Go to *Pre-Kindergarten Everyday Mathematics* Sample Activities

N•6 Comparing in Trays

Objective To provide concrete experiences with comparing quantities.

Core Activity

Key Mathematics Concepts and Skills

- Count dots on a die. [Number and Numeration Goal 2]
- Visually compare two sets of objects. [Number and Numeration Goal 4]
- Use terms such as *more, less, fewer,* and *same* to describe comparisons. [Number and Numeration Goal 4]

Other Skills Cooperation, Pretending and Role Play

Terms to Use more, less, fewer, same amount

Materials ice-cube trays or egg cartons; masking tape or marker; counters; dot dice; small and large toy animals and paper plates (optional)

Planning Tip If you do not have ice-cube trays or egg cartons, you can use masking tape to divide a cookie sheet or cafeteria tray into 12 sections.

Main Activity

☐ Whole Group ☑ Small Group ☑ Partners ☑ Center

Have partners sit side-by-side with an ice-cube tray or egg carton between them. Place the tray vertically between the children, so that each child has his or her own column of cups. Mark the start at the bottom edge of the tray with masking tape or a marker.

Children take turns rolling a die. They say the number, count out that number of counters, and put one counter in each cup on their side of the tray. (Be sure children start filling cups from the bottom of the tray.) After each partner has had a turn, they compare the number of counters on each side of the tray. Encourage children to use comparison words such as *more, less, fewer,* and *same.* Children clear the tray before they roll and compare again.

The ice-cube tray (or egg carton) helps children line up or match objects one-to-one, which is a useful comparison strategy. Some children will not need the tray, or may only need to use this strategy when comparing larger numbers.

To add interest, you may want to allow children to "feed" the counters to stuffed animals after each round. Provide two toy animals (one larger than the other) and two paper plates. After each round, the child with more counters feeds them to the larger animal, and the child with fewer counters feeds them to the smaller animal. Children make a food pile for each animal and add counters with each turn.

Adjusting for Age and Development

For some children, you may want to begin with dice having 1–3 dots, then expand to numbers 4–6.

Ongoing Assessment: Kid Watching

You can use this activity to informally assess children's ability to visually compare sets of objects and describe the comparisons using words such as *more, fewer, less,* and *same.*

Connections

Snack Connection Give each child a small handful (6 or less of each) of two different types of small snacks (pretzels and raisins, for example). Have them line up each type of snack side by side so they can compare which type they have more of. You may need to help children arrange the items side by side. Provide trays or egg cartons for children who need them.

Mathematics Connection Have a small group of 3–4 children each roll a dot die. Children line up the dice in order from the least to the most dots. Dice with the same number of dots can be stacked.

Children may want to "feed" the larger set to the larger bear and the smaller set to the smaller bear.

Developing Oral Language ELL

This activity will help children develop their understanding of the words *more, less, fewer,* and *same amount.* You can enhance children's learning by modeling the use of comparative language. For example: *You have* more *because all of your cups are full and she has an empty cup. Yours both go up this high, so you have the* same amount.)

R•1 Teddy Bear Positions

Objective To provide practice with position words through a song and movement activity.

Core Activity

Key Mathematics Concepts and Skills

- Use position words to describe the location of an object. [Geometry Goal 2]

Other Skills Singing and Rhythmic Movement

Terms to Use on, under, behind, beside, over, next to, in

Materials teddy bears or other stuffed animals (or paper teddy bear cutouts or bear counters); chairs

Planning Tip Each child will need his or her own bear (or other animal) for this activity. The activity can coincide with a Teddy Bear Day. In advance, inform families of the date and request that children bring a favorite teddy bear or stuffed animal to school.

Main Activity

☑ Whole Group ☑ Small Group ☐ Partners ☐ Center

Have children sit on chairs, holding their teddy bears. Practice and model position words by asking children to place their teddy bears in various places such as *on* their heads, *under* their chairs, and so on. Next, explain that you will sing a song, and they will listen and follow the directions. Sing and act out the following song, which is featured on the Sing Everyday! CD. Sing to the tune of "The Farmer in the Dell."

My teddy's on my chair.
My teddy's on my chair.
Oh, dear, my silly bear,
My teddy's on my chair.

Continue with verse 2 using *behind,* verse 3 with *under,* verse 4 with *beside,* and verse 5 with *over my chair* … .

Developing Oral Language ELL

Because position words are highly contextual, they are often challenging for young children. Position words are best learned in context and with plenty of practice. Children will gain experience at clean-up time (*Put the blocks* on *the shelf.*) and during transitions. (*Line up* next to *the door.*) See *Minute Math*® for other quick activities to practice position words.

Final verse (Have children sit.):

My teddy's in my lap.
My teddy's in my lap.
It must be time for a nap.
My teddy's in my lap.

Sing the song with children often.

Links to the Future

Learning concepts and language related to position helps children develop their spatial sense. Spatial reasoning is an important part of geometry.

