

ELEMENTARY

PIC Conference



Building Your Child's Confidence in Mathematics



DSBN Parent
Involvement
Conference

support • engagement • success

DSBN Mathematics Goal:

To nurture a love of mathematics, while developing thinking and reasoning skills, confidence and perseverance, and mathematical understanding that empowers students to solve problems in their current and future lives.

What are you wondering about building your child's confidence in mathematics?



Breakout Groups

1. Build number fluency through dice games

2. Math in your kitchen

3. Counting in your environment

4. Games that build multiplication skills

License Plate Games

Addition	3 digit numbers	Multiplication and Fractions
<p>Look at the 3 numbers individually:</p> <p>Add the 3 numbers together and explain how you added them in your head. Try using other strategies besides counting on your fingers. Eg. $6+8+1=15$ (I knew this because $6+6$ is 12, +2 more is 14, + 1 more is 15!)</p> <p>Put the numbers in order from greatest to least Eg. 681 in order is 8, 6, 1</p>	<p>Look at the 3-digit number as a whole:</p> <p>How many 100's, 10's and 1's are in the number? Eg. 681 has 6 groups of 100, 8 groups of 10 and 1</p> <p>Round the number to the nearest 100 or 10. Eg. 681 is closest to hundred is 700, or to the closest ten is 680.</p> <p>Say the name of the 3 digit number outloud Eg. six hundred eighty-one</p> <p>Add two license plate numbers together and share the strategy. Eg. $741+681$</p>	<p>Using 2 of the 3 numbers create as many fractions as you can. Eg. I see $\frac{1}{4}$, $\frac{1}{7}$, $\frac{1}{7}$, $\frac{4}{7}$, $\frac{7}{4}$, $\frac{4}{1}$...can you convert these to mixed fractions?</p>



Card Games

Simple addition/Subtraction and number sense games

War: Flip the cards over and add them together. OR Subtract the largest number from smallest.

Go fish but without saying the number. You can ask for the card but must give an equation or fact about the card. Each player should start with 5 cards and take turns asking an equation or number fact. The person with the most pairs wins.

Eg. Do you have $10-7$? Do you have a card with 1 group of 10 and no 1's?

Go fish for ten: This game is played just like "Go Fish." Instead of asking for a card to match your card, you have to ask for a card that would add with one of your cards to make a sum of 10. Each player should start with 5 cards and take turns asking for a card to create 10.

Eg. If partner A had "3" they would ask "Do you have any 7s?". If partner B has a 7 they must give it to partner A. The first person to match up all of their cards wins!

Swat: Line up the cards 1-10. Give your child an equation or fact about the number. They can smack the number with a fly swatter when they know it.



Tricky Card Games

1. Battle fractions: Each player draws 2 cards to make a fraction. The biggest (or smallest fraction wins).
2. Flip 2 cards over, say the fraction name, what is the equivalent decimal?
3. Race to 100 Directions: Place the deck face down in the center of all players. Each player starts with a score of 0. Flip a card over and add its value to your running total. The first player to reach 100 without going over wins!
4. Place Value Battle Directions: Let's battle! But with 3 cards and a place value twist. Flip over 3 cards. Each player creates the largest number they can. Players compare numbers, and the largest number wins.
5. Hit The Target Directions: Lay five cards in the center of all players (facing up). Flip over another card, which is the target number. Players then create an equation in which they can add, subtract, multiply or divide their 5 numbers to hit the target number. Try to use all five cards, but you must use at least 2 cards. The winner takes the cards in the equation, plus the target number. (Whiteboards and markers or paper and writing utensils can be helpful with this game!)

