Brookstone Lower School

2020 Summer Math Project

For Rising 3rd Graders
Dear Parents,

The National Summer Learning Association (NSLA) states that most students lose approximately two months of grade level equivalency in mathematical computation skills over the summer months. In order to help bridge the gap between June and August, the Brookstone Lower School requires students to participate in the summer math project.

**This project has four components:**

1. **A Commitment To Spend One Night Per Week As A Family Game Night**
   Game playing is a perfect way to reinforce and extend the skills children are learning at school. Not only are games fun, but the potential for learning and reasoning about mathematics is evident in any game you play. Games require a variety of problem-solving skills such as making and testing hypotheses, creating strategies (thinking and planning ahead), and organizing information. Plus, as children play, they further their development of hand-eye coordination, concentration levels, visual discrimination, memory, and their ability to communicate and use mathematical language.

2. **A Commitment To Spend At Least 30 Minutes Each Week Building Fact Fluency Playing Math Games**
   In this packet, you’ll find many ideas for fun math games with dice, playing cards, etc., that help to build your child’s fact fluency in fun and engaging ways. As your child moves to the third grade, it is essential for him/her to show automaticity in basic math fact recall. Automaticity is when one can recall facts quickly without errors and without much conscious attention. As students learn basic math facts, they first learn facts to a level of accuracy. Next, with continued practice, they develop fluency. Finally, after fluency, if students keep practicing they begin develop automaticity. The transition to third grade involves working with larger numbers, and a lack of automaticity in basic math facts significantly hinders a child’s progress with problem solving and other higher-order math concepts that are introduced in our third grade math curriculum.

3. **Completion Of The Rising 3rd Grade Math Packet (Optional)**
   The games and activities in this packet have been chosen to reinforce math concepts and skills that were to be mastered in second grade. Completing this packet will better prepare your child for the transition to third grade math. Students should not try to complete the packet in one day. Instead, students should work through the packet throughout the summer. Mrs. Floyd is available throughout the summer to trouble shoot any questions about the math packet. She doesn’t have set office hours, so please call or email her so that you can set up a quick problem solving session together.
   **This packet is optional and can be turned in to the third grade teacher the first week of school.**

4. **Mathodology Workbooks (Optional)**
   Sara Schaefer offers summer tutorials. They can be downloaded here: [https://mathodology.com/student-learning-guides/](https://mathodology.com/student-learning-guides/)
   **If you download these, be sure to download materials for the grade-level your child just completed.**
Family Game Night

Game playing is a perfect way to reinforce and extend the skills children are learning at school. Not only are games fun, but the potential for learning and reasoning about mathematics is evident in any game you play. Games require a variety of problem-solving skills such as making and testing hypotheses, creating strategies (thinking and planning ahead), and organizing information. Plus, as children play, they further their development of hand-eye coordination, concentration levels, visual discrimination, memory, and their ability to communicate and use mathematical language.

Some examples of games you could play...Games do not have to come from this list!

<table>
<thead>
<tr>
<th>CARDS/DICE</th>
<th>BOARD GAMES</th>
<th>OTHER</th>
</tr>
</thead>
<tbody>
<tr>
<td>War</td>
<td>Chutes and Ladders</td>
<td>Bingo</td>
</tr>
<tr>
<td>Go Fish</td>
<td>Candy Land</td>
<td>Ping-Pong</td>
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<tr>
<td>Yahtzee!</td>
<td>Hi-Ho Cherry-O</td>
<td>I Spy!</td>
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<tr>
<td>Uno or Blink</td>
<td>Sorry!</td>
<td>Dominoes</td>
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<tr>
<td>Crazy Eights</td>
<td>Trouble</td>
<td>Tic-Tac-Toe</td>
</tr>
<tr>
<td>Memory/Concentration</td>
<td>Monopoly/Monopoly, Jr.</td>
<td>Horseshoes</td>
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<tr>
<td>PIG/Spoons</td>
<td>Clue/Clue, Jr.</td>
<td>Cornhole</td>
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<tr>
<td>Slap Jack!</td>
<td>Connect Four</td>
<td>Pool</td>
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<tr>
<td>Farkle</td>
<td>Battleship</td>
<td>Hangman</td>
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<tr>
<td>Shut the Box!</td>
<td>Zingo</td>
<td>Tennis</td>
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<tr>
<td>Sequence</td>
<td>Qwirkle!</td>
<td>Golf</td>
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<tr>
<td>Solitaire</td>
<td>Checkers</td>
<td>Basketball</td>
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<tr>
<td>Spot it!</td>
<td>Scrabble/Banagrams</td>
<td>Putt-Putt</td>
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<tr>
<td>Bunco or Left, Right, Center</td>
<td>Rummikub</td>
<td>Soccer</td>
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</tbody>
</table>
Websites:
https://www.coolmathgames.com/0-make-24

https://gregtangmath.com/games

https://www.mathplayground.com

https://www.thespruce.com/try-these-easy-card-games-for-kids-1696142

Easy Card Games

Dice Games

Dice and Card Games
Finish the skip counting pattern:
1. 15, 25, 35, 45, _____, _____, _____, _____

Place Value
What is the value of the underlined digit?
2. 432  _____  3. 167  _____

Write what each number is equal to
4. 160 = _____ tens  5. 12 tens and 6 ones = _____

Compare using < > and =
6. 600 + 5 ____ 650  7. 76 ____ 60 + 7

Order and Pattern
Put in order from least to greatest.
8. 489, 498, 445, 478
   ____  ____  ____  ____
**Addition and Subtraction**
Solve vertically using one of the methods you learned in second grade.

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<thead>
<tr>
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<tbody>
<tr>
<td>9. $602 - 259 =$</td>
<td>10. $369 + 489 =$</td>
</tr>
<tr>
<td>11. $596 - 126 =$</td>
<td>12. $925 - 251 =$</td>
</tr>
<tr>
<td>13. $732 + 256 =$</td>
<td>14. $196 + 605 =$</td>
</tr>
</tbody>
</table>
Use bar models to solve the following story problems.

15. Ella has 254 marbles. Her mother gives her 47 more. How many marbles does Ella have in all?

16. Lena has 398 crayons. She gives her sister some crayons. Lena now has 45 crayons left. How many crayons did she give her sister?

17. Mr. Mills bakes 92 muffins. He sells 38 of them. How many muffins does he have left?
18. Shep has 136 Legos. He gets another 89 Legos for his birthday. How many Legos does he have now?

19. Mrs. Floyd has 468 balloons. She gives away 129 balloons. How many balloons does she have now?

20. Danielle has 45 stickers of cheerleaders. She has 37 stickers of dancers. How many stickers does she have in all?
**Multiplication and Division**

21. 5 x ____ = 20  
22. 3 x 4 = ____  

23. 80 ÷ 10 = ____  
24. 18 ÷ ____ = 9

**Mental Math**

25. 555 - 300 = ____  
26. 103 + 522 = ____  

27. 753 - 103 = ____  
28. 615 + 111 = ____  

29. 520 - 320 = ____  
30. 720 + 80 = ____