



Let's Count

Fingerplay - "Five Little Monkeys"

See Blackline Masters Week 1 for complete words.

Create your own hand motions! (1.01a)



I Wonder

Pasta Necklaces

Materials: a variety of pasta shapes, string with tape on one end

Students make necklaces or bracelets with pasta shapes. How many pieces of pasta will it take to fill your string? Have students compare their creations. (2.01)



I Spy

I Spy a Classmate

Play "I Spy a Classmate." To help children learn their classmates' names, play this variation of an old favorite, by giving clues to identify members of your class.

(5.01)



Growing Mathematically

Adjustments/Transitions Home/School

As your K's make the transition from home or daycare to school we, as their teachers, must keep in mind that even positive change can be unsettling. Not only are they adjusting to the obvious -- new setting, new people, exciting equipment, etc. but also to the unseen -- new schedule, new rules, different expectations. During the first few weeks of school the most important task for kindergarteners is to make this important transition. Teachers can help by providing time for social experiences and establishing clear classroom routines.

Most children enter school confident in their own abilities, curious and eager to learn about numbers and other mathematical ideas. In general, young children devise their own methods to find solutions to mathematical problems. Teaching in the early grades should encourage and build on the strategies of children to develop more general ideas and systematic approaches in mathematics.

Take time to appreciate the gifts and enthusiasm that kindergarteners bring to this first classroom experience!



What Do You Think?

Getting To Know Us

Materials: paper, crayons

Have students draw pictures of themselves. Lay pictures on the floor with boys in one row, girls in another. Let students compare to see which is longer.

(4.02, 5.01)

Math News for Parents

Materials we need for math

We are collecting your good “junk” for our classroom. Things that you might throw away we can use for sorting, counting, building, patterning, graphing, and so on. Here is a list with examples of items we can use:

- Containers and lids such as egg cartons, plastic tubs of different sizes and shapes, tops of spice jars, shampoo bottles, and gallon containers.
- Natural objects such as interesting sea shells, different pine or fir cones, nuts, dried beans, and different shapes of macaroni.

- Collectibles such as keys, buttons, nuts and bolts, clips, and old jewelry.
- Paper things like toilet paper or paper towel rolls, cups, wrapping paper or wallpaper samples, sandpaper, catalogs with pictures of toys or foods, and large puzzles.

Also, we will be cooking. Please let me know if you can send some ingredients. I have a list of items needed for our cooking projects.

An Activity-filled Mathematics Classroom

When you visit our school, you will see children actively engaged in learning mathematics in a variety of ways. Some explorations are student-initiated and others are teacher-

directed. In all parts of the mathematics program, children learn by doing. The classroom is set up so that children can explore, investigate, estimate, make predictions, count, build, and talk about their ideas. Children are encouraged to tell how they arrive at their answers and to look for alternative ways to solve problems. They use mathematics in all of the centers so that mathematics is related to daily living, not a subject apart. New ideas are revisited in a variety of ways so that children have opportunities to develop understandings over time and in their own style of learning.

Supporting your child at school

It is important for home and school to join hands in helping every child learn mathematics. Mathematics is a tool for solving problems, computing, and completing spatial tasks. This monthly newsletter is about what we are doing at school in mathematics and tips for things which parents or families can do with their child at home.

Math is a very important tool. Here are ways you can help your child be successful in learning mathematics:

- Encourage your child to think of himself or herself as a mathematician.
- Be sure that your child comes to school ready to learn -- rested, nourished, and ready to be part of a larger group.
- Let your child know that you expect him or her to be successful and to participate in class.
- Talk with the teacher, visit the school, and read carefully the materials that come home with your child.



Let's Count

To introduce one-to-one correspondence and lunch room procedures, model placing the appropriate number of each item on a cafeteria tray. Discuss as a class how many of each item each person needs. Extension: Discuss how many items would be needed for different size groups.

(1.01a)



I Wonder

To help children learn to make choices and as an early graphing activity, have children record their lunch choices on a simple graph. One easy way to do this is to make a magnetic marker with each child's name, which can be attached to any metallic surface. This could become part of your daily classroom routine.

(4.01)



I Spy

Take a Peek

Place between two and five objects on the overhead before turning it on for five seconds.

Turn it off and cover the objects. Ask students to tell how many objects they saw. Repeat several times and observe student reactions.



