://www.mathgames.com/skill/3.13-create-pictographs)  [Multiplying by Multiples of 10](https://drive.google.com/file/d/1dfrhyvlmnjNLPBIuhwifOj0OTZP5gQ9w/view)  [Multiply one-digit numbers by 10](https://drive.google.com/file/d/1SUO9Cgpo_koYu3nW-vbDRScJF6i38LFp/view)  [Multiply and Answer in Unit Form](https://www.splashlearn.com/s/math-games/multiply-and-answer-in-unit-form)  [Multiply Using a Given Fact](https://www.splashlearn.com/s/math-games/multiply-using-the-given-fact)  [Complete the Equation](https://www.splashlearn.com/s/math-games/complete-the-equation)  [Splash Learn - Multiply one-digit numbers by 10](https://www.splashlearn.com/s/math-games/multiply-1-digit-numbers-with-multiples-of-10)  [Division Math Games](https://www.multiplication.com/games/division-games)  [Animated Division Models](https://www.geogebra.org/m/rSjV8S8q#material/Jvtgbdv8) | [Illustrative Mathematics](https://im.kendallhunt.com/K5/teachers/grade-3/units.html)  [Graham Fletcher – 3 Act Task](https://gfletchy.com/seesaw/)  [Multiplying by Multiples of 10](https://drive.google.com/file/d/1dfrhyvlmnjNLPBIuhwifOj0OTZP5gQ9w/view)  [Multiply one-digit numbers by 10](https://drive.google.com/file/d/1SUO9Cgpo_koYu3nW-vbDRScJF6i38LFp/view) |
| **Unit 4**  **Place Value, Addition, and Subtraction up to 10,000** | [Rounding Numbers](https://www.abcya.com/games/rounding_numbers)  [Rounding Games](https://www.mathnook.com/math/skill/roundinggames.php)  [Soccer Math - Rounding](https://www.abcya.com/games/rounding_numbers)  [Rounding Games](https://www.mathnook.com/math/skill/roundinggames.php)  [Place Value](https://teacher.desmos.com/activitybuilder/custom/5b5bcc5350493a31042bb5cd)  [Khan Academy](https://www.khanacademy.org/math/cc-fourth-grade-math/imp-place-value-and-rounding-2/imp-intro-to-place-value/v/place-value-blocks)  [Place Value Activities](https://mrnussbaum.com/math/place-value)  [Number Pieces](https://www.mathlearningcenter.org/apps/number-pieces) | [Illustrative Mathematics](https://im.kendallhunt.com/K5/teachers/grade-3/units.html) |
| **Unit 5**  **Two-Step Problems and Time** | [Multi-Step Word Problems](https://mrnussbaum.com/multi-step-word-problems-with-addition-subtraction-multiplication-and-division-online)  [2-Step Word Problems](https://wordwall.net/en-us/community/2-step-word-problems)  [Elapsed Time Practice](https://www.visnos.com/demos/two-clocks)  [Interactive Clock](https://apps.mathlearningcenter.org/math-clock/)  [Earning Screen Time Chore Chart](https://peterliljedahl.com/wp-content/uploads/NT-Earning-Screen-Time.pdf) | [Illustrative Mathematics](https://im.kendallhunt.com/K5/teachers/grade-3/units.html)  [2-Step Word Problems](https://lor2.gadoe.org/gadoe/file/d37baf6e-b2ed-4796-a2d4-f8362ae06c5d/1/K-5-Georgia-Mathematics-Strategies-Toolkit.pdf) - For Learning Variabilities  [Journal Entries](https://www.k-5mathteachingresources.com/math-journals.html?version=disabled&browser=MSIE&vendor=na&flash=10.0.32) |
| **Unit 6**  **Fractions as Numbers** | [13 Ways of Looking at one-half](https://pbskids.org/cyberchase/games/thirteen-ways-looking-half)  [Fraction Fling](https://www.abcya.com/games/fraction_fling)  [Fraction Games](https://www.mathgames.com/fractions)  [Equivalent Fractions](https://www.sheppardsoftware.com/math/fractions/equivalent-matching/)  [Equivalent Fraction Splat](https://www.sheppardsoftware.com/math/fractions/equivalent-splat-game/)  [Identify the Unit Fraction Using Visual Models](https://www.splashlearn.com/s/math-games/identify-unit-fraction-using-visual-model)  [Identify the Unit Fraction Using Real World Models](https://www.splashlearn.com/s/math-games/identify-unit-fraction-using-real-world-model)  [Write the Unit Fraction for the Models](https://www.splashlearn.com/s/math-games/write-the-unit-fraction-for-the-models)  [Identify Non-Unit Fractions Using Visual Models](https://www.splashlearn.com/s/math-games/identify-non-unit-fractions-using-visual-model)  [Building Fractions](https://phet.colorado.edu/sims/html/fraction-matcher/latest/fraction-matcher_en.html)  [Fraction Memory Game](https://nrich.maths.org/8283)  [Fractions on a Number Line