

Problem Solvers Activity 23: Pumpkin Jump

CHILDREN ARE LEARNING TO...¹

- Recognize the number of small objects in a set without counting (subitizing).

MATERIALS NEEDED:

- Large blanket or sheet
- Clear packing tape
- 24 Index cards
- Small plastic bowl
- One small (1-inch) cube block per child—in 4 different colors (children will use these as game pieces), plus one for teacher demonstration
- Optional: Decorative or real pumpkin(s)
- **Handout 1: One Pumpkin**
- **Handout 2: Two Pumpkins**
- **Handout 3: Three Pumpkins**
- **Handout 4: Pumpkin Jump Cards**
- **Handout 5: Path to the Pumpkin Patch—1, 2**
- **Handout 6: Path to the Pumpkin Patch—1, 2, 3**
- **Handout 7: Pumpkin Patch Cards**

SUBITIZING

This unit focuses on the skill of “subitizing,” which is a child’s growing ability to recognize small quantities of objects without counting. Babies are born with the ability to tell the difference between one item and two. Children eventually learn to recognize larger (but still small) groups of items, like three and four.

While we can’t really “teach” children to subitize, we can provide them with lots of practice. By seeing and experiencing sets of different quantities, children begin to develop subitizing skills over time.

PREPARATION:

- Print 5 copies of **Handout 1: One Pumpkin** on sturdy paper. If possible, laminate or cover with clear contact paper, as children will be stepping on these images.
- Print 5 copies of **Handout 2: Two Pumpkins**. If you are working with 4-5 year olds, print 5 copies of **Handout 3: Three Pumpkins**. See note above regarding lamination.
- Make 2 copies of **Handout 4: Pumpkin Jump Cards** and cut them out. Discard the “3 pumpkin” cards if you are working with children under the age of three years. Glue the Pumpkin Jump cards to index cards to make them sturdier. Mix the cards up and place them in a small plastic bowl.
- Print **Handout 7: Pumpkin Patch Cards**. Cut out and glue to index cards. Keep these aside until the **Explore** activity.

¹ Head Start Early Learning Outcomes Framework: Ages Birth to Five. <https://eclkc.ohs.acf.hhs.gov/interactive-head-start-early-learning-outcomes-framework-ages-birth-five>

- Choose the game board that is appropriate for the ages/stages of children in your group. Approximate guidelines are below:
 - *If working with 2 ½ to 3 year olds:* Print the game board showing quantities up to 2 (**Handout 5**) in color if possible. Print the game board on two sheets of paper and tape together. If possible, glue the paper game board to a manila folder or posterboard to make it sturdier.
 - *If working with 3 to 4 year olds:* Print the game board showing quantities up to 3 (**Handout 6**). Follow the instructions above to make the game board.
- Keep the game board and cube blocks aside until the **Explore** activity.
- Choose a place in the room where there is space for children to move and jump. Using clear packing tape, tape the one- and two-pumpkin images in a random order on the floor. If you are working with 4-5 year olds, include the three-pumpkin images as well. There should be enough space between images for children to step or jump from one to another.
- Cover the pumpkins on the floor with a large sheet or blanket.
- Keep the decorative pumpkin (if using) nearby for the **Engage** activity.
- Print parent handout, one per child.

ACTIVITY INSTRUCTIONS

ENGAGE

Gather a group of 4 children.

Show children the decorative (or real) pumpkin. Pass it around so children can touch it.

ASK: Have you seen a pumpkin before? What do you know about pumpkins? What do pumpkins have inside them? What do we do with pumpkins (Eat them? Carve them into jack-o-lanterns?).

SAY: Pumpkins have many different parts! Let's see if we can find them all!

- **The stem** is at the top of the pumpkin (*point to it, let children touch it*). When the pumpkin is growing, the stem is green and it connects the pumpkin to its vine. The vine brings the pumpkins nutrients, or plant food, it needs to grow. When the pumpkin is done growing, the stem starts to turn brown.
- **The ribs** of the pumpkin are these ridges that run from top to bottom (*point to show children*). Look, there are ridges all around the pumpkin. (*Let children touch the ribs*.)
- Okay, Problem Solvers, can you guess what part of the pumpkin is called the **skin**? (*Take several guesses*.) That's right. The skin of the pumpkin is the shiny, orange outside layer of the fruit. The skin helps to protect the pumpkin.
- **SAY:** Today we are going to play a pumpkin game called Pumpkin Jump!

