ARTS + ACADEMIC EXTENSIONS

GRADES 1-2: MATH/PUPPETRY

Learning Math Through Shadow Puppets

Counting on our fingers has a whole new meaning as we use finger puppets and other theatrical techniques to add and subtract on a number line!

CONNECTED OBJECTIVE: Students will use puppetry to add and subtract on a number line.

MATERIALS NEEDED DURING EPISODE: Paper and pencil.

Standards:

CCSS.MATH.CONTENT.2.OA.A.1: Represent and solve problems involving addition and subtraction.
CCSS.MATH.CONTENT.2.OA.B.2: Add and subtract within 20.
TH:Cr1.1.2
c. Identify ways in which voice and sounds may be used to create or retell a story in guided drama experiences (e.g., process drama, story drama, creative drama).

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ARTS EXTENSIONS:

Hand Shadow Puppets

To make a shadow puppet, all you need is a light source and something to cast a shadow onto. You can make a shadow screen with a sheet of paper or simply cast a shadow onto a wall. Students can use a light, like a desk lamp or phone light, to cast shadow puppets with their hands.

What shadow hand puppets do you already know? Maybe you know how to make the one-handed dog or two-handed bird, but it's easy to make new shapes with your hands. Pick an animal and try to make its shape with your hands. What are the important parts of this animal (i.e., wings, horns, tails).

Puppet Number Line (modeled in episode)

In this episode of Arts and Learning Kids, we used a number line to solve some math problems. We used a shadow puppet to move up and down the number line. Draw a number line in your notebook. Then draw your puppet character on a small square of paper. You can tape/glue your puppet onto a pencil/stick, or simply move your puppet with your finger.

Can you solve a math problem by telling it as a story?

Puppet Back and Forth

A puppet show usually has more than one character. Draw a few different paper puppets. Tape/glue your puppets onto a pencil/stick or move your puppets with your fingers. On your own or with a partner, make up a scene where your puppets talk to each other. Example:

> Puppet 1- Knock, knock?
> Puppet 2- Who's there?
> Puppet 1- interrupting puppets.
> Puppet 2- Interrupting pup...
> Puppet 1- AAAAAAH! (puppet jumps around)

Try to perform your scene a few times. What can you do to make it feel like your characters are talking to each other? NOTE: A screen on speaker view actually makes a pretty great stage for performing!

ACADEMIC EXTENSIONS:

Lead students through the creation of their own number line at home. Students can find a small figurine (like a Lego man) or small object to be the character that moves up and down the number line.

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Word Problems: Ask students to follow along their number lines as you narrate:

1. Keisha looked in her flower pot one morning and saw that 6 daffodils had emerged. She picked 4 to give to her neighbor. When she looked again at the end of the day, two more had come up. How many daffodils were blooming in her pot?
2. Jamaal was super hungry after school and so his mother served him 12 chicken nuggets. He immediately ate 10. But he was still hungry! So his mother served him 6 more. How many did he have after she gave him his second helping?
3. Jamaal was so grateful that his mom made him a snack that he offered to put the dishes in the dishwasher. The dishwasher already held 8 plates and 5 glasses. He added one plate and one glass. How many plates and glasses were in the dishwasher? His dog came along and licked three of the plates clean while the dishwasher was open. Should Jamaal take them out and put them on the shelf? No, that's gross! But if he did, how many would be left?

Tell us your word problem:
Ask students to hold up the character they have found to move on their number line. It can be a talking pencil or eraser they haven't found a figurine. Call on students to invent addition and subtraction word problems that use their character and have other students follow along on their number lines to solve.
Bonus: have the narrator tell the answer in the voice they imagine for their character.

Secret Code:
Put a secret word or sentence on the screen and ask students to use number line addition or subtraction to decode. Ask them to private message you the answer when they are finished.

See sample on the next page:

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Number Line Secret Code

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