Game](https://www.splashlearn.com/math/identify-fractions-on-the-number-line-games)  [Animal Rescue](https://www.sheppardsoftware.com/math/fractions/animal-rescue/)  [Drag and Drop Fractions](https://www.softschools.com/math/fractions/games/fractions_on_number_line_game/)  [Flipping Pancakes Fractions](https://www.education.com/game/pancake-fractions/)  [Choose a Fraction](https://www.splashlearn.com/s/math-games/choose-the-fraction-represented-by-the-model)  [Shade the Parts](https://www.splashlearn.com/s/math-games/shade-the-parts-to-complete-the-model)  [Choose the Fraction on a Number Line](https://www.splashlearn.com/s/math-games/choose-the-fraction-marked-on-the-number-line)  [Place the Fraction on a Number Line](https://www.splashlearn.com/s/math-games/place-the-fraction-on-the-number-line)  [Identify Mixed Number](https://www.splashlearn.com/s/math-games/identify-the-mixed-number-represented)  [Fill in to Complete the Model](https://www.splashlearn.com/s/math-games/fill-in-to-complete-the-model)  [Identify the Mixed Number on the Number Line](https://www.splashlearn.com/s/math-games/identify-the-mixed-number-on-the-number-line)  [Place the Mixed Number on the Number Line](https://www.splashlearn.com/s/math-games/place-the-mixed-number-on-the-number-line)  [Identify the Correct Real World Models](https://www.splashlearn.com/s/math-games/identify-the-correct-real-world-models)  [Peg’s Pizza Fractions](https://www.splashlearn.com/s/math-games/identify-the-correct-real-world-models)  [Color 10 Fraction Game](https://www.mathlearningcenter.org/sites/default/files/pdfs/home-learning/family-games/FamilyGames_Color10.pdf)  [Racing Fractions to Eighths](https://www.mathlearningcenter.org/sites/default/files/pdfs/home-learning/family-games/FamilyGames_RacingToEighths.pdf) | [Illustrative Mathematics](https://im.kendallhunt.com/K5/teachers/grade-3/units.html) |
| **Unit 7**  **Connecting Length, Perimeter, and Area** | [Measure It Games](https://www.funbrain.com/games/measure-it)  [Explore Area and Perimeter](https://www.education.com/game/alfalfas-out-of-the-box-perimeter-and-area/?gclid=CjwKCAiAkfucBhBBEiwAFjbkr3IyOuLFehdj_J0ty7x9J1dJvaOoGCMzHorl_0XGN0cbUsunS3rrCBoCCucQAvD_BwE)  [Area Games for Kids](https://www.splashlearn.com/math/area-games)  [Area Climber](https://toytheater.com/area-climber/)  [Find the Product Using Area Models](https://www.splashlearn.com/s/math-games/find-the-product-using-area-models)  [Introduction to Perimeter](https://www.splashlearn.com/s/math-games/introduction-to-perimeter)  [Understanding Perimeter](https://www.splashlearn.com/s/math-games/understanding-perimeter)  [Learn to Find the Perimeter](https://www.splashlearn.com/s/math-games/learn-to-find-the-perimeter)  [Find Perimeter Using Side Lengths](https://www.splashlearn.com/s/math-games/find-perimeter-using-side-lengths)  [Perimeter Climber](https://toytheater.com/perimeter-climber/)  [Find the Perimeter](https://www.mathgames.com/skill/3.18-find-the-perimeter)  [Perimeter of Shapes Games](https://www.splashlearn.com/math/perimeter-of-shapes-games)  [Zoo Designer](https://mrnussbaum.com/zoo-designer-online-game) | [Illustrative Mathematics](https://im.kendallhunt.com/K5/teachers/grade-3/units.html)  [Tools for Teachers](https://tools4ncteachers.com/third-grade/) |
| **Unit 8**  **Two-Dimensional Shapes** | [Games for Quadrilaterals](https://www.splashlearn.com/math/identify-quadrilaterals-games)  [Lines, Angles, and City Grids](https://mrnussbaum.com/lines-angles-and-a-city-grid-online)  [Identify Angles](https://www.splashlearn.com/s/math-games/identify-if-the-given-angle-is-right-acute-or-obtuse)  [Math in Our World Collage](https://mathathome.mathlearningcenter.org/activity/1649)  [Symmetry Printables](https://classplayground.com/symmetry/?printable=true#printables) | [Illustrative Mathematics](https://im.kendallhunt.com/K5/teachers/grade-3/units.html)  [Symmetry Printables](https://classplayground.com/symmetry/?printable=true#printables) |
| **Unit 9**  **Culminating Capstone** |  | [Culminating Capstone Unit](https://lor2.gadoe.org/gadoe/file/73f4d579-e010-4c4e-93b3-bc160c21c002/1/Grade-3-GaDOE-Mathematics-Capstone-Project.pdf) |

