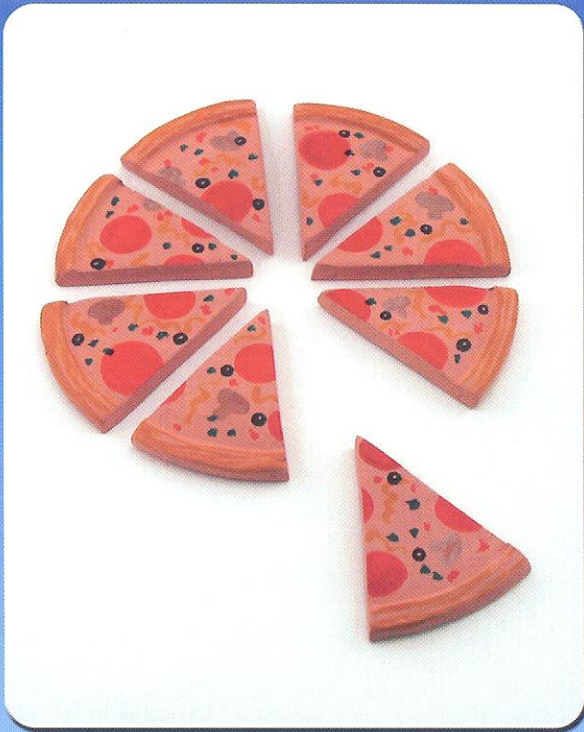


"Pizza Fractions"



National Standards

- Understand numbers, ways of representing numbers, relationships among numbers and number systems. (NM-NUM.3-5.1)
- Compute fluently and make reasonable estimates. (NM-NUM.3-5.3)
- Create and use representations to organize, record and communicate mathematical ideas. (NM-PROB.REP.PK-12.1)

Objectives

Students learn:

- Fractions 1, 1/2, 1/4, 1/8
- Addition, subtraction of fractions
- Working with clay
- Fine motor skills

Time Frame

Day 1

30 min.

Time Frame

Day 2

30 min.

Materials

Dixon® Prang® Materials

- DAS® Terra Cotta Air Hardening Modeling Clay 1/3 of a 17.6 oz. pkg. per student
- Brush Pens
- Dixon® Pencils

Other Materials

- Plastic margarine tub lid (approx. 5" diameter), one per student
- 8" length of 1" diameter dowel one per 2 students
- Ruler, one per student
- Waxed paper
- Masking tape
- Table knife
- Plastic knives, one per student
- Plastic bags
- Containers for water
- Paper towels
- Access to sink

Teacher Preparation

- Make a sample to determine the amount of clay needed to fill a margarine lid.
- Place pieces of masking tape on printed side of margarine lids for students to print their names.
- Set out several water containers for students to share.
- Tape a piece of waxed paper at each student's work area.
- Open clay packages and use knife to divide clay block into thirds, 1/3 for each student. Keep clay in plastic bags until ready to use. If clay starts to dry, simply add damp paper towels to bag to moisten.

See Photo A

A



WHY use Prang® DAS® Clay & Brush Pens?

Unlike inconvenient, oven-baked clay & messy dough, DAS® Clay is smooth, easy to use & air dries to a durable hardness - ideal for kids! The Brush Pens have quality brushes and provide the best color and finish.

Professor Prang



Directions

Review math fraction information with students. Discuss how cutting a pizza is a lesson in fractions and tell students that they'll each get to make their own clay mini pizza.

1. Have students use pencils to write names on tape, on lids. Distribute pieces of clay to students. Ask them to form a ball by rolling clay between their palms. Have students place ball of clay on center of waxed paper and use a dowel to roll into 1/4" thick sheets.

See Photo B

B



2. With name tape up, have each student center plastic lid onto clay. Ask them to carefully press lids down into clay as they would cookie cutters. Remove excess clay from edges of lids. Caution students not to remove clay from lids.

See Photo C

3. Have students turn over lids and use fingers to smooth clay along edges of the lids. Students can dampen fingers in water to smooth clay.

See Photo D

4. Instruct each student to use pencil to lightly mark the center of their clay circle. Have each student put their ruler on its edge and use it to lightly mark a vertical line, explaining that they've created two sections. (Note: If any students mark clay incorrectly, they can smooth away the lines with their fingers and re-draw.)

See Photo E

5. Have students lightly mark a horizontal line explaining that they've created 4 sections.

See Photo F

6. Similarly mark two diagonal "X" lines that divide the sections again, creating a total of 8 sections. Demonstrate and have students cut along marked lines using plastic knives. Have them go through the lines several times, especially along the edges to be sure that the cut goes all the way through.

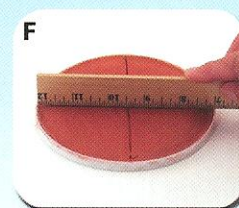
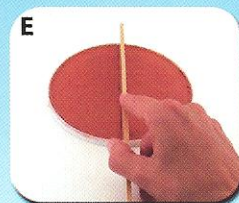
See Photo G

7. Set aside lids with clay inside to dry.

Next Session...

8. After several days, have students carefully and very slowly peel back the lid from the clay to remove sections. Have students decorate tops of pizza using brush markers. Students can draw red pepperoni, brown hamburger, yellow mushrooms, black olives and green and red peppers.

9. Have students use pencils to mark their initials on bottoms of each section and place into plastic bag. Remove tape from lids and place on bags. Use as manipulatives for fractions.



Modifications

- Pre-roll clay for students.
- Ask a helper to assist in marking and cutting clay.
- Have students make and cut larger pizzas into 16 sections for working with smaller fractions.
- For fun, allow students to use their plastic knives to cut a "bite" out of one of their pieces.

Additional Ideas

- Use white clay and make rectangular shapes of "cake" with "frosting" made with brush pens. Divide in any fractional amounts. Also use for addition or subtraction.
- Make display boards of fractions by making several pizzas. Glue sections to the display board to show that the size is the same for 1 , $2/2$, $4/4$, and $8/8$. Also show that the amount is the same for: $1/2$, $2/4$ and $4/8$. Also show $1/4$ and $2/8$.

Safety Tips

- Be sure students use plastic knives to cut clay.
- Caution students that the clay is not to be eaten.

References

- *The Hershey's Milk Chocolate Fractions Book* by Jerry Pallotta
- *Millions to Measure* by David M. Schwartz
- *Eating Fractions* by Bruce Mcmillan
- *Go, Fractions!* by Judith Bauer Stamper
- *Fraction Action* by Loreen Leedy

Attention Teachers

If you have a great lesson plan, submit it to Dixon® for publication consideration. If chosen, you'll receive \$50 in Prang® Products! Send us your best! Mail to address at right. Please include: Dept. Professor Prang®!
Thanks!

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