Growing Mathematically

Adjustments/Transitions Home/School

When creating a math-rich environment, one of the first steps is to collect and make available a variety of manipulatives. In order to understand mathematical ideas and relationships, children need to be actively involved with materials. It is important for children to use a variety of materials so they won't associate an idea with a particular manipulative. However, it is better to have a lot of a few manipulatives than a little of many manipulatives, so that children don't have to worry about running out. Please see page two for a list of some basic manipulatives and suggested quantities.

To promote independence, store materials where children can have access to them and can help with setting up and cleaning up at math time.

Begin the school year with a period of several weeks for self-directed, free exploration. This gives students an opportunity to work with the math materials using their own ideas. It also gives the teacher a chance to do some individual assessment and to establish routines for using and caring for the manipulatives. For more information on free exploration see [Mathematics Their Way](#), chapter one and/or [Math Time](#) pp. 16-37.



What Do You Think?

Getting To Know Us

Materials: pictures from Week 1

Have students lay their pictures in rows according to hair color. Let students compare to see which is most and which is least.

(4.02, 5.01)

Math Fun at Home!

1

Count how many people are in your family.

Draw a picture of your family.

Clap a pattern for your family to copy.

Talk about how members of your family are alike and different.

Count and clap from one to ten.

FAMILIES

Talk about the position of family members; i.e., beside, between, in front, etc.

Count how many plates, spoons, napkins, etc. you will need to set the table.

At dinner talk about where your family members sit.

Use silverware to create patterns.

Sort silverware.

Count and stomp from one to ten.

DINNER

For example, who sits beside, across from or to the left of you.

For example, spoon, fork, spoon fork...

Count the trees in your yard.

Talk about which objects are in front of, beside, behind, above and below your house.

Do a moving pattern across your yard.

Talk about how your yard is alike and different from your neighbor's yard(s).

Identify right and left hand.

IN YOUR YARD

Help sort the laundry into piles and then count the piles.

Play with laundry basket. Get in it. Put it over you. Sit beside it. Get under it, etc.

Create a pattern with laundry.

Compare shirts. Talk about how they are alike and different.

Take a walk and talk about what you see.

LAUNDRY

For example, blue sock, green sock, blue sock, green sock...



Let's Count

Children need lots of practice when learning to rote count. Keep it interesting by adding some sound and motion. As you count together from 1-10, clap, stamp, jump, blink, etc. for each number..

(1.01d)



I Spy

To help children learn about calendar time begin a daily calendar activity session. Be sure to include plenty of songs such as, "Days of the Week," by Greg and Steve; and "Today is a Jolly Good Day"

See Blackline Masters Week 3.

(2.02)



What Do You Think?

Getting To Know Us

Materials: paper, crayons

Students draw a picture of how they come to school each day. Have students lay their pictures in rows according to their means of transportation. Students can compare to see which method is used most, least.

(4.02, 5.01)



I Wonder

(2.01)

Grab Bag

Materials: paper bag, snap cubes in 2 colors

Students reach into bag and pull out a handful of cubes. Student connects the cubes to form a stick in each color. Student compares to see which is shorter, taller, longer.



Growing Mathematically

One of the most important things that kindergarteners should learn is to take responsibility for their work and actions. If materials are stored in an accessible location and work stations are in assigned places, students can be responsible for setting up and cleaning up. Children should be allowed to choose what material(s) they want to work with. When children are allowed to choose, they are more committed, interested and involved. Because they are working where they chose to work, we expect them to be accountable for staying focused, working hard and taking care of materials. They should be allowed to move from place to place when they are ready to work with a different material. However, if you have students who tend to "wander," it may be helpful to limit their number of choices.

Developing the ability to work independently is a major goal at the beginning of the school year. When your students have accomplished this goal, it will free you up to work with small groups and individuals as needed. In her book, Math Time, Kathy Richardson states, "...we want children to be engaged learners in tasks that absorb their attention." (This attitude is actually very important for the children's future. Think about those employers who advertise for 'self-starters.')

Upfront Assessment

To help in planning appropriate instruction it is important to assess children's understanding of some basic concepts early in the school year.

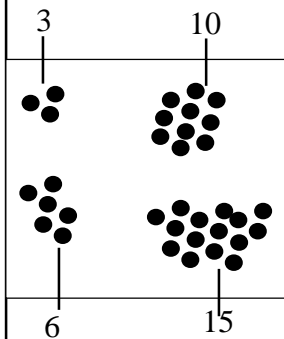
Rote Counting (1.01d)

In a one on one interview say to the child, "Count for me." Record how far each child can count without making an error.

