

Washington Office of Superintendent of **PUBLIC INSTRUCTION**



Mathematics

News etter

October 2021

Welcome to Mathematics at Home!

We are excited to share our Fall **Mathematics at Home Newsletter.**

The shorter, cooler days means a return to school and thankfully in most cases, a return to the classroom. We hope your kids are adjusting well as they enjoy being



able to interact with their peers and get to work with teachers face to face. As in person learning and all sorts of activities resume, we have replaced our choice boards with strategies for simple questions that will spark mathematical interest and conversation on the trips to soccer practice, dance lessons, etc. or just around the house. We hope that you enjoy the slower place of summer to connect with and engage your kids in math.

We welcome your feedback, suggestions and ah-ha moments. Reach out to us anytime at <u>Mathematics@k12.wa.us</u>

Math Resources

Little Questions For Big Conversations

Sometimes a simple question can lead to rich discussion and learning. Our question for this fall is: What repeats?



In an image, such as the one you see to the left, there are many options for repetition and patterns. Ask the question and see what happens! You need not steer the conversation in any one direction. Let your child's thinking take the discussion wherever it leads.

In addition to grade level content your child is learning at school, teachers are also helping students to see repetition and patterns, and to use that type of reasoning to solve new problems. <u>(Standards for</u> <u>Mathematical Practice 7 and 8)</u> This thinking happens at all grade levels so you can support your child to develop this understanding today and in the future as it works best for them.

Want more ideas for seeing repetition and

patterns? There are many resources available, but two of our favorites are <u>Math</u> <u>Anywhere</u> and <u>Visual Patterns</u>.

Exploring Math Through Stories

Great stories are a wonderful way to get young people of all ages excited and interested in mathematics. The annual book prize, <u>Mathical: Books for Kids from</u> <u>Tots to Teens</u>, recognizes the most inspiring math-related fiction and nonfiction books that bring the wonder of math to life.

Absolutely One Thing, featuring Charlie

and Lola (2017 Mathical Prize Winner)

Written by Lauren Child

Ages 5-8

Sometimes, as a treat, Mom takes Charlie and Lola to the store and says they may choose one thing. "One thing to share?" Lola asks. No, it's one thing each, explains Charlie, or two actual things between two. Lola is nine minutes late getting ready, and on the



way, there are ladybugs and birds to count and maybe a squillion leaves on a tree. At the store, Lola says she'll choose three things, or possibly two. "How about no things?" asks Mom. With Lola hilariously bending everyday numbers to her will, the math goes down easy in this charming picture book loaded with visual appeal.

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KEY MATH CONCEPTS

- Counting, measuring, and estimating
- Comparing
- Imagination as a mathematical skill

RESOURCES

Want to enjoy Mathical books with the children around you? Feeling uncertain about guiding them through the book?

<u>Teaching Activity Guide</u> (PDF) Copyright © 2020 All Rights Reserved. Mathematical Sciences Research Institute.

Math & Art: Symmetry

Exploring symmetry is a fun way to see math and art working together.

Dot Art Symmetry

Fold a sheet of paper in half, then open it back up. Using different colors of paint make a pattern with dots on one side of the paper. Fold the clean side over the painted side and press hard, smoothing the paper. Unfold and see the dot design you just made.

Butterfly Symmetry

Fold a sheet of paper in half, then open it back up. Using black paint or glue make the outline of a butterfly's wing and the design of the wing on one side of the paper. Fold the clean side over the painted side and press hard, smoothing the paper. Unfold and allow to dry completely. Once dry use various water colors to fill in the design on the wings.

Alien Symmetry

Fold a piece of color paper in half. Along the folded edge draw half an alien in pencil and then cut it out. Once cut out, unfold and see your entire alien. Using markers, paint, or pieces on construction paper decorate your unique, one of a kind alien.





Seeing Symmetry

Written by Loreen Leedy

Once you start looking, you can find symmetry all around you. Symmetry is when one shape looks the same if you fold, flip, side or turn it. It's in words and even letters. It's in both nature and man-made things. In fact, art, design, decoration, and architecture are full of it. This clear and concise book explains different types of symmetry and shows you how to

make your own symmetrical masterpieces. Notes and glossary are included.

Mindset

The idea of a *growth mindset* was initially developed by Stanford Professor Carol Dweck, Ph.D., and since then a great deal of research has gone into its study and the implications it has on children and their learning. Whether you are new or experienced in the idea of a growth mindset, in each newsletter we provide resources to help deepen your understanding and give you tools to use with your kids in developing their belief in themselves as capable doers of math.

Podcasts that encourage a growth mindset

Podcasts for Kids

Geared for ages 4-10, Big Life Kids podcast helps children develop a Growth Mindset! Lasting 10-20 minutes each, episodes are perfect for younger children and elementary age attention spans.

Join Leo and Zara as they explore the world, discover growth mindset strategies, and hear inspiring stories of real-life role-models who've overcome real challenges.

Each episode is reviewed by a licensed therapist to ensure that is not only entertaining for children but also offers valuable psychology-backed lessons and strategies.

Available on most of your favorite podcast listening apps.

Podcasts for Adults

Big Life Journal (search mindset podcast) has podcasts about growth mindset for

A Story of Growth Mindset

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Written and Illustrated by Peter H. Reynolds

Ramon loved to draw. Anytime. Anything. Anywhere.

Drawing is what Ramon does. It is what makes him happy. But in one split second, all that changes. A single



reckless remark by Ramon's older brother, Leon, turns Ramon's carefree sketches into joyless struggles. Luckily for Ramon, though, his little sister, Marisol, sees the world differently. She opens his eyes to something a lot more valuable than getting things just "right." Combining the spareness of fable with the potency of parable, Peter Reynolds shines a bright beam of light on the need to kindle and tend our creative flames with care (Ages 5-9).

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ALL STUDENTS PREPARED FOR POST-SECONDARY PATHWAYS, CAREERS, AND CIVIC ENGAGEMENT.

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