An After-School Math Club Like No Other!

Bedtime Math Foundation presents **Crazy 8s, a free program to help schools, public libraries, 501c3 organizations or homeschool co-ops launch recreational after-school math clubs. We have 24 weeks of activities delivered in three 8-week seasons for grades K-2 and 3-5.** It's nothing like the competitive clubs that appeal to a select few; with lively activities like Bouncy Dice Explosion and Glow-in-the-Dark Geometry, Crazy 8s can appeal to any child. We're making math club the cool thing to do after school!

Our goal with Crazy 8s is nothing short of overhauling our country's culture around math. While many Americans dislike or even fear math, we hope to raise a next generation who loves numbers. Here's how Crazy 8s fulfills that mission:

- ★ It's **recreational**: Crazy 8s is hosted outside the school day only, so kids think of it as another playtime alternative. The activities get kids working together, building together, running and jumping together, so they can bond over math in a whole new way.
- ★ It's linked to **real life**: Our hands-on, get-up-and-move activities explore the math behind kids' favorite things, like playground swings, treasure hunts, card games, puzzles – even robots and video games!
- ★ It's **proven**: A study by Johns Hopkins University found Crazy 8s reduced kids' math anxiety after only 8 weeks in the club.

And the kits really are free! All of founder Laura Overdeck's royalties from the popular Bedtime Math book series are invested back into our nonprofit to help fund the materials.

crazy8sclub.org

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Kit Contents

Bedtime Math provides each club with **free kits** containing most of the supplies needed to play our games, as well as math-y take-home items for your club members. Coaches will need to provide a list of school supplies, like paper, scissors, pencils, markers, masking tape, etc…, and access to a printer.

Honor Code

All Crazy 8s coaches must submit a kit application, which will be finalized during a brief phone call with one of our Crazy 8s Ambassadors. During this call, we'll give you access to our online Coach's Area, where all of our step-by-step directions are stored along with overview videos, math tips, marketing materials and more. We'll also review our Crazy 8s Honor Code:

- **Enroll 12-16 kids of ALL math abilities** who volunteer to join a recreational math club.
- Offer each club for grades **K-2 or 3-5** (we also allow grades 1-3 or 4-5). Yes, you can run clubs for both groups;
- ~~Schedule each Crazy 8s season for **1 hour weekly over 8 *reasonably* consecutive weeks**;~~
- ~~Run Crazy 8s **during the school year only**; Summer clubs are not permitted;~~ We're making exceptions to these 2 rules for summer 2022! We'll allow clubs to run daily or multiple times per week during the summer months.
- Reserve a large, open space in a **public location**, like a school, library, community room or park pavilion;
- Prepare for every meeting by reviewing the lesson plans and organizing the materials IN ADVANCE, and don't forget to bring your enthusiasm!
- **Donate all leftover materials** to the children at the end of your 8-week season;
- Provide us with feedback at the end of each season via our online survey.

To apply for a kit, visit crazy8sclub.org

Weekly Summary
Season 1

Overall:

Join Bedtime Math's Crazy 8s, where you'll build stuff, run and jump, make music, make a mess - it's a totally new kind of math club! Make mischief and memories with activities like Glow-in-the-Dark Geometry, Bouncy Dice Explosion and Pirate Treasure Hunt. You'll get to take home some cool gadgets, too.

Weekly Sessions:

Glow-in-the-Dark Geometry: Make geometric shapes using glowsticks. Lay out the sticks to create mystical repeating patterns. Then flick off the lights to see it all glow!

Beach Ball Party: This is a party you won't want to miss! You'll use our star-studded beach ball to play volleyball, then go gaga chucking the ball against targets to score points.

Spy Training: See if you have what it takes to be a spy. You'll break different codes for clues to find the hidden treasure!

Daring Darts: Supersize the fun in this giant game of floor darts! Once we learn how to keep score, we'll use hacky sacks to play a few rounds.

Crazy Card Club: Crazy 8s isn't just the name of our club; it's also a famous card game! Learn how to play it and other fun games using a deck of cards you get to keep!

Bouncy Dice Explosion: Your big chance to throw things because you're supposed to. Find out the probability of rolling a 2 or a 5, then try to be the winning chip on a Bingo board.

Pirate Treasure Hunt: Map out coordinates to create a secret picture. Use your skills to find the treasure before the pirates do!

Flying Fuzzies: Send fuzzy pom-pom balls flying through the air using popsicle sticks and rubber bands. Figure out what launch positions work best, then measure the flight to prove it.

SAMPLE DIRECTIONS

Glow-in-the-Dark Geometry

Grades 3-5

The Big Idea

This week you'll build **geometric shapes** out of glowsticks. First, make all kinds of triangles and quadrilaterals. Then lay the sticks in **mystical repeating patterns on the floor**. Certain shapes work perfectly!

Supplies

Bedtime Math provides:

- ★ 8" glowsticks: about 8 per kid

You provide:

- ★ Large writing surface, e.g. blackboard, whiteboard or a large piece of paper

Room Set-up

You'll need a room that can get **fairly dark** with the lights off.

Other Key Prep

To save club time, you can unwrap the glowsticks **right before you start**, and gently snap all sticks to make them glow.

What's the Math?