EXPAND

Select a one-pumpkin card from the bowl. Hold it up so children can see.

ASK: How many pumpkins do you see on this card? (Hold the card up for about 3-4 seconds and then put it face down on the table. Take several responses from children.)

SAY: Yes, this card has ONE pumpkin on it. *(Show children the card again. If children offer the incorrect quantity, say: Let's check the card, Problem Solvers! Show the card one more time and point to the pumpkin as you say "one.")*

Take out a two-pumpkin card from the bowl.

ASK: How many pumpkins do you see on this card? (Hold the card up for about 3-4 seconds and then put it face down on the table. Take several responses from children.)

SAY: Yes, this card has TWO pumpkins on it. *(Show children the card again. If children offer the incorrect quantity, say: Let's check the card, Problem Solvers! Show the card one more time and point to each pumpkin as you count "one, two: two pumpkins.")*

Repeat this activity with a three-pumpkin card if you are working with older children (3-4 years old).

SAY: Each of you will have a turn to take a card out of the bowl and see how many pumpkins are on your card. Let's play!

Give each child a turn to select a card and label it as "one," "two," or "three" pumpkins. They should be using their subitizing skills—recognizing the quantity visually without counting—so will probably label the card rapidly. If they are incorrect or having difficulty, point to the pumpkin(s) on the card while prompting the child, "Let's count together and discover how many pumpkins are here!"

Transition children to the area that is covered by the sheet/blanket. (Children should still be holding their pumpkin card.)

ASK: What do you think might be under this sheet? *(Take several guesses, then take off the sheet and put it aside.)* There are lots of pumpkins hiding under my sheet. It looks like a pumpkin patch! A pumpkin patch is a garden where pumpkins are planted. These pumpkins are going to help us play our game. Let me show you how to play.

Take a card from the bowl: I see one pumpkin on my card. (Show children.) So, I can only jump on the pictures of **one pumpkin**. Let me see...where is one pumpkin? '

Demonstrate jumping on pictures of one pumpkin until you have jumped on them all. (Note: 30-month-olds may not yet be able to jump with accuracy so stepping on pumpkin images works best.)

ASK: Who would like to go next?

Observe children as they jump on the pumpkins to ensure they are selecting the same quantity (1, 2, or 3) pictured on their card. If they jump on the incorrect quantity, pause and say: "Let's compare your card to the pumpkin picture on the floor. How many pumpkins do you see on your card? How many pumpkins are you stepping on?" Support the child's ability to observe, compare, and self-correct.

Give each child a turn to complete the pumpkin jump. If time allows, give children the chance to choose another card and jump on that quantity of pumpkins. Collect the Pumpkin Cards before moving to the **Explore** activity.

EXPLORE

As you transition into the Explore activity:

- Keep the Pumpkin Jump cards handy—you will use them again for the Path to the Pumpkin Patch game. Add the Pumpkin Patch Cards to the set toward the back of the pile. Quickly shuffle them.

For children aged 2 ½ to 3 years, play the *Path to the Pumpkin Patch* card game (explained below) **as a group using the game board showing quantities up to 2.**

For children aged 3 to 4 years of age, play the *Path to the Pumpkin Patch* card game as a group using the game board showing quantities up to 3.

Let each child choose a different color cube block to use as their game piece.

Show children the game board: “What do we see here?” Take children’s responses. Be sure to observe together how there are different quantities of pumpkins. Ask children to show you a spot with one pumpkin, then two pumpkins, and then three pumpkins (if you are using). Point out the last space with LOTS of pumpkins: this is the pumpkin patch where all the pumpkins grow.

SAY: In this game, we are going to move our block along this path to the pumpkin patch (*point to the final space on the board.*) We will pick a card and move our block to a space that shows the same quantity or number of pumpkins. I’ll show you!

Demonstrate how to play. Put your block on the “start” space, Show children how you take a card: “How many pumpkins are on my card? Oh, there are 2! Does anyone see a space near my piece with 2 pumpkins?” Show children how to move the block to the space with two pumpkins.

ASK: Who wants to go next? [*Choose a child to demonstrate taking a turn.*]

Continue playing the game as a group, giving each child a turn to pick a card and move their block to the first space showing their matching quantity. Continue playing, reshuffling cards as needed. The game ends when each child has selected the pumpkin patch card and moved their piece to the final spot on the game board. (If children happen to select a pumpkin patch card early in the game, encourage them to start over and play again.)