Colors and Shapes (3.01)

With each individual child, show an example of each color and shape that you want to assess. Record which ones the child is able to identify without prompting.

Rational Counting (1.01b)



Set up the following sets of counters on the table:

Ask a student to count each set of counters. If s/he counts all sets correctly move to the next student. If s/he counts small sets correctly challenge her/him to count a larger set.

Record the largest number a child can count. Observe the strategies the child uses to count objects, i.e. one-to-one correspondence.

Numerical Recognition (1.01c)

Work with one child at a time. Show numeral cards (0-10), one at a time, in random order. Record which ones the child can identify without prompting.

Numerical Formation (1.01c)

Ask children to write the numerals as far as they can go. This could be done in their math logs, or placed in a portfolio.

See Blackline Masters Week 3 for blank recording grid/checklist.



Let's Count

Create class story problems using your students' names and class situations.

Students can use the classroom storymat to model each problem. *For example:* If there are six boys and four girls in the lunch line, are there more boys or more girls? or, If there are two girls in the block center and one more girl joins them, how many are playing with blocks?

Create your own!

(1.01a)



I Wonder

Have the children sort themselves into groups according to gender. Give girls one color marker* and boys another. Have them place markers on the floor to form a graph. Compare and discuss results.

*squares of construction paper or unifix cubes will work well

(4.01)



I Spy "Inside Out"

Use masking tape to create two or more large geometric shapes on the floor or play area. Divide children into groups and use directions similar to the following:

- Put your whole body inside the shape.
- Put your feet outside.
- Put one hand on the shape.
- Put your head inside the shape.

(3.03)



Growing Mathematically

Sorting and classifying are essential early childhood mathematics concepts, and lead to the development of logical thinking. To help your students be fluent sorters, choose sorting materials with care. A good material for sorting varies in several attributes, such as color, shape, size, composition, etc. Sea shells, rocks, sticks, keys and buttons are rich sorting materials which present many possible classifications. Materials which have less sorting possibilities include unifix cubes and pattern blocks.



What Do You Think?

Choose students to go into one of two groups at the front of the room. Have students guess your rule for sorting. For example: boy/girl, glasses/not glasses, shorts/long pants.

(5.01)





Let's Count

"Teacher's Helper"

Children love to be classroom helpers! Letting them help with simple classroom tasks develops responsibility. It is also a great way to work on one to one correspondence. Invite helpers to distribute materials to their group. Encourage them to figure out how many the group will need..

(1.03)



I Wonder

On a large index card, have children draw a picture of how they come to school. Create a graph by laying cards on the floor or taping to a piece of posterboard. Compare and discuss.

Extension: Graph how students go home and compare the two graphs.

Literature Connection: Bus Story by Donald Crews

On the back of this page is a school bus storyboard. Make a copy for each student and use to create story problems and to model positional language.

(4.01)



I Spy

"Hands Up"

To introduce positional words, play this quick game. Have students follow directions, such as -- put your hands between your knees, over your head, on your chest, under your chin, etc. Use as many different positional words as possible! This is also a great review of body parts.

(3.03)



Growing Mathematically

Here is a list of some directional/positional words you want your students to understand:

above	over	below
under	around	through
between	beside	near
far	top	middle
bottom	left	right
on	in	out
off	in front	behind

Students should be able to use these words receptively and expressively. Receptive example: Jessica, put the bear on top of the block. Expressive example: Rachel can you tell me where the bear is?

