

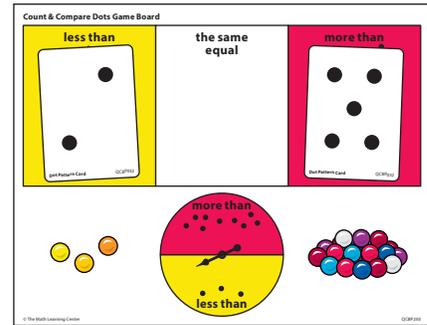
# Bridges in Mathematics Pre-K Unit 4

## December

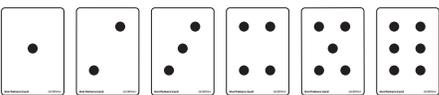
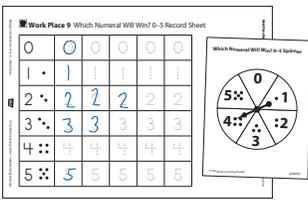
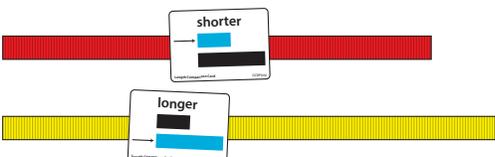


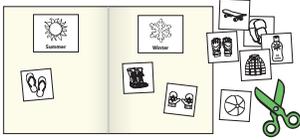
The onset of winter sets the tone for math this month. In this unit, your child will:

- Count to 10, read numbers to 7, match sets and numbers to 7
- Quickly recognize quantities 1–6
- Write numbers to 5
- Put shapes together to make pictures and larger shapes
- Compare objects by length
- Sort objects by use



Your child will learn and practice these skills by doing activities and playing games like those shown below.

ACTIVITY OR GAME	COMMENTS
<p>Play counting games with Dot Pattern cards.</p> 	<p>The Dot Pattern cards give children practice identifying the number of items in a small group without counting them.</p>  <p>Far from being a minor skill, the ability to quickly recognize small quantities supports the later development of number sense and arithmetic skills. One of these is “counting on” or being able to start with the larger of two numbers and continue counting up to add them: “3 + 6 is 9 because you can go 6 ... 7, 8, 9.”</p>
<p>Spin and trace numbers on a graph to see which row fills up first.</p> 	<p>Children practice reading and writing numbers 0–5 as they spin a number spinner, read the number they landed on (or count the dots if they need help remembering what it says), find the matching number on their record sheet, and trace over it. As they’re working, the teacher might ask them how many 2s or how many 5s they’ve gotten so far. She might ask how many more 3s they need to fill the row. And she can also ask them to compare the numbers in neighboring rows: “Do you have more 1s or more 2s so far?”</p>
<p>Make pattern block snowflakes.</p> 	<p>Children listen to a story about the formation of snowflakes and then use pattern blocks to make their own. They learn that snowflakes start way up high in the clouds when water vapor freezes around bits of dust to form hexagon-shaped ice crystals. If the clouds are cold enough and wet enough, the crystals sprout tiny ice branches at each corner. These keep growing until the flakes are heavy enough to fall to the ground. The children replicate this process by placing a hexagon in the center of 3 intersecting lines and then “growing” the branches by surrounding the hexagon with several rounds of other shapes.</p>
<p>Play the Longer Than/Shorter Than game.</p> 	<p>Children take turns pulling a piece of ribbon out of a bag. They place the two ribbons side by side, even at one end, to find out which is longer and which is shorter. They label the lengths of ribbon with picture-word cards, and then pull two more ribbons out of the bag.</p>

ACTIVITY OR GAME	COMMENTS
<p>Sort pictures of clothing and toys to show whether people use them in the summer or the winter.</p> 	<p>This activity is the culmination of several days of discussion and activity around hot and cold temperatures, summer and winter, and some of the ways we deal with the heat of summer and the cold of winter.</p>

## FREQUENTLY ASKED QUESTIONS ABOUT UNIT 4

### Q: Can you suggest any toys that would help my child with math?

**A:** If you look for toys that are hands-on, open-ended, or interactive (as in person-to-person) you can't go wrong, but there are several broad categories that are particularly wonderful when it comes to cultivating mathematical thinking.

- Construction toys (geometry & spatial problem solving)
  - Wooden or foam blocks
  - Large cardboard blocks
  - Duplos/Legos
  - Tinker Toys, Lincoln Logs, Magna-Tiles, Bristle Blocks
  - Marble roll sets
- Puzzles (geometry & spatial problem solving)
  - Table or floor puzzles (16–24 pieces)
  - Hiss (The Colorful Snake-Making Card Game)
  - Spot It! Jr. Animals, Spot It! Numbers and Shapes
- Board games (counting, reading numbers, recognizing small quantities quickly)
  - Chutes and Ladders
  - Sorry (classic version)
  - Candy Land
  - Snail's Pace Race
- Strategy games (spatial problem solving & logical thinking)
  - Chinese checkers
  - Checkers/Chess
  - Connect Four

### Q: What can I do with my child at home over winter break to keep doing math?

**A:** Try some of these ideas, especially if you might be spending a little extra time with friends and family.

- Play board games (see the suggestions above).
- Make pancakes, fix lunch, or do some baking together. There are lots of simple but mathematical ways in which your child can help:
  - Can you find the biggest mixing bowl for me?
  - We need half a cup of milk for the pancakes. Can you fill the 1-cup measure halfway?
  - This pancake recipe calls for 3 eggs. You put 1 in. How many more do we need?
  - Will you set out 4 plates on the counter?
  - Do we have enough pancakes to put 2 on each plate? Let's find out!
- Read some wonderful winter books together. The first three below include examples of the types of questions and prompts you can pose when you're reading almost any picture book.
  - *Snow* by Uri Schulevitz (Let's count to see if there are really 1 (2, 3) snowflakes. How many pictures are on the wall (windows on the house, people in the street)? Let's count them! Are there more animals or more people in this picture? How do you know?)
  - *Five Little Penguins Slipping on the Ice* by Steve Metzger (How many penguins are there? Let's count them! How many penguins do you think we'll see on the next page? Let's find out. How many penguin children are sitting by their mom? Let's count!)
  - *Little Fern's First Winter* by Jane Simmons (Why are the little rabbits counting? Can you point to the numbers and read them with me? How many squirrels do you see up on the branch? How many mice are there? How many beetles?)
  - *Snip, Snap ... Snow!* by Nancy Poydar
  - *The Three Snow Bears* by Jan Brett
  - *Animals in Winter* by Henrietta Bancroft

For more ideas and resources, go to [www.mathlearningcenter.org/families](http://www.mathlearningcenter.org/families)