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LET'S FIND OUT

BALANCING THE SCALE:
WEIGHING EARLY MATH & EARLY LITERACY

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What We Know About Early Math

"The problem is not the problem. The problem is your attitude about the problem."

What We Know About Early Math

VERB™
It's what you do!

It's Not Just What You Know…
It's What You Do!

What We Know About Early Math

"Math…Math Everywhere!"

What We Know About Early Math

There's not a moment to lose!

Getting Ready for Math Through…

- **Reading:** Exploring books that introduce numbers, shapes, patterns, space, measurement and other math concepts or ways of math thinking (such as problem-solving).
- **Talking:** Math talk lays the foundation for mathematical thinking! It's easy and never too early to integrate spatial, attribute and number talk while eating meals, playing with toys, bath time… And in our storytimes and programs!
- **Singing:** Music and math go hand in hand! For example, clapping along to a steady beat helps children develop one-to-one correspondence. Many songs also teach children spatial vocabulary.

Getting Ready for Math Through…

- **Playing:** Noticing math moments in children's self-directed play, and intentionally guiding games and activities that encourage application of math knowledge and skills, such as problem-solving.
- **Writing:** Using pictures, symbols , charts/graphs and words to express understanding of a math problem or concept. Drawing pictures of faces is an example of translating data to a visual format- early math writing!

Plant the Tiny Seed by Christie Matheson

An Algebra Story

- Exploring change, relationships and patterns NOW sets the stage for more advanced algebraic thinking LATER.
- This book illustrates change over time and cause/effect relationships.

Plant the Tiny Seed

PLAY: Act It Out!

- "Let's pretend we're seeds. What size are seeds? Let's make our bodies small and round…"
- Use sequence words. "What happens first? Next? Last?"
- Practice problem solving! "I'm not growing! Why not? How could we fix it?"
- Build background knowledge. "What did you grow into?"

Plant the Tiny Seed

PLAY: Grow a Garden

- Count: "I see you have a big garden! I wonder if we have more flowers or vegetables? How could we find out?"
- Measure: "I noticed you're pouring water from the watering can into the pots! I wonder what would happen if you didn't water your plants?"
- Talk about attributes: "I noticed this planting pot and this flower are both orange! What else is orange?"
- Group: "We are grouping the plants that are the same. How else can we arrange them?"

Photo Credit: Mrs. Plemons' Kindergarten

Plant the Tiny Seed

SING & Support Measurement Skills

I'm Very, Very Tall
Credit: King County Library System

Plant the Tiny Seed

TALK: Shapes

- "What shape is the inside of the flower where all the seeds are? Let's move our scarves around in a circle!"
- "What else can you think of that is round like a circle?"
- "Can you move your scarf straight up and down like a stem? Across your body like leaves?"

Plant the Tiny Seed

TALK: 5 Little Flowers

- Questions: "Which flower is the tallest/shortest? What color is this flower? Do we have more red flowers, or yellow ones?"
- Higher Order Thinking Questions: "What do you notice? I wonder why this flower is shorter? How are these flowers the same/different? Which flowers would you group together in a bouquet? Why?"

Plant the Tiny Seed

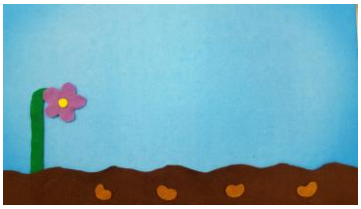
Problem Solving

I want to grow 5 flowers.
How many seeds should I plant?

Plant the Tiny Seed

Counting: One to One Correspondence

How many flowers do we have?
How many seeds?



Plant the Tiny Seed

Counting: Magnitude

Do we have more flowers or seeds?
How can you tell?

Plant the Tiny Seed

Measurement

Which flower is the tallest/shortest?
I wonder why the purple flower is so short?

Plant the Tiny Seed

Compare/Contrast

How are these flowers the same?
How are they different?

Plant the Tiny Seed

Classify

Which flowers would you put together in a bouquet?
Why?

I Lost My Sock! A Matching Mystery by P.J. Roberts

A Measurement & Data Analysis Story

- Measurement is all about describing – if something is long, short, hot, cold, wide, narrow, etc.
- Measurement skills rely on children's ability to recognize and describe attributes.
- This book encourages readers to notice attributes, make comparisons, and build descriptive vocabulary!

I Lost My Sock! A Matching Mystery

PLAY: Pots & Pans

- "How to you use this?"
- "What happens when you tap lightly? What if you tap loudly? Can you tap a beat? One, two three!"
- "All these kitchen items make different sounds! Do any sound alike? How do you know?" and, "What happened when you tried…"
- "I notice the large pot makes a different sound than the small cup. I wonder why?"

I Lost My Sock! A Matching Mystery

WRITE: Put Data on the Page!