Dice Games

1. Roll 2 dice and quickly add or multiply them together, pass the dice to the next person. You can have this noncompetitive or competitive with “stealing” allowed.
2. Roll 3 dice and multiply to increase difficulty
3. Roll 2 dice and create a fraction. Eg. 4 and 6 is $\frac{4}{6}$. Convert the fraction to a decimal or the smallest equivalent fraction ($\frac{2}{3}$ or 0.667)
4. Roll one die and determine how many more until 10.
Roll one or two dice and determine how many more until 20.
5. Roll 2 dice. Make a 2 digit numbers with the numbers you have rolled (eg. first dice has 4 and second dice has 6, the number is 46). Take turns saying the value of each digit in your rolled number. Eg. The number is 46, 4 groups of 10, 6 ones.
6. Roll two dice to make a 2 digit number (eg. first dice has 4 and second dice has 6, the number is 46). Determine which ten that number is closest to.
7. Roll 4 dice and create an expression, what is the total? Make sure to follow the order of operations.
8. Roll 2 dice 3 times to create 3 double digit numbers, add the numbers together.
9. Knock out 7's. Directions: Roll 2 dice and add them together (eg. $4+2$). Record the number. If the player rolls a 7 (eg. $4+3$), all points are knocked out for that player. Take turns until each player has had 10 rolls. The highest value wins.



Math in your Kitchen

When exploring length, mass, capacity and area, children will be comparing, sorting, estimating and measuring.



Pantry Raid!

Grab items from your pantry, get kids to make a human balance and order items. Check them with a scale after!

Benchmarks

Children discover benchmarks for main units (cm, m, km, kg, L).

Ask them what their benchmarks are!

Missing Cup

The challenge - scoop or pour an amount into measuring cups, but some cups are missing! What other cups could we use to help?

DID YOU KNOW?
Children start to learn about metric units in length (cm, m) in grade two and metric units in capacity and mass (ml, L, g, kg) in grade four. Before that they explore using non-standard units





You are baking, but can only find these measuring cups in your kitchen drawer.

The recipe asks for $2 \frac{1}{4}$ cups of flour. How could you use the measuring cups to make that amount?

The recipe asks for $1 \frac{2}{3}$ of sugar, how could you make that amount of sugar?

Math in the Kitchen

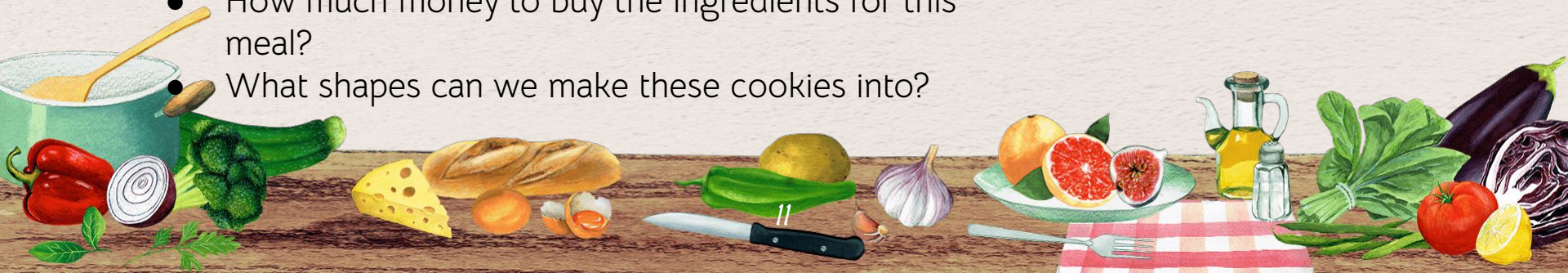
- Not only are kids building their math skills and confidence, but they are seeing how math is part of their everyday lives. An added bonus is that they are spending time with you!

Questions you could ask in the kitchen...

- What if I eat ___ pieces, how many will I have left?
- Let's double/half the recipe
- What percent of the pizza is left?
- What fraction of the pie did you eat?
- How many cups make a litre?
- How can we share these cookies equally between the family? Do we have any left?
- How much money to buy the ingredients for this meal?
- What shapes can we make these cookies into?

Equipment that can start math conversations...

