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MATH

Multiplication War!

Remove the face cards (jacks, queens, kings, and jokers) from a standard deck of playing cards. Split the deck evenly between you and your child.

Each turn, both players flip two cards. Each player multiplies their two cards. The player with the higher product (the result of the two numbers multiplied together) takes all four of the cards.

If both players get the same product, flip over two more cards and solve the new multiplication problem. Continue until one player has a higher product. That player takes all of the cards played in the round.

Keep playing until the deck is gone. The player with the most cards at the end of the game wins!



Addition and Subtraction War!

Grab a deck of cards and play this variation of the classic card game War to practice mentally adding 2-digit numbers. For the game, assign a value of 1 to the aces and a value of 7 to the jack, 8 to the queen, and 9 to the king. The numbers on the remaining cards reflect their values.

1. Give each player half a deck of cards.
2. For each round, both players create a two-digit number by turning over two cards. The first card's value becomes the digit in the tens column. The second card's value becomes the digit in the ones column. For example, if Player A turns over a two followed by a queen, their number is 28.
3. Have players compare the two-digit value of their pairs of turned-over cards. The player whose pair has the greatest value gets to keep their cards and their opponent's only after they add the both numbers.
4. If both pairs have the same value, both players turn over two more cards and compare the new numbers.

5. The game continues until one player has collected all the cards or a predetermined number of rounds have been played.

You can also play this game with subtraction. In step 3, find the difference between the two numbers instead of adding them.

Ask your child what strategies they used to add or subtract or ask them to think aloud as they solve the problem. This game is a fun way to practice addition and subtraction skills while also building number sense and mental math abilities.

Fractions and Decimals

Help your child practice adding and subtracting decimals with real-life scenarios. Some possibilities include:

- Grocery Shopping - Using a grocery circular or an online advertisement, ask your child to pick out four grocery items and find the total. Extend the task by challenging your child to calculate how much change they'd receive if they paid with a \$50 bill.
- Taking Temperatures - Take your child's temperature and have them calculate how far below or above the average temperature of 98.6 their temperature is.
- Baking and Cooking - Professional bakers and chefs often weigh their ingredients using food scales instead of measuring cups. If you have a food scale, weigh your ingredients next time you make a simple recipe like a smoothie. Add up the weight of the individual ingredients as you mix them. Compare the weight of the finished dish to the total of the individual ingredients. Is it the same?

Encouraging your child to use decimals in real-life scenarios can help them understand the practical applications of math and make it more engaging and relevant to their daily life.

TECHNOLOGY

Online Research - Is it reliable?

Ask your child to choose a topic they are interested in learning more about and help them research the topic online. It could be a specific animal, an event in history, another country, or anything that sparks your child's interest.

Before beginning their internet research, remind your child about the difference between reliable and unreliable sources. Reliable sources are websites where you can find accurate and trustworthy information. Examples of potentially reliable online sources include:

- Official government websites with .gov domains like NASA and educational sites with .edu domains like universities or the Smithsonian museums
- National newspaper and newsmagazine websites
- Sites from authoritative authors—people who are known to be experts in their field who are published in multiple places and include links and documentation to support their research.

Guide your child to think critically about their research using some of the tenets of media literacy by asking these questions:

- Who created the site?
- Why was the site created? Who is the target audience?
- What would someone learn from this site? What has been left out of the content?
- When was the site created? Has it been updated recently?
- Does the website list the sources it uses? Does it provide links to those sources?
- Can I trust this site to tell me the truth?

Finally, when in doubt, remind your child to ask a trusted adult for help.

READING

Extend literacy beyond the classroom

In school, your child is learning to think critically about what they read to identify an author's motivations. Help them extend these reading skills beyond the classroom to the media they consume daily by teaching them media literacy skills.

Media literacy is the ability to access, analyze, evaluate, create, and act on all forms of communication. Kids can increase improve their savviness as media consumers by asking these questions about all media messages they encounter:

- WHO made this?
- WHY was it made?
- WHAT is missing from this message?
- HOW might different people interpret this message?
- WHO might benefit from this message?
- WHO might be harmed by this message?



Choose a news story or online advertisement to discuss together and practice asking the questions above about the story or ad. Model thinking carefully about what the message means and why it was made. Encourage your child to talk to you any time they encounter a confusing message.

SOCIAL STUDIES

Hello from the past!

Invite your child to write a letter to their future self—twenty years from now—describing their current life and community and expressing their hopes and dreams for their life and community in the future. Here are some suggestions for prompts to get them writing:

Introduce yourself!

- How old are you?
- What grade are you in?
- Where do you live?
- What is your community like?
- What are your hobbies?
- How do you contribute to your community?
- What is the best part of being in fourth grade? What is the worst part?

Describe what you think your future life will be:

- What kind of person do you hope you will be?
- Where will you live? Who will you live with?
- What kind of job(s) will you have?
- How will you contribute to your community?
- What is your outlook on the future?

Give your future self some advice:

- What does it mean to live a happy life?
- Why is it important to be part of your community?
- What do you want Future You to know if they chose a different path than the one you wrote about?
- What do you want Future You to know if they haven't achieved all the things you hope for?

Be as creative as you want with this activity—your child can draw pictures, make a collage, or include photos. You can participate, too, by writing a letter to your child in the future describing what they were like at this age. Put your child's work (and yours!) in an envelope and label it with the year it should be opened. Put the letter in a place you think you might look in twenty years, like with your important documents, the school papers you save for your child, or another safe place.

Even if it gets lost over the years, writing this letter benefits your child now by giving them the opportunity to apply what they are learning about community in social studies, reflect on the world around them, and write positively about themselves. They will also think about the person they want to become and consider how to grow into that person.

SCIENCE

Invisible ink

Observe a chemical reaction in action, with homemade invisible ink!

Materials:

- Fresh lemon juice
- Water
- Q-tip
- Blank piece of white paper
- A heat source, like a hair dryer



Squeeze lemon juice into a bowl and add water—just a few drops. Use the Q-tip to write or draw your message on the piece of paper.

When the paper has dried and you're ready to reveal the hidden message, blow hot air on it with the hair dryer. As the paper heats up, the invisible ink will turn brown, revealing the secret message.

How does it work? Lemon juice contains a carbon compound that is invisible at room temperature. Heat breaks down that compound and releases the carbon. When the carbon interacts with the air, it oxidizes and turns brown. This oxidation is a chemical reaction!

Throughout the experiment, ask your child about the process to encourage scientific thinking. As the message appears before your child's eyes, explain what is happening. To extend their thinking, do the experiment again but change one attribute at a time to see how it affects the outcome.

Here are some ideas to get you started:

- What do you think will happen if you use colored paper instead of white paper?
- What do you think will happen if you don't let the paper dry before heating it up?
- What if you wrote the message with orange juice—do you think the outcome will be the same?
- Can you think of other kinds of chemical reactions you have observed? (Maybe rust on a fence or cake batter turning into a cake in the oven.)

Actively engaging in the scientific method, with simple materials kids are familiar with, is a powerful way to help them connect to the scientific concepts they are learning about in school. Plus, including them in every step of the process empowers kids to be curious, practice flexible thinking, and develop problem-solving skills.