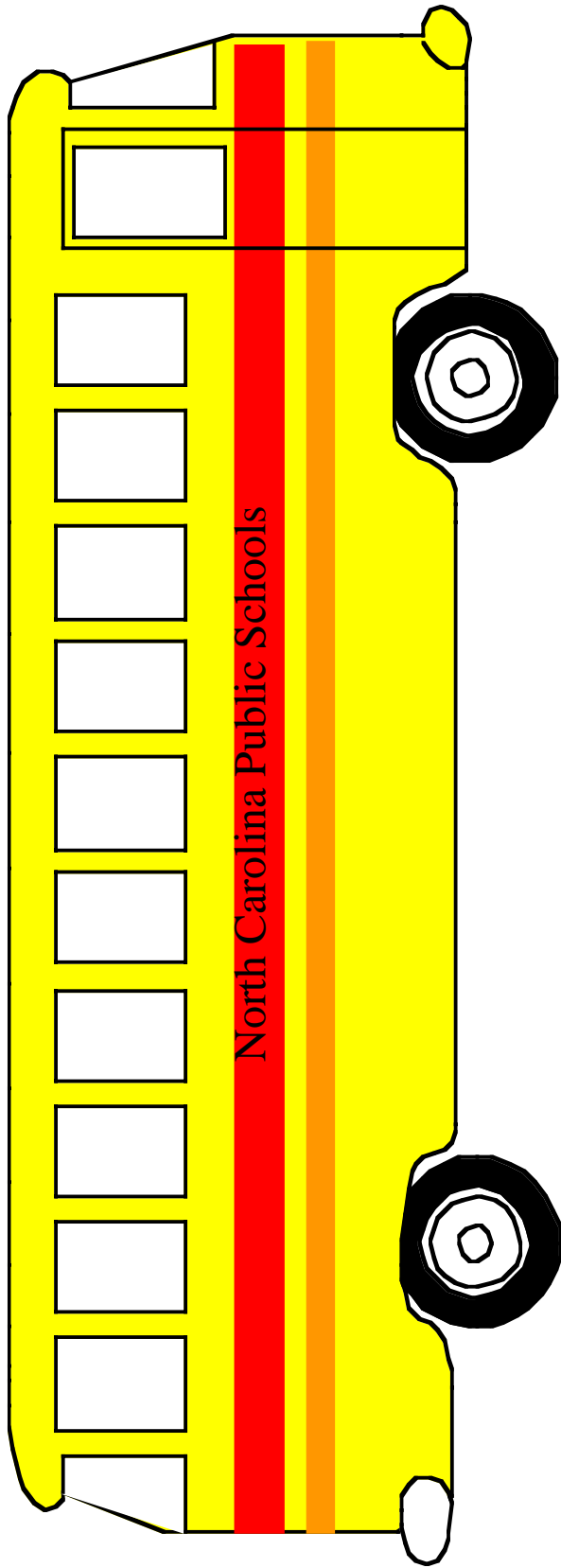
(3.03)



What Do You Think?

Model sorting on the overhead. Tell children your sorting rule and have them predict where each item should go. You could sort buttons (size or number of holes), bingo markers (color), overhead attribute blocks (color, shape or size), seasonal confetti, or shape pasta.

(5.01)





Let's Count

To introduce estimation, use containers of classroom supplies, i.e., can of pencils, basket of crayons, box of scissors. Show one container at a time and ask the children, "Do we have enough ___ for everyone in our class?" (Be sure that there are enough of some objects and not enough of others). After the children make their predictions, ask for ways to verify, e.g., pass out pencils and see if everyone can get one. (1.01a, d, f)



I Spy "Box It"

Add some pizzazz to your math center with easily recognizable logos. Save the front panel of cereal boxes, sports shoe boxes, greeting cards etc. Cut into simple five-piece puzzles. Store in zip-lock bags. (3.04)



What Do You Think?

Divide children into small groups, and work with one group at a time. Select one junk box and have the group work together to sort it. Talk about how they sorted it. Then push all the junk back together, sort by a different rule, and discuss. Repeat as appropriate.

Extension: After this experience, children can work with partners to sort various materials. (5.01)



I Wonder "Footwear Fun"

Have students remove one shoe. Discuss how they close i.e., tie, slip on, buckle, etc. and show prepared cards that reflect each category. Create a concrete graph on the floor using their shoes and the cards. Discuss results using the math vocabulary more and less.

Literature Link - Extend lesson by learning "The Old Woman Who Lived in a Shoe" and/or read The Elves and the Shoemaker.

