Eatem Up

Summary

Gingerbread cookies are the focus of these Math and Language Arts activities. Yummy!

Main Core Tie

Mathematics Kindergarten

Strand: MEASUREMENT AND DATA (K.MD) Standard K.MD.3

Additional Core Ties

Mathematics Kindergarten

Strand: COUNTING AND CARDINALITY (K.CC) Standard K.CC.6.

Mathematics Kindergarten

Strand: COUNTING AND CARDINALITY (K.CC) Standard K.CC.7

Materials

- *The Gingerbread Boy*
- Character patterns I pdf
- The Gingerbread Baby pdf
- Character Patterns 2 pdf

Gingerbread Class Graph

- Gingerbread individual graph pdf
- Gingerbread Girl Pattern pdf
- Gingerbread Boy Pattern pdf
- Gingerbread Baby Story Song pdf

Material to decorate gingerbread pattern
Art materials
Buttons
Pom-poms
Rickrack
Fabric scraps
Pasta
Wide craft sticks
Gingerbread chants
Class graph templates
Gingerbread cookies
Spices

Additional Resources

Books

- *Thematic Units -- Book 4 Stories*

, by Linda Fritz, Lori Hahm, and Debbie Trissel; Carson- Dellosa Publishing Company, Inc. Greeensboro, NC

Childrens Books

- *The Gingerbread Boy*

, by Paul Galdone; ISBN 0-89919-163-0

- *The Gingerbread Baby*

, by Jan Brett; ISBN 0-439-13745-4

- *The Gingerbread Boy*
  , by David Cutts; ISBN 0-89375-100-6
- *The Gingerbread Man*
  , by Eric A. Kimmel; ISBM 0-8234-1137-0
- *Gingerbread Man*
  , by Karen Schmidt
- *Gingerbread Man*
  , by Jim Aylesworth, Barbara McClintock; ISBN 0-348-47219-7
- *Gingerbread Man*
  , by Catherine McCaffern
- *Gingerbread Boy*
  , by Richard Egielski; ISBM 0-06-443708-6
- *Cajum Gingerbread Boy*
  , by Berthe Amoss
- *Musubi Man: Hawaii's Gingerbread Man*
  , by Sandi Takayama & Pat Hall; ISBM

Background for Teachers

Gathering data is a frequent part of solving problems and satisfying curiosity. When we conduct surveys and draw conclusions from them, we are gathering and analyzing data. This includes a lot of work with graphs and leads to other mathematical tools.

Picture books can be sources of data when we collect information on the attributes of characters or other subjects in the book. In addition, picture books can lead to questions ripe for a survey. Many picture books inspire interest in new topics, where you choose something of interest and find out more. As you gather information you can look for ways that you can organize your information and compare it. You can also seize opportunities to tabulate findings, graph results, and otherwise manipulate the information you find.

Some of the most enjoyable experiences that a teacher can have with a young child are those that occur outdoors or in their familiar surroundings. Taking children on walks in the woods, at a local park, around the schoolyard, or simply around their school building can prompt many discoveries about the natural world. We usually think that these experiences are part of the children's scientific learning. However, direct observation is also an important piece of mathematical learning. One way of using observations to learn mathematics is through collecting data outdoors or in familiar surroundings. A data collection is a process in which children can make connections between mathematical concepts, in a variety of content areas, and the real world. When children become data collectors, they look for patterns and develop reasoning skills that allow them to draw conclusions on the basis of information that they have not only collected, but also observed with their own eyes.

Intended Learning Outcomes

1. Demonstrate a positive learning attitude
5. Understand and use basic concepts and skills
6. Communicate clearly in oral, artistic, written, and nonverbal form.

Instructional Procedures

Invitation to Learn

Read aloud *The Gingerbread Boy* by Paul Galdone (Clarion Books, 1979). After reading the book to the class, discuss how the old woman made the gingerbread boy with flour, water, and spices. Pass around spice containers of ground ginger, allspice, cinnamon, and cloves for students to sniff. Have

the class name some mouth- watering adjectives to describe gingerbread.

Instructional Procedures

Bring out a freshly made gingerbread man that the teacher has made. Give them each a chance to smell one of the cookies as it is passed around. (Or you could buy gingerbread cookies and bring to the classroom.)

After all the students have had a chance to smell the gingerbread cookie have the class all go to their tables.

Pass out to each student a freshly teacher made gingerbread cookie, and tell them to take only ONE BITE out of it.

Together record the results of the gingerbread tasting on the large class ginger bread man cookie graph. Graph which part of the gingerbread cookie was eaten first--head, arm, foot, or body. Each student will come up and choose the paper cutout of the head, arm, foot, or body, and put on the graph representing the part that student ate first. As the student comes up the teacher would ask him: What part did you bite first? Why did you choose that part?

Determine with the class which part was the most commonly eaten and the least commonly eaten. You might ask: what was the most popular part eaten first? What was the least popular part to be eaten first? Why do you think the results came out the way they did?

After discussing the class graph and each student has had a chance to graph, pass out a copy of the gingerbread man graphing record sheet. They will then all record the class results on their own individual graph recording sheet.

Finally allow children to enjoy the rest of the gingerbread cookies!

After the children have enjoyed the cookie have them gather on the rug again.

Read a newer version of The Gingerbread Man, The Gingerbread Baby.

Sing the song that goes with "The Gingerbread Baby."

After reading the story, draw a Venn-graph on the dry erase board. (Two circles--where they overlap, lists parts of the two stories that are the same.)

