

## Summer Math Ideas for Incoming 5<sup>th</sup> Graders

*Congratulations on a wonderful year of math!*

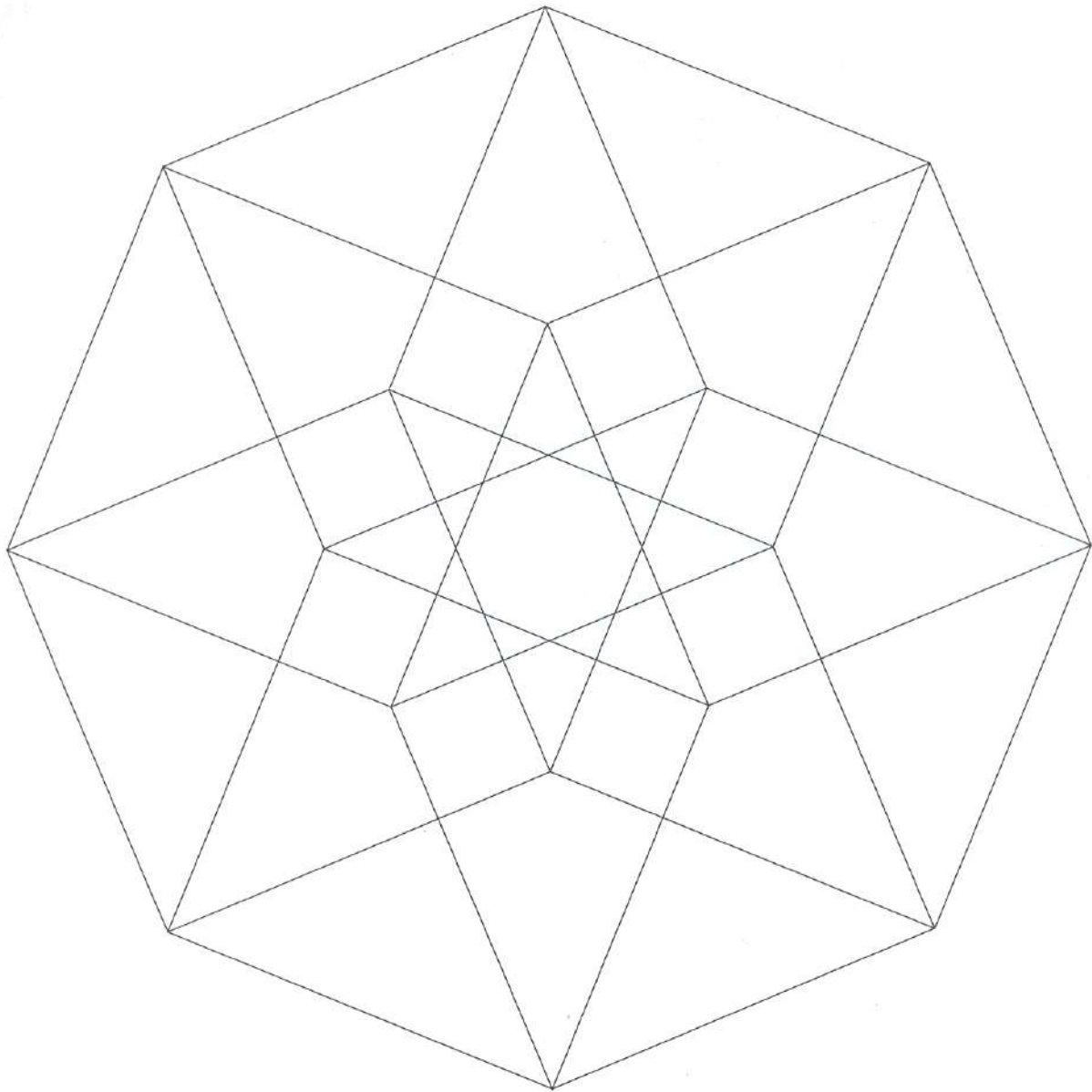
*Here are some ideas to help you continue having fun with math and growing as a math thinker even in the summer. Try them out with your parents, friends and siblings! Exploring ideas is always more fun when you do it together. (If you do some of these activities, record them on your Alternate Summer Math Calendar.)*