- thermometer
- measuring cups/spoons
- scales
- pizza cutter
- timer
- rolling pin



Counting in your environment

How do play, organization and math connect?

- Playing with the organization and structure of items helps us to see quantity
- The way quantities are organized helps us to connect to numerical values (Identifying important numbers in our number system - 5, 10)

Everyday counting opportunities and skills

- Organizing piles
- Missing items
- Minutes until...
- Skip counting
- Estimating
- Reasoning with numbers

Game

- SPLAT!

Estimate how many shoes?



How can you organize them to count them easily?

How many lockers?



How many open vs. closed?

Which jar has more?



Game: SPLAT!

To play, player one draws or arranges a number of items. (See image 1)

Player two then see's their arrangement and needs to first figure out how many items are there without moving them.

- This is a good opportunity to ask questions about how they visualize their counting, are they mentally grouping the objects to count quickly? Or trying to count each one?

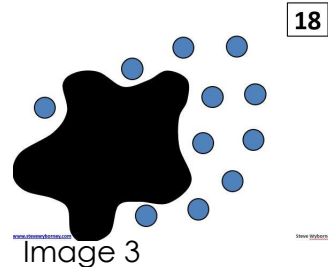
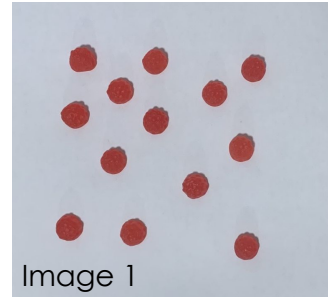
Once player 2 has determined how many objects there are, player one gets to say SPLAT! and quickly covers a section of the items. You can use anything as the splat cover - a piece of paper, hand, cup - see Image 2 as an example.

Player two now has to determine how many objects are hidden under the splat.

Questions to ask during this game:

- How many objects do you see?
- How did you see them? Or how did you mentally organize them to count them?
- How many shapes are under the splat?
- How do you know?

This game can be played with any items that you have a handful of (coins, buttons, candy) or can always be played with paper and pencil, or on a whiteboard (See image 3 as an example)



Games that build multiplication skills

Race to One Hundred

How Close to 100?



Race to One Hundred

Task Instructions

- Each player takes turns rolling the two dice. Markers are placed at zero.
- Player 1 may choose to calculate the sum, difference, product or quotient of the two numbers displayed on the dice.
- Player 1 then moves their marker to that number on the chart.
- Player 2 takes their turn.
- For player 1's second turn they determine the sum, difference, product or quotient. This number is then added to the number under their marker and the marker is moved to this sum.
- Play ends when one player reaches one hundred.
- If a player rolls and computes a number that cannot be added to the last number without going over 100 they lose their turn.
- If player 1 reaches 100 first, player 2 finishes the round to see if they can tie the game.

How Close to 100?

Task Instructions

- This game is played in partners. Two children share a blank 100 grid.
- The first partner rolls two number dice.
- The numbers that come up are the numbers 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, she writes in the number sentence that describes the grid.
- The second player then rolls the dice, draws the number grid and records their number sentence.
- The game ends when both players have rolled the dice and cannot put any more arrays on the grid.
- How close to 100 can you get?

Can I purchase board games that help develop my child's ability to understand multiplication?

MULTIPLICATION BY HEART

Amazing visuals for multiplication mastery

PRIME CLIMB

The Beautiful, Colorful, Mathematical Game

TINY POLKA DOT

Check out: <https://mathforlove.com/awg/>

But how does this all relate to math confidence?

Teachers and parents need to replace sympathetic messages such as “Don’t worry, math isn’t your thing” with positive messages such as “You can do this, I believe in you, math is an open, beautiful subject that is all about effort and hard work.”

‘To be successful mathematicians, young children also need to learn to be brave with new ideas. They need to feel confident enough to take risks, try new strategies, and share their thinking even when it contradicts that of others.’