**Student Engagement that does NOT require Screen Time:**

**Unit 1:**

* **Data Hunt**
  + Encourage students to collect numerical data and make observations at home and in the neighborhood. Students can ask friends and neighbors relevant statistical questions such as: How many pets do you have? How many rooms are in your house? How many people are in your family?
  + Encourage students to find collections at home to count with their families such as socks, shirts, paper clips, coins, etc.
* **Guess My Number?**
  + Write multiple three-digit numbers on index cards. Students can place the numbers in order on a clothesline or on the floor. As students place the numbers in order, inquire about the spacing between the numbers. For example, “Should all the numbers be equally spaced. Are some numbers closer than other numbers? What is a number that comes between these numbers?”
* **Measuring Game**
  + In this [Measuring Game](https://www.rulergame.net/new-english-ruler-game.php), students use an on-screen ruler and click at measurement points on the ruler to answer questions about length. When using this game, first click on settings. Set timer to off. Next to “Questions” select halves. Next to “Ruler Markings” select halves. Finally, next to “Ruler Length” select 12 inches.
* **Fill It Up!**
  + Use and explore measurement tools when cooking. Compare liquid volume measurements that can be found on various bottles and containers that are used every day.

**Unit 2:**

* **Multiplication Practice**
  + Create counting collections at home. Encourage students to create equal groups and multiplication equations for each representation.
    - Encourage families to send in bags of items to support Counting Collections such as beads, shells, straws, blocks, etc. (These items will be used with upcoming multiplication, division, and fraction units as well.)
    - Share the book, [“The Grapes of Math”](https://tangmath.com/thegrapesofmath) by Greg Tang. The book encourages students to add and multiply in efficient ways rather than counting one by one. Discuss and share student responses as each puzzle is solved.
* **Race to 100**
  + Race against a partner to see who can get closest to 100.
  + **Materials:**
    - Use a blank 100 grid or graph paper.
    - **Directions:** 
      * This game is played with partners. Two people share a blank 100 grid.
      * The first partner rolls two number dice.
      * The numbers that come up are the factors the child uses to make an array on the 100 grid.
      * They can put the array anywhere on the grid, but the goal is to fill up the grid to get it as full as possible.
      * After the player draws the array on the grid, he or she writes in the equation that describes the array.
      * The second player then rolls the dice, draws the array, and records their equation.
      * The game ends when both players have rolled the dice and cannot put any more arrays on the grid.
      * Add up your arrays. How close to 100 can you get?