If children make errors in subitizing, prompt them to first “look again with your Problem Solvers eyes” to check how many pumpkins they see. If they continue to have difficulty, point to each pumpkin and encourage children to count along with you.

REFLECT

SAY: Problem Solvers, tell me about your Path to the Pumpkin Patch. What quantities did you see on your cards? Can you show me? What was fun about the game for you? How about our Pumpkin Jump game...what quantity of pumpkins did you jump on? What card did you have?

WRAP-UP: Today we played math games with pumpkins. All of you Problem Solvers used great observation skills to notice the different quantities of pumpkins! Now let’s do pumpkin jumps back to our class!

Individualizing the Activity

MAKE IT MORE CHALLENGING:

- Use larger quantities. Use **Pumpkin Jump Cards** featuring quantities up to 3 pumpkins.
- For the group game, use the more challenging version of the game board—**Handout 6: Pumpkin Patch Game – 1, 2, 3** (featuring quantities up to 3).
- Print two copies of the game board and make two sets of the Pumpkin Jump cards so that children can play *Path to the Pumpkin Patch* as a partner activity.

MAKE IT LESS CHALLENGING:

- Begin with only using 1 pumpkin cards for the Pumpkin Jump activity. When children can consistently recognize quantities of 1, then introduce the 2 pumpkin cards.
- If children have difficulty recognizing or naming 1 and 2 pumpkins, you can count them each time.
- For the group game, use the simpler version of the game board—**Handout 5: Pumpkin Patch Game—1, 2** (featuring quantities of 1 and 2).
- If you wish, use only the 1 pumpkin cards and pumpkin patch cards for the *Path to the Pumpkin Patch* game. When children can consistently recognize 1 pumpkin, then introduce the 2 pumpkin cards.

USING THE BIG IDEAS ACROSS THE DAY:

- Make *Path to the Pumpkin Patch* a free play choice for children.
- Point out quantities of 1, 2, or 3 during playtime: 1 slide, 2 swings, 3 trees on the playground, for example.
- Notice and describe quantities at snack and mealtime: 3 crackers on a plate, 1 cup of milk, 2 slices of peaches.
- Point out small quantities in the environment: a set of 3 windows in the classroom door, 1 door in the classroom, 2 keyholes in the door.
- During free play, use signs with 2, 3, or 4 dots to indicate how many children can join each play center. Help children make the connection between the quantity of dots and the number of children in the center.

Making Literacy Connections

Share the following book with children as an opportunity to deepen their understanding of subitizing. The literacy extension activity below suggests another play-based experience to invite children to recognize groups of objects in their environment.

Suggested Book: *Bear Counts* by Karma Wilson

AS YOU READ:

Bear Counts spotlights quantities from 1 to 5 in a rhyming format. Use the questions and prompts below to help children observe and predict these quantities:

- Since this is a rhyming counting book, children may be able to predict what quantity is next simply based on the rhyme. Noticing and predicting rhymes is an important early literacy skill for young children! Before you turn the page to reveal each quantity, pause for a moment to see if children will “fill in” the number based on their familiarity with the rhymes.
- When you turn the page revealing the different quantities of (for example) three, consider showing these quantities one at a time. (Cover the other images on the page with post-it notes.) Ask children to focus on one set of three and ask: “How many do you see?” Then reveal each of the other illustrations and ask the same question. Of course the quantities will be the same, but children are seeing them depicted in different ways.
- Make the connection between the book and real life. Ask children: “Do you see 2 of anything in our classroom?”
- To make the book more interactive, give each child five blocks at the beginning of the story. As you read, pause after each quantity and have children make their own sets of 1 to 5 along with the book.

BUILD ON THE BOOK:

Materials: empty shoebox, cube blocks (up to 5)

Tell children that you’re going to play a game called “Hide and Peek.” Take the top off the shoebox and set aside. Place the shoebox on its side so children can’t see what’s behind it. Choose a small quantity of blocks and place them behind the shoebox (start with 1 block). Then turn the shoebox over to cover the block(s).

Ask children, “Are you ready to play Hide and Peek? There are some blocks hiding under this shoebox. I’m going to lift the box up just long enough for you to have a peek. Then I’ll cover it again. You have to try to see how many blocks are there. Are you ready?”

Lift the box up for about 2-3 seconds and replace it. Ask: “Did anyone get a peek at how many blocks were hiding?”

Continue the game with a mix of quantities (1, 2, 3 blocks) in no special order. If children are consistently naming quantities up to 3, then move on to including quantities of 4 and 5. You can also make the game more challenging by lifting the lid for shorter periods of time (1-2 seconds).