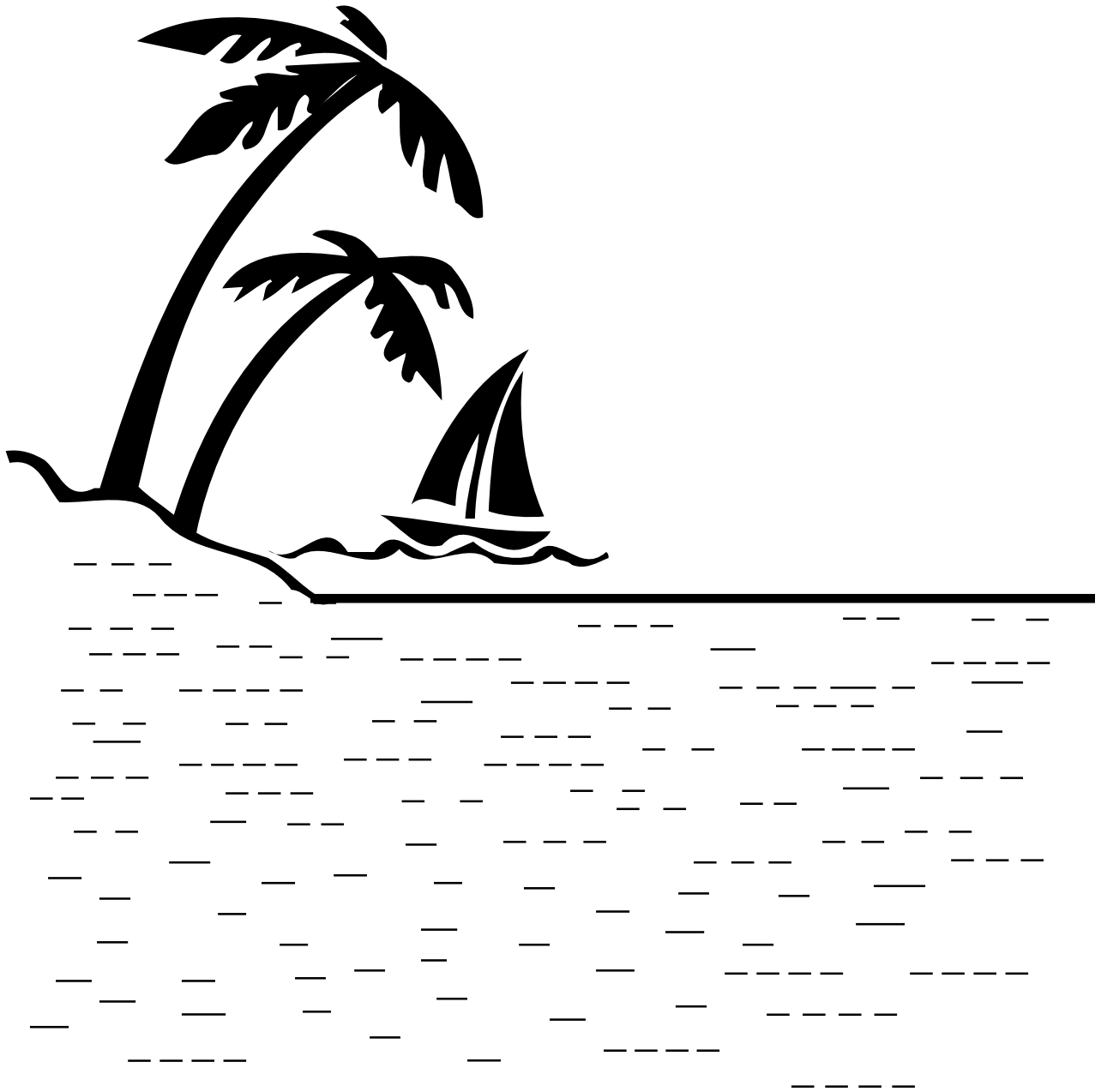
(4.01)



Growing Mathematically

Estimation develops the student's ability to recognize when numbers are reasonable and make sense. In teaching young children to estimate it is essential to convey that "getting close" is the goal, not being exact. Begin by estimating quantities less than ten for at least the first nine weeks. Gradually increase the quantities to be estimated not to exceed 20 items. Repeated exposure is important, so be sure to estimate weekly.

(1.01f)



“Shells On The Beach”

The teacher needs to model this activity first. Later the children can repeat it with partners. Begin by placing two shells on the beach. Ask how many shells there are, count them aloud. Then tell the children that a big wave came and moved the shells around. Pick up the shells and rearrange them on the beach. Talk about what has changed and what is the same. Ask how many shells are on the beach now. Count to check, if needed. Emphasize that the number of shells has not changed, only the position. Repeat. Repeat with other numbers of shells up to nine. This activity gives the teacher a chance to assess each child’s conservation of number. Those who do not conserve need many more experiences of this nature.

