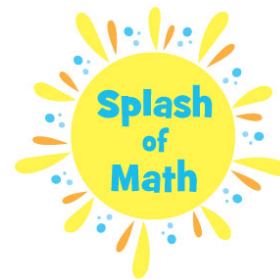


Beach Ball Party

Grades 3-5



The Big Idea

Today you're going to play math games with a beach ball! You'll estimate how many breaths it takes to blow up a beach ball, then play Zigzag Volleyball and Sporty Forty. You'll have a ball!

Supplies

In your kit:

- ★ Beach balls: 16

You provide:

- ★ Cellphone or computer that can play music audibly, with easy start/stop

Key Prep

- ★ Blow up 2 beach balls ahead of time and keep a 3rd ball deflated but nearby.
- ★ Find a song to play for Hot Potato, which is similar to musical chairs. A fun math-y pop song option is "1 2 3 4 5 6" by Fitz and the Tantrums. If you don't have a device to play music, you can say "Start" and "Stop" to direct gameplay.

Room Set-up

- ★ You will need a large open space, to allow groups of kids to stand in lines and circles.

What's the Math?

- ★ Addition and subtraction
- ★ Logic: thinking ahead multiple steps
- ★ Multiplication
- ★ See last page for Curriculum Standards

Kickoff

"Today we're going to use this beach ball to practice our math facts. Being quick at recalling math facts will help make math class easier from now through high school and is something you'll use your whole life!"

Full of Hot Air (10 minutes)

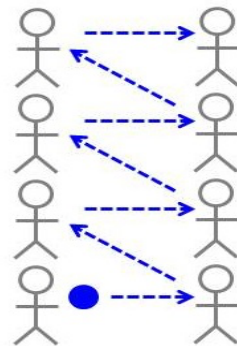
"To get this party started, we need air in this ball!"

1. Hold up an inflated ball so kids see its rough size.
? "How many breaths do you think I'll need to blow up the ball?"
2. Kids call out their guesses.
3. Then you begin blowing up the ball with normal-sized breaths, as the kids count along.
4. Stop when the ball is inflated halfway.
? "How many breaths is that so far?"
? "Do you want to change your guess for how many total breaths I'll need to take?"
5. Continue inflating the ball while the kids keep counting.
6. Compare the actual number of breaths it took to inflate the ball vs. the kids' guesses.
Party Fun Fact: In each breath, people take in about 1 cup of air per 65 pounds that they weigh!

Zigzag Volleyball (10-15 minutes)

"Now we're going to play a game that's similar to volleyball, which we call Zigzag Volleyball. You're going to toss the beach ball back and forth over the imaginary 'net' as fast as you can. Then we'll add in the math!"

1. Divide the club into 2 or 3 groups. (If you have a small club or not enough space, make only 2 groups.)
2. Give each group 1 beach ball.
3. Have the groups divide roughly in half into 2 teams and stand facing each other in 2 straight lines about 5 feet apart with an imaginary "net" down the center line.
4. Start with a practice round just zigzagging the ball so kids get the hang of it. Toss the ball to the 1st kid on the 1st team to start the game. That kid then tosses the ball to the 1st kid on the 2nd team, who then throws to the 2nd kid on the 1st team to start a zigzag. Continue zigzagging to see how fast they can go and reverse the direction when the ball reaches the last kid.
5. Once kids get the hang of zigzagging, add in the math:
★ "Call out the 2 numbers closest to your thumbs and add them. For example, if your numbers are 5 and 3, say: '5 plus 3 is 8!'"
6. Once kids get going, start to ramp up the math: subtract the numbers and call out the difference, then multiply the numbers and call out the product!



Hot Potato (10-15 minutes)

"Now we're going to play our own version of Hot Potato! Does anyone know the game? What would you do if someone gave you a VERY hot potato from the oven?" **Discuss.** You'd toss it away fast!

1. Explain the rules:
 - ★ "Your group will stand in a circle and toss the ball to the right while I play music from my phone." *If you don't have a device to play music, you can tell the kids you'll say "Start" and "Stop" to direct gameplay.*
 - ★ "When the music stops, whoever is holding the ball multiplies the 2 numbers touching your thumbs. If the product is less than 17, you stay in – but if it's 18 or more, you're out and you sit down." NOTE TO COACH: These numbers have been selected to ensure that roughly 50% of catches get knocked out, so the game moves along.
 - ★ "Last person standing wins! So multiply quickly - you want to avoid holding that ball, to lower your chances of being knocked out."
2. Give a ball to 1 player in each circle, turn your back to everyone and start the music.
3. Hit pause on the music every few seconds. Vary the length you wait so kids don't know what timing to expect!
4. Once each group has a winner, feel free to play another round.

Sporty Forty (15-20 minutes)

"In this game, we'll toss a beach ball from player to player – each time adding our numbers to the running total! If YOUR number brings the total to 40, you're out!"

1. Shuffle the club into 3 new groups. Clubs with fewer than 12 kids play as 2 groups.
2. Each group stands in a circle.
3. Randomly select 1 player in each circle. Give that player a ball and a number between 1-4 to start.
4. Player 1 says that number and tosses the ball to any other player in the circle.
5. Player 2 says any number from 1 to 10, adds that number to Player 1's number and says the sum before tossing to any other player.
6. Player 3 says any number from 1 to 10, adds that number to Player 2's total and says the sum before tossing to any other player.
7. Play continues until the player holding the ball brings the total to 40, without going over.
 - ★ "Here's a sample round: Player 1 starts with the number 4. Player 1 tosses the ball to another player who says, '4 plus 5 equals 9.' That player tosses the ball to another player who says, '9 plus 10 equals 19.' That player tosses to another player who says, '19 plus 10 equals 29.' That player tosses to another player who says, '29 plus 1 is 30!' The last player is out!"
8. The same player can catch the ball multiple times in the same round but encourage kids to try and pass to everyone at least once.
9. Rounds continue until there's 1 winner left standing.
10. Play as many rounds as time and interest allow!

Wrap Up

"Knowing your math facts will make math class much easier. It's a skill you'll depend on your whole life!"

Send a beach ball home with each kid – tell parents it's a great way to improve math fact fluency this summer! If you have a leftover beach ball, keep it handy to practice math facts if you have time at the end of another session.