Identify the character in each story. Give out pictures identifying each character. Have the children graph their picture indicating if it is an animal, adult, or child. A graph can be made for each story and then compared. A large Venn could also be put on the floor and they could graph just the characters from each story.

Provide the children with a blank gingerbread boy or girl on brown construction paper. Allow students to color and cut out their gingerbread pattern, and then color and decorate it with a variety of art materials, including buttons, pom-poms, rickrack, fabric scraps, pasta, etc.

a. These could be displayed on a bulletin board with a large paper gingerbread house with a tree next to it, displaying a gingerbread scene.

b. They could also be made into a puppet, by gluing a wide craft stick to the back of each finished puppet. They then could be taught the following chant as an introduction to the senses:

Gingerbread boy
Looks so neat!
Gingerbread boy
Smells so sweet!
Gingerbread boy
Tasty treat!
Gingerbread girl
Looks so nice!
Gingerbread girl
Smells like spice!
Gingerbread girl

Tastes so nice!

c. During the week several graphing activities could be done, using the children's gingerbread cutouts, for example: Boy or girl; one, two, or more buttons; hair or no hair; shoes or not shoes; etc. Have the children come up with their own graphing ideas.

Extensions

During the unit of the gingerbread boy or man, have a class gingerbread doll in the class, and have it come up missing. Take the children on a walk outside around the school looking for the gingerbread boy or man. You could also explore the school using this as an introduction to parts of the building at the beginning of the year. Choose a picture for each character in the gingerbread man story. The pictures should be one color for children, one color for adults, and one color for animals. Reread the story and have the children hold up their picture when it is mentioned (it is okay if more than one child is for a character. You could also make a graph of the number of people and animals in the story.
Give the students a cutout of a gingerbread man. Give them several materials to color, and decorate their gingerbread man (e.g., button stickers, yarn, construction paper, graph paper, etc.). After they have all of their gingerbread men decorated, have them think of questions about each of their gingerbread men that we could find out data and graph it. (e.g., How many buttons, who has hair or no hair, who has clothes or no clothes, color of eyes, shoes or no shoes, etc.).
Have the students work in pairs or groups and make a life-size gingerbread man. Have them color and decorate it. They then generate questions like the above activity and graph.

Family Connections

The students could take home a gingerbread cookie recipe and make cookies for their family.

Gingerbread Cookies
1 1/2 c. molasses
1 tsp. cinnamon
1 c. packed brown sugar
2/3 c. cold water
1 tsp. allspice
1/3 c. shortening
6 1/2 c. flour
1 tsp. cloves
2 tsp. ginger

Mix together molasses, brown sugar, water, and shortening. Add all their ingredients and cover for two hours. Heat oven to 350 degrees F. On a floured surface, roll out dough until it is 1/4" thick. Cut out gingerbread men with cookie cutters and place them on a greased cookie sheet. Bake 10 minutes and cool. Decorate with frosting, raisins for eyes, and red cinnamon candies for buttons if desired.

Send home a literature bag with a story of the gingerbread man. Have the family enjoy the story with the student.

Send home a class gingerbread man journal along with a class gingerbread man. Have them keep the gingerbread man a few days. Have their family journal the adventures the gingerbread man went on with the student's family. They could draw pictures are take pictures for the journal. The journal will be read to the class and then sent home with a new child.

Assessment Plan

Each of the activities has a built-in assessment. When the students took a bite of their cookie and then graphed it, you are evaluating their understanding of graphing under the right heading.

As questions were asked about the graph a teacher can evaluate how well child can interpret a graph.

When the children took the knowledge from the class graph of the gingerbread graph and made

their own graph you could evaluate how they can take a pictorial graph and put it into a symbolic graph.
When the children listened to the second story of the gingerbread man and made a Venn-graph a teacher evaluated how well the students can identify differences and classify them.
When the children made their gingerbread man and formulated questions to be graphed a teacher is evaluating how well the students can form their own questions and shape their own investigations. The teacher can also evaluate how well the children can interpret the data themselves.

Bibliography

Research Basis

Eddy, M., (2007) Children's literature in mathematics instruction. *Children's Literature in Mathematics Instruction*.
Literature provides a way for children to make mathematic learning much more personal. Research has shown that children learn material best when it has meaning and usefulness for them. Literature is a way to give math meaning.
Whitin, D. J., (1992) Explore mathematics through children's literature. In *School Library Journal*, v38, n8, p24-28, August 1992.
Using math-related children's literature can help children realize the variety of situations in which people use mathematics for real purposes. The literature can help children see how math will be useful to them in the "real world."
Whitin, D. J., Gary, C., (1994), Literature and mathematics in preschool and primary, the right connection. *Young Children*, v49, n2, p4-11, January 1994.
In this research article presents many different teachable moments that occur within the course of a regular day which are related to children's literature. Calendar time, birthdays, daily schedules, attendance and lunch count are all daily activities, which are overflowing with math concepts. There is a vast array of children's literature, which supports these areas of the children's day at school.
Whitin, D. J., (1993), Dealing with data in democratic classrooms, *Social Studies and the Young Learner*, September/October 1993.
In democratic classrooms, children need to ask the questions and shape the direction of their investigations and need opportunities to interpret the data themselves.
Basile, C. G.,(1999). Collecting data outdoors: making connections to the world. *Teaching Children Mathematics* 6 no 1 t-12 S 1999.
Both the National Council of Teachers of Mathematics and the National Association for the Education of the Young Children call for young children to learn in realistic contexts and to study the world in which they live. Taking children outdoors gives the real experiences that they might not otherwise have had. The more we can integrate real-life activities into classroom learning, the more students will be able to recognize the importance of what they are learning.

Authors

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