Variations: pumpkin seeds on a pumpkin cutout
 bears on a bed story board
 flowers on a field story board

(1.01a, 1.10b)



Let's Count

Reinforce rote counting and one-to-one correspondence in a tactile way with this activity. Divide children into small groups of two or three, and give each group laces and beads. The children count in unison by ones as they string the beads.

(1.01b, d)



I Spy

Use bead stringing to practice position words. Invite a small group of children (three-four) to string five-six beads in sequential order, i.e., red, first, then blue, etc. Lay the bead string on the floor or table being sure each child's string is in the same order and ask questions using a bead as a reference point.

Ex. What bead is beside the blue one?

Extension: Describe bead position with ordinal numbers i.e., third, first, fourth, etc.

(1.01d, 3.03)



What Do You Think?

Give children simple logic tasks to solve such as this one:

John has three beads, one red, one yellow, and one blue. The red bead is not first. The yellow bead is second. Draw a picture of John's beads in the correct order.

(1.01e, 3.03)



I Wonder

"Estimation Necklaces"

Materials: string cut in various lengths; beads; paper and pencils for recording.

Instructions: Show children a string and have them estimate how many beads it will take to fill the piece of string. Record the estimates. Ask children to then string the beads and count. Have children work with partners and repeat the activity.

Limit number to ten or less for initial experiences. Increase the number as the year progresses.

(1.01a, b, c, f)



Growing Mathematically

Before children can understand nonstandard measurement, they must have many experiences with comparing objects and must develop vocabulary to describe those comparisons. Here is some essential comparative vocabulary.

<u>Length</u>	<u>Capacity</u>	<u>Weight/Mass</u>
big/small	empty/full	heavy/light
large/little	more/less	heavier
tall/short	half empty/half full	lighter
wide/narrow	equal to	balance
thin/thick		

(2.01)

The Manipulative Connection

Beads, Beads, Beads

Beads are an excellent and inexpensive math manipulative that can be purchased locally or through catalogs. Here are some “beady” ideas for sorting, graphing and probability.

Bead Sort

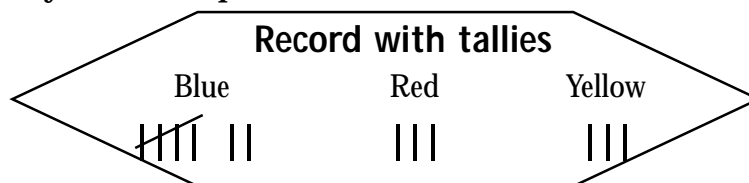
Give pairs of children a small portion cup of assorted beads. Have them sort and resort their beads and tell their rule each time.

Graph-a-Bead

See Blackline master Week 7 to make a graphing mat for each pair of children. After they have done “Bead Sort” have them place beads on the mat to create a concrete graph.

Which Bead?

Here is a simple probability activity to be done with the whole class or a small group. Place five beads of one color, two of another and one of a third color in a paper bag, i.e., five blue, two red, one yellow. Have children predict which color will be pulled out most often. Let one child at a time pull a bead from the bag, record the color and replace the bead. After all children have pulled out a bead, discuss results. You could repeat on another day and compile the different sets of data.



Which bead did you have the most of?

●				◎

Draw shapes of beads here to label columns



Let's Count

"How High Can We Go?"

While sitting in a circle, the children count in turn. The object is to see how high the group can count before missing a number. A marker can be placed on a number line to record the last correct number. Repeat and compare the current score with the recorded score. Move the marker forward when the old record is broken. (1.01d)



I Spy

Collect school milk cartons for each child. Cover them with construction paper and form a little village. Ask children to put their bear counter *beside*, *in front of*, or *near* the building that is being described. Cut off the top of the carton and use it as a removable roof to explore the position word *inside*. Again, ask children to work in pairs with their milk cartons and bears. One child gives directions using position words while the other child places the bear in the proper place. Encourage children to verbalize the positions of the bear after placing it. "My bear is *between* the houses." (3.03)



What Do You Think?

Getting to Know Us

Have students draw a picture of their favorite animal. Students lay their pictures in rows according to type. Let students compare to see which is most and which is least. (4.02, 5.01)



I Wonder

"Left or Right"

Divide class into partners and pass out sheets of paper. Ask students to record name. As they finish, ask them to put the hand holding the pencil flat on their paper and have their partner trace around it. Repeat procedure for the partner providing assistance as needed. Gather students in a group to predict how many left or right handed students there are. Graph on floor and discuss results. (4.01)



Growing Mathematically

Assessment Questions

Good questions are not geared to getting the child to repeat the right answer. Rather, they ask children to explain or show what they are thinking or doing. To evaluate questions, ask yourself, "Do I already know what the answer will be, or am I really curious about what the child is thinking?" Here are some good open ended questions:

"Are you sure?"