- Notice numbers, patterns, sizes and shapes in the world & ask questions about them
  - Challenge each other with questions like: *How many grandmas tall is that tree? What day will we be halfway through the summer? Is Harvard Square really square? How many m&m's will you eat in a year?*
- Explore math and art with coloring
  - Color one of the attached patterns for Ms. Hansel and bring it back to post on a Math Art wall at the beginning of the year.
  - You can find more fabulous math coloring pages in books like *Patterns of the Universe* by Alex Bellos and *1 to 100 Cubes* and *1 to 100 Circles* by Mark Gonyea.
- Play board games & card games
  - Choose fun, family games that aren't pure chance, but instead involve choices and some strategic thinking about scoring. (*Play together & discuss strategy!*)
  - Card games: Kodama, Coloretto, 6 Nimmt, Red 7, Lost Cities, Set
  - Board games: Quirkle, Blokus, Machi Koro, Settlers of Catan, Forbidden Island
- Play some fun Mathy Game Apps
  - Look for engaging games that go beyond just fact practice.
  - 2048 (doubling, spatial thinking)
  - Math Doodles (several games covering many number types & skills)
  - Wings (multiplication adventure)
  - Prime Smash (prime and composite numbers)
  - Wuzzit Trouble (multiples, problem solving)
- Explore topical math problems with Math in the News on Twitter
  - <https://twitter.com/MathInTheNews>; @MathinTheNews
  - Math in the News posts a math problem related to something in the news every school day. Scroll through past posts to discover interesting stories from last year and try out some problems related to the math in them.

**Have some fun with math this summer!**  
**- Ms. Hansel**

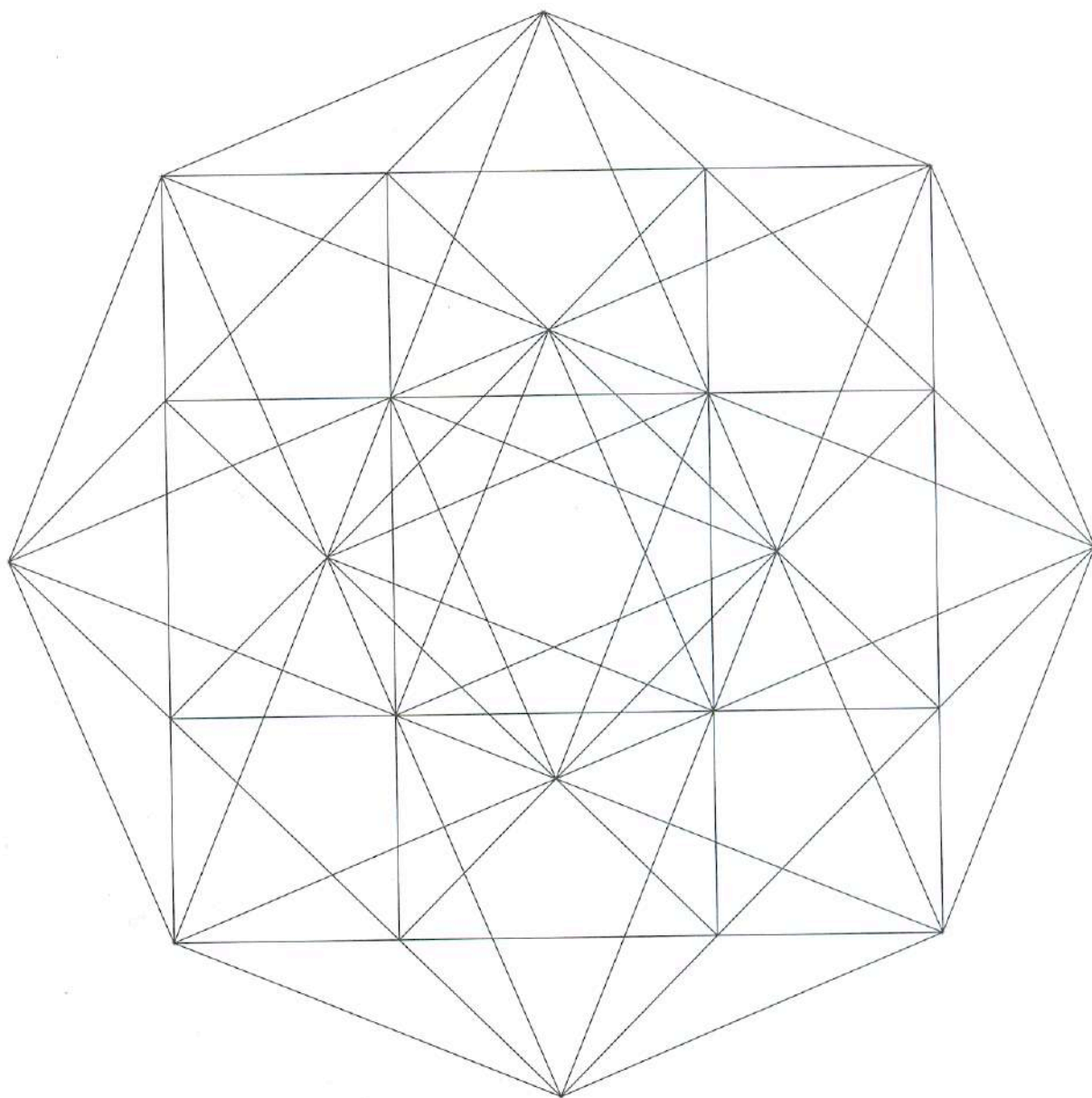
*If you have any questions or would like more suggestions, you are welcome to contact me!*  
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# Hypercube