**Unit 3:**

* **Division Practice**
  + Seeing Division - Explore quotative (repeated subtraction) and partitive (sharing equally) representations - [Elementary School Applets – GeoGebra](https://www.geogebra.org/m/rSjV8S8q#material/Jvtgbdv8)
  + Explore a variety of hands-on division games - [Division Games for Kids Online](https://www.splashlearn.com/math/division-games)

**Unit 4:**

* **Math Everyday!**
  + Think about the ways you use math each day. For example, math is involved in cooking, shopping, the amount of water or juice you drink each day, the time you wake up for school, and the time you leave for school.
    - Interview the members of your family. How do they use math each day?
    - Create a schedule of your daily activities. Note the different ways that math is involved in the activities. Share your schedule with a family member.
    - Create a budget for a trip of your choice.

**Unit 5:**

* **Data Comparisons**
  + Interview the members of your family. What are their favorite foods? Use the information to plan a family meal.
  + Calculate the cost of eating at home vs. eating at a restaurant.
    - Which is cheaper? What are the benefits of each?
* **Elapsed Time**
  + Estimate how much time it takes to do daily activities. Record the start time, change in time and end time.
  + Explore elapsed time - <https://www.visnos.com/demos/two-clocks>
  + Create a daily schedule listing the times for each activity.
  + Have students make and use a list of other values and their equivalents (i.e. ½ hour = 30 minutes).
  + Have students create their own schedule with missing values for a classmate to complete.
  + Have students prepare a “Telling Time Toolkit” for a visitor from prehistory (or at least before clocks were invented) explaining everything they need to know about telling time to the nearest minute and explaining how to figure out elapsed time.

**Unit 6:**

* **Modeling Snacking Decisions**
  + Review the nutrition label on several food items. Compare the number of calories per serving. How much sugar per serving? What other nutritional value do you notice?
  + Research the number of calories in common foods that you eat using the [Fast Food Meal Calculator](https://fastfoodnutrition.org/fast-food-meal-calculator) or the [Food Calorie Counter](https://www.webmd.com/diet/healthtool-food-calorie-counter).
  + Plan a healthy meal and create a [grocery list](https://thetripclip.com/tc/Main/Activities/index.php?activityID=1) of items that need to be purchased at the store. Calculate the estimated cost of the items.

**Unit 7:**

* **Family Time!**
  + Visit <https://my-garden.gardena.com/uk> to plan your own virtual garden! This website allows individuals to map out their garden plans to scale with items such as houses, plants, and furniture available for visualization.
  + When shopping with the members of your family, visit the store’s garden center. Discuss the different plants and the best living condition for each plant (shady, sunny, partially shady, etc.). Determine which plants would be best for your home or garden.
  + Take a trip to one of Georgia’s Botanical Gardens with your family! Visit [Georgia's Most Breathtaking Botanical Gardens](https://www.vacationsmadeeasy.com/TheBLT/Georgias13MostBreathtakingBotanicalGardens.html) for information.
  + Are you interested in a career that involves gardening? Horticulture is the art or practice of garden cultivation and management. Visit <https://www.hortjobs.com/> to learn more about careers in horticulture.
* **Around the House!**
  + Use a ruler or tape measure to measure objects around the house.
* **Measuring Game**
  + In this [measuring game](https://www.rulergame.net/new-english-ruler-game.php), students use an on-screen ruler and click at measurement points on the ruler to answer questions about length. When using this game, first click on settings. Next to “Questions” select halves. Next to “Ruler Markings” select halves. Finally, next to “Ruler Length” select 12 inches.

**Unit 8:**

* **Fun with Shapes!**
  + With an adult, take a walk or drive around your neighborhood to discover the geometric figures/shapes used to build everyday items.
  + Use [pattern blocks](https://apps.mathlearningcenter.org/pattern-shapes/) to build your own mascot.
  + Use [Geogebra](https://www.geogebra.org/geometry?lang=en) to construct your own geometric shapes.
  + Use the [Geometric Whiteboard](https://www.mathsisfun.com/geometry/drawing.html) to draw your own shapes.
  + Go on a line and angle scavenger hunt. How many different examples can you find?
  + Build 2D and 3D shapes with items around the house.
  + Identify shapes by solving riddles - <https://www.turtlediary.com/game/2d-shapes.html>
* **Look for Symmetry!**
  + Look for symmetry in nature – For example, shells, dragonflies, leaves, etc.