"How do you know?"

"Can you show me?"

"Why do you think that happened?"

"Can you prove it?"

Excerpted from Math Time: The Learning Environment by Kathy Richardson

More Math Fun at Home!

2

BOOKS

Count how many books are in your bedroom.

Choose two books. Talk about which is heavier/lighter, taller/shorter, thicker/thinner.

Open a book to the middle, count the characters on this page.

Choose any two books. Tell how they are alike and different.

Pick your favorite book. Tell 3 reasons you like it.

TOYS

Choose ten toys and count them backwards.

Using the same 10 toys, sort them as many ways as you can.

Using the same 10 toys, put them in order from smallest to largest (parents please help with this as needed).

Choose any two toys. Tell how they are alike and different.

Pick your favorite toy. Tell why it is your favorite.

OUTSIDE

Look up. Count the clouds in the sky.

Sort objects found outside, such as, leaves, rocks, sticks, etc.

Create a pattern with objects from outside. For example: rock, rock, leaf, rock, rock, rock, leaf.

Choose any two trees or plants. Tell how they are alike and different.

Look outside. Tell three signs of fall.

AT HOME

Count all the doors in your home.

Are there more beds or bedrooms in your home?

Find something in your home to match each shape: circle, square, rectangle, triangle.

Do you have more telephones or televisions?

Count all the windows in your home.



Let's Count

Use classroom storyboard (Week 4) and school bus storyboard (Week 5) to model numbers and to act out solutions to story problems. For example: Show me three bears on your bus.

Use numbers 0-5.

(1.03)



I Wonder

"Extending the Focus Center"

Take items from the focus center sorting activity and form concrete graphs.

Example: Focus idea -- things with holes.

Classification: square holes, round holes, triangular holes.

Graph: There were the most items with square holes.

(4.01, 5.01)



I Spy

Literature Link

Read the book, Monday, Monday by Martin or Cookie's Week by Ward during story time.

After discussing the story have students repeat the days of the week in sequential order.

Extension: See if students can relate specific story events to certain days.

(2.02)



Growing Mathematically

Time & Money: Tough Ideas

On the following page is a sample "Stumper" calendar. It's purpose is to provide a short independent thought-provoking activity to engage your students as they begin their day or math time.

These activities can be used for assessment; observe children as they work and keep a checklist of progress/accomplishment. The paper/pencil activities can be kept in a math log or portfolio.

These suggested activities cover the content of the math curriculum. Please feel free to adapt ideas to a theme or unit and remember to increase the level of difficulty as the year progresses. Use the grid for creating additional stumper calendars. See Blackline Master Week 9.



What Do You Think?

Select a topic for students to "focus" on such as, a color, a shape, or things with holes. Have students bring items from home to contribute to a class collection. Discuss as a group why these things go together and review the math term "rule". Then have children reclassify items and discuss their new "rules" for sorting.

(5.01)

Stumpers

Draw a hat for each man.
(See Blackline Master
Week 16)

Make an AB pattern with
unifix cubes. Record your
pattern by coloring a unifix
strip.
(See Blackline Master
Week 9)

Make a bead pattern.

Draw two circles, one
big and one little.

Work a puzzle.

Cut the pictures apart and
put in order from narrowest
to widest.
(See Blackline Master
Week 16)

Make the numeral 1 on a
geoboard.

Open a book to the middle,
count the creatures/ani-
mals/people on this page.

Use number tiles 0-5.
Put in order.

Make a square on
your geoboard.

Draw a tall tree and a short
tree.

Write as many numerals as
you can.

Make a triangle on your
geoboard.

Solve the tangram
puzzle.

Make numerals 0-5
with play dough.

(See Blackline Master
Week 12)

Use number tiles 0-5. Line
up and put the correct
number of counters beside
each.

Make a rectangle on a
geoboard.

Sort the buttons* -- give
your own rule.

Draw an AB pattern,
swap with a friend and
extend.

Cut apart the
pictures and put in
order from shortest
to tallest.

(* any sorting material may be
used)

(See Blackline
Master Week 16)