

An After-School Math Club Like No Other!

Any kid who likes math should get to enjoy more of it. So Bedtime Math has created Crazy 8s, a **free kit** to host an after-school math club that any school, public library, 501c3 organization or homeschool co-op can order. We have 32 weeks of activities delivered in (4) 8-week seasons for grades K-2 and grades 3-5. It's nothing like the competitive-worksheet clubs that appeal to a select few; with lively activities like Bouncy Dice Explosion and Toilet Paper Olympics, Crazy 8s can appeal to any child. We're **making math club the cool thing to do!**

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 like sports, chess or dance.
- ★ It's **social**: The crazy activities get kids working together, building together, running and jumping together. Kids bond over math in a whole new way.
- ★ It's **part of daily life**: Each club season runs **8 consecutive weeks** for 1 hour weekly so that it's woven into the fabric of a child's routine.

And the kit **really is 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. To learn more about Crazy 8s and to start a club in your town, visit our Crazy 8s webpage at <https://crazy8s.bedtimemath.org/home/what>.

WEEKLY SUMMARY

Below please find **Season I** activity descriptions that you can use in your announcements!

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! You'll get to do mischief-making activities, like *Glow-in-the-Dark Geometry*, *Bouncy Dice Explosion* and *Toilet Paper Olympics*, and you'll get to take home some cool gadgets, too.

Weekly Sessions:

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

Bouncy Dice Explosion: Your big chance to throw things because you're supposed to. Find out your chances of rolling a 2 or a 12, then try to be the winning chip on a giant human Bingo board.

Spy Training: See if you have what it takes to be a spy, and crack the codes to the clues to find the hidden treasure!

Time of Your Life: Find out what makes you tick. You'll practice telling time on an analog clock and discover the fun math hidden inside a digital clock!

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!

Flying Marshmallows: Send marshmallows flying through the air using popsicle sticks and rubber bands. Figure out what positions work best, then measure the flight to prove it.

Let's Get Loud: Experiment with water and straws to create different sounds, then build a working flute out of milkshake straws. After all that, find out exactly how loud you are, down to the numbers!

Toilet Paper Olympics: Bet you never knew sports and toilet paper could go together, huh? Get on a roll with your Olympian skills in the shot put, the long jump, and the relay race.

SAMPLE DIRECTIONS

Glow-in-the-Dark Geometry

Version: 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, or a 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

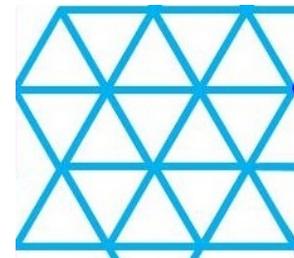
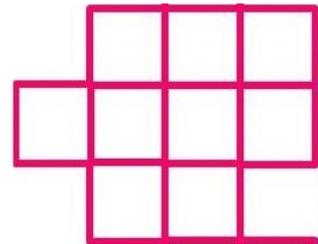
Glow-in-the-Dark Geometry

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 only **triangles**, **squares** (or any rhombus) and **hexagons** 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

Toilet Paper Olympics

Version: Grades K-2

The Big Idea

This week you're going to host your own Olympics, **measuring** your feats using **toilet paper**. You'll do the **long jump**, the **shot put**, and finally a **relay race** with toilet paper unfurling off a paint roller. Then mummify the winner and **count up the squares!**

Supplies

Bedtime Math provides:

- ★ Paint rollers: 2
- ★ Measuring tapes: 1 per kid (will also be used in later sessions)
- ★ Stopwatches: 2 for the coach(es)
- ★ **To print:** Olympics Scorecard: 1

You provide:

- ★ Double-ply toilet paper - make sure they're 4-inch squares!: 6-8 rolls
- ★ Large binder clips: 4
- ★ Roll of masking tape
- ★ Pens, pencils, or markers: 2

Room Set-up:

- ★ You'll need a 25-foot-long hallway or flat space!
- ★ Set up the long jump: tape both ends of **10 feet** of toilet paper to the floor, and put a piece of tape 15 feet **before it** as the **start line** (see page 3 for photos).

Other Key Prep: Print **1 copy** of the **Olympics Scorecard**.

What's the Math?

- ★ Counting
- ★ Measuring lengths; units of length
- ★ Estimation
- ★ Bonus: Single-digit multiplication and division

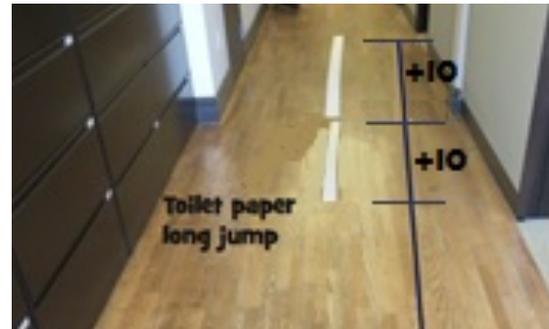
Toilet Paper Olympics

Version: Grades K-2

Activity #2: The Shot Put (10-15 minutes)

Intro to the kids: "In the real Olympics, super-strong men and women compete in the shot put, where they throw really heavy metal balls. But today you're going to hurl a roll of toilet paper!"

1. **Add another 10 feet** of toilet paper to the strip you've already taped down, to accommodate long throws!
2. Show the kids **how to shot put**, by crunching your arm and pushing a full roll into the air.
3. Each contestant **stands at the long jump take-off point** to throw the roll of TP.
4. The other kids watch to see **where it lands**, then mark with a piece of masking tape and write the thrower's initials.
5. **After all throws**, teams **count the squares** to measure the distances. Record their results.



Ask the kids:

- ★ "How many squares long was each team's best throw? Use your math skills and count them up!"
- ★ "Which team had the *best best* throw?"

Bonus (optional): To the kids: "Now use our mathematical measuring unit of a toilet paper square to **convert the length** of your best throw to **feet and inches**, using 3 squares per foot." Again, see how they tackle the math. Record the group's results!

NOTE: Larger clubs can make **2 runways** and run both events simultaneously if space permits.