- Use a mirror to draw a self-portrait
- Look outside and draw a picture
- Make a numbered list together (e.g. make a grocery store list and write down the number of apples needed, make a to do list and use numbers for first, second, and last)

I Lost My Sock! A Matching Mystery

TALK: Sock Sorting

- Questions: "Can you find the match? Which one is the longest/shortest? Which socks have stripes? Which socks have more than one color? How many socks do we have the most of?"
- Higher Order Thinking Questions: "How can you tell these don't match? Why do you think this sock is so small/big? Which socks belong in a group together? Why? Why do these socks stink?"

Photo Credit: Miss Mary Liberry

Early Bird
by Toni Yuly

A Geometry Story

- Geometry involves understanding shape, size, position, direction, and movement. Basically, geometry is the language of space!
- This book makes great use of spatial vocabulary, such as:
  - Up
  - Across
  - Around
  - Over

Early Bird

PLAY: Spatial Simon Says / Spatial I-Spy

Play Simon Says using positional words. Have children follow instructions, such as:

- Stand *in front* of the door
- Place your hands *over* your head
- Climb *under* the table
- Stand *behind* me
- Put your hands *behind* your back
- Stand *next to* the cabinet
- Put the ball *inside* the box
- Place your hand *on* the table
- Bend *down* and touch your toes!

You can do the same thing but with I-Spy!

Fun twist: Go Outside!

Early Bird

SING & Support Spatial Language

Shake Your Scarves
Credit: Johnette Downing

Early Bird

TALK: Up in the Sky

- Questions: "What do you see up in the sky? Which is higher, the sun or the airplane? Where does this go- up in the sky or down on the ground?"
- Higher Order Thinking Questions: "How are these the same/different? Why doesn't an elephant fly? What would happen if the clouds turned dark?"

Early Bird

TALK: 5 Sweet Strawberries

- Questions: "Which strawberry is the smallest? What color is it? Which one is the longest?"
- Higher Order Thinking Questions: "How are these the same/different? Which one would you want to eat if you were REALLY hungry? Why? What if Bird and Worm both want to eat the strawberries? How can they share so it's fair?"

Photo Credit: Mel's Desk

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GROUP ACTIVITY TIME!

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Q&A

BONUS CONTENT: MORE MATH!

Bear & Hare: Where's Bear?
by Emily Gravett

A Geometry Story…

- Such a fun hide and seek story! Bear & Hare take turns hiding and finding each other throughout the house. Remember, geometry is very much about understanding spatial relationships.
- Add some math talk to the text. When Bear is hiding, help children to expand upon their answer "there!" Encourage them to use spatial vocabulary to describe Bear's position (e.g. Is he *inside* the fish tank? No, he's *behind* it!)

Bear & Hare: Where's Bear?
by Emily Gravett

…and a Number Story!

- The illustrations show number symbols and Bear & Hare counting on their fingers. Both of these are important to understanding that counting has meaning!
- Point to the numbers while you read to reinforce the concept that number symbols have meaning (just like we point to words to show that print has meaning).

Bear & Hare: Where's Bear?

SING & Support Spatial Language

Going on a Bear Hunt
Credit: Greg & Steve

Bear & Hare: Where's Bear?

PLAY: I Spy With My Little Eye…

- Describing the properties or attributes of an object is a math skill!
- Help children build math skills by playing I-Spy using comparative/spatial language. For example…
  - I spy something *small*.
  - I spy something that is *red*.
  - I spy something *round*.
  - I spy something that is *long* and *green*.

Bear & Hare: Where's Bear?

TALK: Mystery Box

- Put a mystery object inside a tissue box, such as a pine cone or a sea shell. Encourage child to close their eyes and describe what they feel before making a prediction.
- Take turns hiding and describing objects from around the room!
- Take out all the objects and talk about them together. What would you put together in a group? Why?

Counting Lions
by Katie Cotton

A Number Story

- Number sense is an umbrella term to describe all the skills children need to work with and understand numbers! Number sense is A LOT more than counting and includes things like keeping track of what you've counted and comparing groups of objects.
- The illustrations in this book are big and bold – easy to see and easy to count! Before counting, ask kids "How many giraffes do you see?" and encourage them to look and guess (subitizing). THEN count and check!

Counting Lions

PLAY: Build a Zoo

Photo Credit: Pre-K Pages

- Put out blocks and zoo animals and see what children create! Notice and wonder about the math in their play:
- "I see you put the tigers together. Why? Would a monkey want to be with the tigers? Why not?"
- "What kind of space do you think the giraffes need? What would happen if the walls were too short?"

Counting Lions

SING & Support Addition/Counting Up

- Learning to count up comes before counting down! Print pictures or make flannel snakes of various sizes/patterns to support math talk afterwards.
- "1 little snake went out to play, Over the hills and far away. It had such enormous fun, it called for another snake to come! HISSSS!"
- "We had one snake. One more snake came. Now how many snakes do we have?"

Counting Lions

TALK: Pattern Snakes

- Look at pictures of snakes or make different kinds of flannel snakes. Talk about their patterns! "Look at the stripes on this snake! Is anyone else wearing stripes today? Do you see a pattern on this snake? Tell me about it!"
- Make your own pattern snakes using construction paper shapes or pattern blocks!

Photo Credit: Things to Share & Remember

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THANK YOU!

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