- ★ 2-D geometric shapes
- ★ Pattern recognition: both shapes and numbers
- ★ Bonus: Ratios

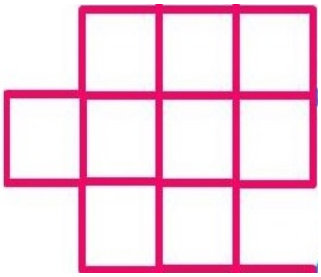
Glow-in-the-Dark Geometry

Version: Grades 3-5

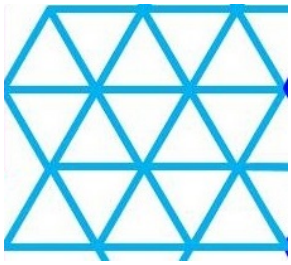
Activity #2: Hit the Floor (15-20 minutes)

Intro to the kids: "Now we're going to decorate the floor with **repeating shapes**. What do you call a shape with straight sides?" (A **polygon**.) "And if all sides are equal, they're **regular polygons**. Which regular polygons fit together with no gaps or overlaps?"

1. Let the kids **experiment** to see what shapes fit together.
2. If needed, guide them to discover that **triangles**, **squares** (or any rhombus) and **hexagons** are the only regular polygons that work.
3. Have the whole group arrange the glowsticks on the floor in a **big lattice of squares**, as shown here.
4. Flick off the lights to see it glow!

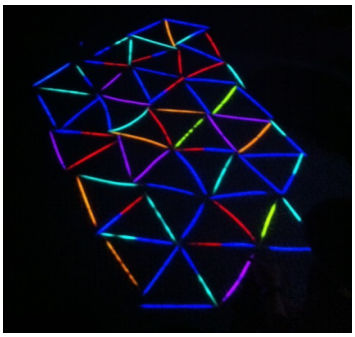


5. Now the kids **clear the floor** of sticks and lay the glowsticks in a new **lattice of equilateral triangles**.
6. You can turn the lights back on while they work, then do the reveal, or leave them off.



Ask the kids:

- ★ "**How many triangles** did you make?" See how they count – tiptoeing works!
- ★ Once they've started counting, ***ask:*** "**What *size* triangles** are you counting?" This reminds them to consider bigger triangles!
- ★ "**How many *sticks*** did you use?" Did they need 3 per small triangle? Why not?



Bonus (optional): Ask the kids: "How many **sticks per triangle** should you need as you make more triangles?" Hint: what happens when triangles share a side? Answer: as you go to infinity, you will need only **half as many sides as expected**, or 3/2 glowsticks per triangle.

SAMPLE DIRECTIONS

Bouncy Dice Explosion

Grades K-2

The Big Idea

This week you're going to **toss bouncy rubber dice** to see what numbers you roll. You'll also play **War** to see who's the high roller. Finally, you'll move onto a **giant human Bingo board**, where you'll roll **2 dice** and pick any number that could win!

Supplies

Bedtime Math provides:

- ★ Bouncy rubber dice: 32
- ★ Rock 'n' Roll Bingo numbers: 1 set

You provide:

- ★ Masking tape
- ★ Paper: 1/2 sheet per kid
- ★ Stickers: 5 per kid

Room Set-up

- ★ You'll need open space, at least a 6 x 6-foot rectangle, to toss the dice.
- ★ If you have extra space beyond that, you can **set up the Rock 'n' Roll Bingo numbers** ahead of time. Be sure to leave enough space around the bingo numbers so that kids are not squeezed too close together when playing.

Other Key Prep

- ★ Before the kids leave today, tell them that next week they're going to be secret spies! Encourage them to come dressed as spies, and you can play the part, too; **On the day of the Spy Training session,** wear a trench coat and shades, and greet the kids in a darkened room with a shining flashlight: "Do you have what it takes to be a spy?" Some coaches also play spy-themed music, like the theme from Pink Panther or Mission Impossible!

What's the Math?

- ★ Counting
- ★ Addition
- ★ Subtraction
- ★ Frequency
- ★ Strategic thinking
- ★ Bonus: Single-digit division

Kickoff

Intro to the kids: "Dice don't really roll, do they? Since they're **cubes**, with straight lines and angled corners, they bounce and tumble instead of rolling like a ball. Today we have some really bouncy dice to toss!"

Rock 'n' Roll Bingo (20-25 minutes)

Intro to the kids: "Who here likes playing Bingo? Today we're going to jazz it up. First of all, you're going to play on a **giant** Bingo board where **you are the chips**. Secondly, you'll get to **roll 2 dice** and **choose where to stand** based on the numbers you roll! When 5 people are standing in a straight line and yell 'Bingo!' they win."

1. **Pull out the "Basic" numbers from the Rock 'n' Roll Bingo Numbers pack** and follow the set-up guide to tape them to the floor. Be sure to leave enough space around the numbers so kids aren't squeezed too close together when playing.
2. The first player **rolls both dice** and decides where to stand: on a **number** shown on any 1 die OR the **sum of the 2 dice** - their pick! Encourage the players to work together to **choose the best move**.
3. If none of the numbers or sum of the dice matches an open square, the player may **roll again**.
4. If the dice add up to **10, 11, or 12** and those spots are already occupied, the player can roll again or choose to stand in the **free space**.
5. Repeat for each player in line.
6. If you **run out of players** before anyone can yell "Bingo!", use shoes or other objects as placeholders. The players can start rolling again from their places, in their original order.
7. The **first 5 kids to form a row** yell "Bingo!" and win the round.
8. Repeat the game as time and interest allow, making sure every player gets to roll at least once.

Bonus (optional): If the kids are ready for a challenge, let them add, subtract or multiply the 2 numbers on the dice to play the game.

A Touch of Class: "We're really on a roll with these dice! Not only did we practice our addition skills, we learned about the math behind probability, which is used to forecast weather and help coaches make decisions on game day!"

When you're all done, each kid gets to **take home a pair of dice** to keep the math fun rolling!