Connections

Literacy Connection Read a variety of teddy bear stories such as *Corduroy* by Don Freeman (Viking Juvenile, 1968) or a book version of the song "Teddy Bear's Picnic."

Mathematics Connection Children can sort the teddy bears in various ways, such as old, new, smooth fur, rough fur, wearing clothes, no clothes, and so on.

Science Connection Together with children, open up an old stuffed animal along a seam line and look at what is inside. Take out the stuffing and try re-stuffing with different materials, such as crumbled paper, cotton, small blocks, or beans. Discuss how the different stuffings feel. Re-stuff the animal with the material children choose, perhaps by a class vote, then close the seam. If you use reclosable fabric tape, it will be easy to open and close the seam.

Adjusting for Age and Development

Initially, you may want to focus on one or two verses of the song at a time. Once children are proficient with the verses, you or children can make up verses that incorporate other position words.

Ongoing Assessment: Kid Watching

You can use this activity to observe children's understanding of various position and location words.

Related Book

- *Over, Under and Through* by Tana Hoban (Simon & Schuster Children's Publishing, 1973)

P•14 Sorting Vehicles

Objective To provide experiences with sorting by a variety of attributes.

Key Mathematics Concepts and Skills

- Identify and describe attributes of toy vehicles. [Patterns, Functions, and Algebra Goal 1]
- Use rules to sort toy vehicles in various ways. [Patterns, Functions, and Algebra Goal 1]

Other Skills Cooperation, Listening and Speaking

Terms to Use sort, group, groups

Materials toy vehicles; paper plates or trays (optional)

Main Activity

☐ Whole Group ☑ Small Group ☐ Partners ☑ Center

Show children your assortment of toy vehicles and allow them to peruse and play with the collection. After some time, ask questions such as: *What do you notice about the vehicles? How can you group them?* Encourage children to think of different ways to sort the vehicles. You might have children sort the vehicles independently, or you might have a small group of children work together to sort them one way, and then a different way. Some children may like to use paper plates or trays to organize their groupings. Leave the materials in a Center for children to continue sorting in different ways. Make time for them to share their sorting schemes with others before cleaning up.

Core Activity

Planning Tip Collect a variety of toy vehicles (different types, colors, and sizes).

NOTE It is important for children to have sorting experiences with materials that allow them to be creative in their sorting schemes. Toy vehicles are particularly good for sorting because they can differ in a range of attributes. Among other things, children can sort vehicles by color, size, number of wheels, speed, function, or whether they travel on the ground, in air, or in water.

See the Transportation Theme in *Resources for the Pre-Kindergarten Classroom* for other mathematics activities that involve vehicles.

Racing Cars

"Regular" Cars

Emergency Vehicles

Ongoing Assessment: Kid Watching

You can use this activity to informally assess children's understanding of sorting and their abilities to sort in different ways and describe their groupings.

Adjusting for Age and Development

Encourage children to sort vehicles by two attributes such as white *and* trucks. Children may want to try sorting using a negative attribute such as ground vehicles and *not* ground vehicles.

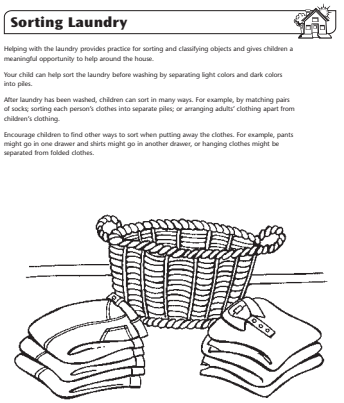
Connections

Art Connections Children enjoy doing "vehicle printing." Show them how to dip toy vehicles in a thin layer of paint on a tray, and then drive them across their papers to make lines, designs, and patterns.

Children can also create vehicles using scrap materials such as cardboard tubes, boxes, buttons, or paper. Or, they might use collage materials or pre-cut geometric shapes to make pictures of vehicles. Children can sort the vehicles they make.

Manipulatives Connection Children can sort a collection of coins. Although they do not need to know the names or values of coins yet, sorting coins by appearance (size or color, for example) lays groundwork for later learning.

Family Connection You may want to use the Sorting Laundry Family Connection (*Math Masters,* page 89) to encourage families to find natural opportunities to sort at home.



Sorting Laundry

Helping with the laundry provides practice for sorting and classifying objects and gives children a meaningful opportunity to help around the house.

Your child can help sort the laundry before washing by separating light colors and dark colors into piles.

After laundry has been washed, children can sort in many ways. For example, by matching pairs of socks; sorting each person's clothes into separate piles; or arranging adults' clothing apart from children's clothing.

Encourage children to find other ways to sort when putting away the clothes. For example, pants might go in one drawer and shirts might go in another drawer, or hanging clothes might be separated from folded clothes.

Math Masters, p. 89

Sorting Laundry

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