*Image from Patterns of the Universe by Alex Bellos and Edmund Harris*

## Octaplex



*Image from Patterns of the Universe by Alex Bellos and Edmund Harris*

## Megadoku

|    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 2  | 1  | 3  | 7  | 13 | 11 | 12 | 6  | 5  | 10 | 14 | 9  | 8  | 15 | 4  |
| 5  | 4  | 6  | 10 | 1  | 14 | 15 | 9  | 8  | 13 | 2  | 12 | 11 | 3  | 7  |
| 1  | 3  | 2  | 9  | 15 | 10 | 11 | 5  | 4  | 12 | 13 | 8  | 7  | 14 | 6  |
| 11 | 10 | 12 | 1  | 7  | 5  | 6  | 15 | 14 | 4  | 8  | 3  | 2  | 9  | 13 |
| 6  | 5  | 4  | 11 | 2  | 15 | 13 | 7  | 9  | 14 | 3  | 10 | 12 | 1  | 8  |
| 9  | 8  | 7  | 14 | 5  | 3  | 1  | 10 | 12 | 2  | 6  | 13 | 15 | 4  | 11 |
| 10 | 12 | 11 | 3  | 9  | 4  | 5  | 14 | 13 | 6  | 7  | 2  | 1  | 8  | 15 |
| 3  | 2  | 1  | 8  | 14 | 12 | 10 | 4  | 6  | 11 | 15 | 7  | 9  | 13 | 5  |
| 13 | 15 | 14 | 6  | 12 | 7  | 8  | 2  | 1  | 9  | 10 | 5  | 4  | 11 | 3  |
| 12 | 11 | 10 | 2  | 8  | 6  | 4  | 13 | 15 | 5  | 9  | 1  | 3  | 7  | 14 |
| 14 | 13 | 15 | 4  | 10 | 8  | 9  | 3  | 2  | 7  | 11 | 6  | 5  | 12 | 1  |
| 4  | 6  | 5  | 12 | 3  | 13 | 14 | 8  | 7  | 15 | 1  | 11 | 10 | 2  | 9  |
| 7  | 9  | 8  | 15 | 6  | 1  | 2  | 11 | 10 | 3  | 4  | 14 | 13 | 5  | 12 |
| 15 | 14 | 13 | 5  | 11 | 9  | 7  | 1  | 3  | 8  | 12 | 4  | 6  | 10 | 2  |
| 8  | 7  | 9  | 13 | 4  | 2  | 3  | 12 | 11 | 1  | 5  | 15 | 14 | 6  | 10 |

Megadoku: Choose a different colour for each number and fill in the corresponding squares

# Tridoku

|       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 9 2 4 | 3 8 1 | 6 5 7 | 7 3 5 | 4 6 2 | 1 9 8 | 8 1 6 | 5 7 9 | 2 4 3 |
| 8 1 6 | 2 7 3 | 5 4 9 | 9 2 4 | 6 5 1 | 3 8 7 | 7 3 5 | 4 9 8 | 1 6 2 |
| 7 3 5 | 1 9 2 | 4 6 8 | 8 1 6 | 5 4 3 | 2 7 9 | 9 2 4 | 6 8 7 | 3 5 1 |
| 6 8 1 | 9 5 7 | 3 2 4 | 4 9 2 | 1 3 8 | 7 6 5 | 5 7 3 | 2 4 6 | 8 1 9 |
| 5 7 3 | 8 4 9 | 2 1 6 | 6 8 1 | 3 2 7 | 9 5 4 | 4 9 2 | 1 6 5 | 7 3 8 |
| 4 9 2 | 7 6 8 | 1 3 5 | 5 7 3 | 2 1 9 | 8 4 6 | 6 8 1 | 3 5 4 | 9 2 7 |
| 3 5 7 | 6 2 4 | 9 8 1 | 1 6 8 | 7 9 5 | 4 3 2 | 2 4 9 | 8 1 3 | 5 7 6 |
| 2 4 9 | 5 1 6 | 8 7 3 | 3 5 7 | 9 8 4 | 6 2 1 | 1 6 8 | 7 3 2 | 4 9 5 |
| 1 6 8 | 4 3 5 | 7 9 2 | 2 4 9 | 8 7 6 | 5 1 3 | 3 5 7 | 9 2 1 | 6 8 4 |

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