If children label quantities incorrectly, lift the box and point to each block and count it out loud. Avoid having just one child count with you; instead, make it a group counting experience. Reinforce the total quantity by saying: “1, 2, 3, 4, 5. We have **five** blocks hiding under the box.”

Handout 1: One Pumpkin










Handout 2: Two Pumpkins



Handout 3: Three Pumpkins



Handout 4: Pumpkin Jump Cards

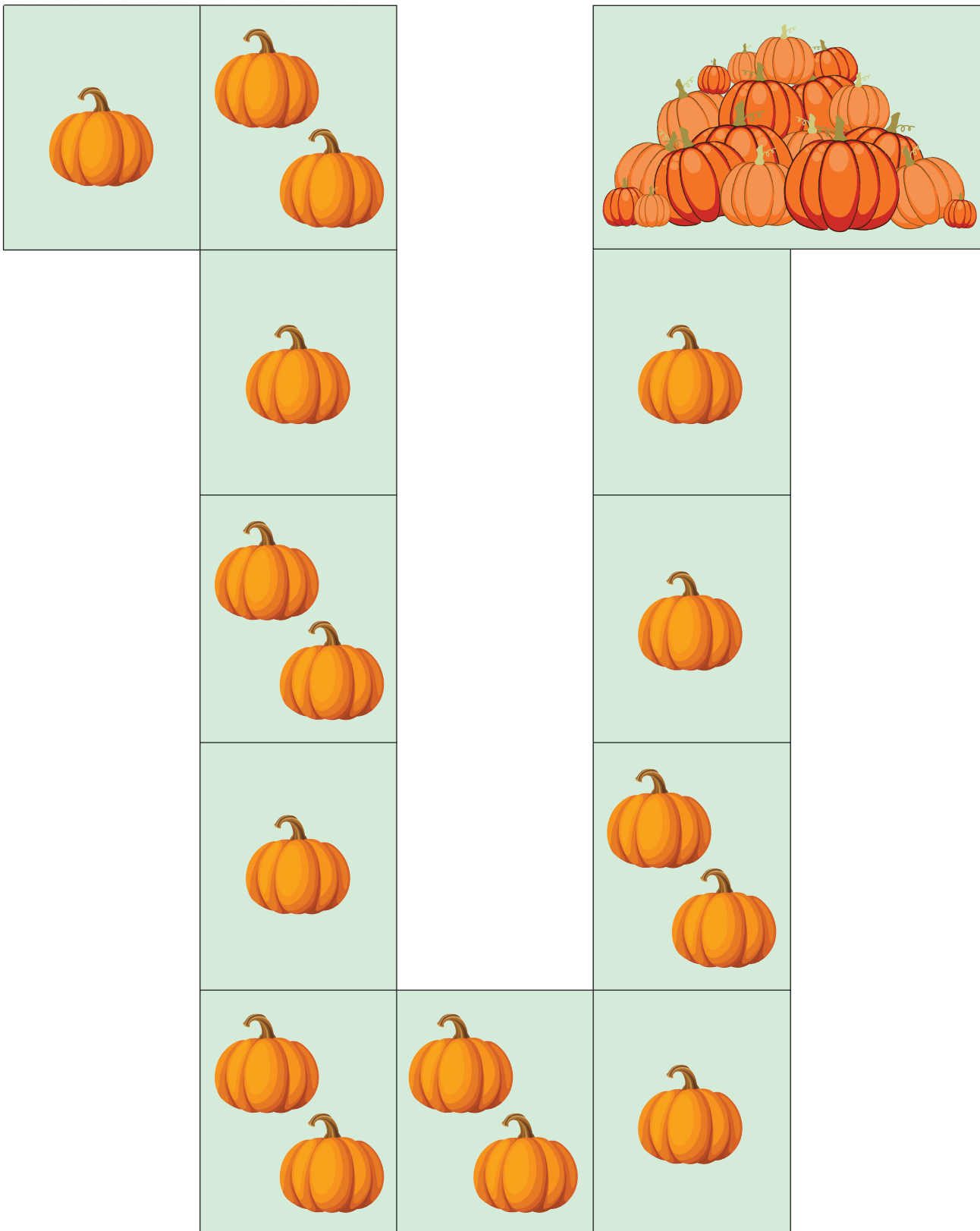
		
		
		

Handout 5: Path to the Pumpkin Patch—1, 2 (two pages)



Join Game Boards Here

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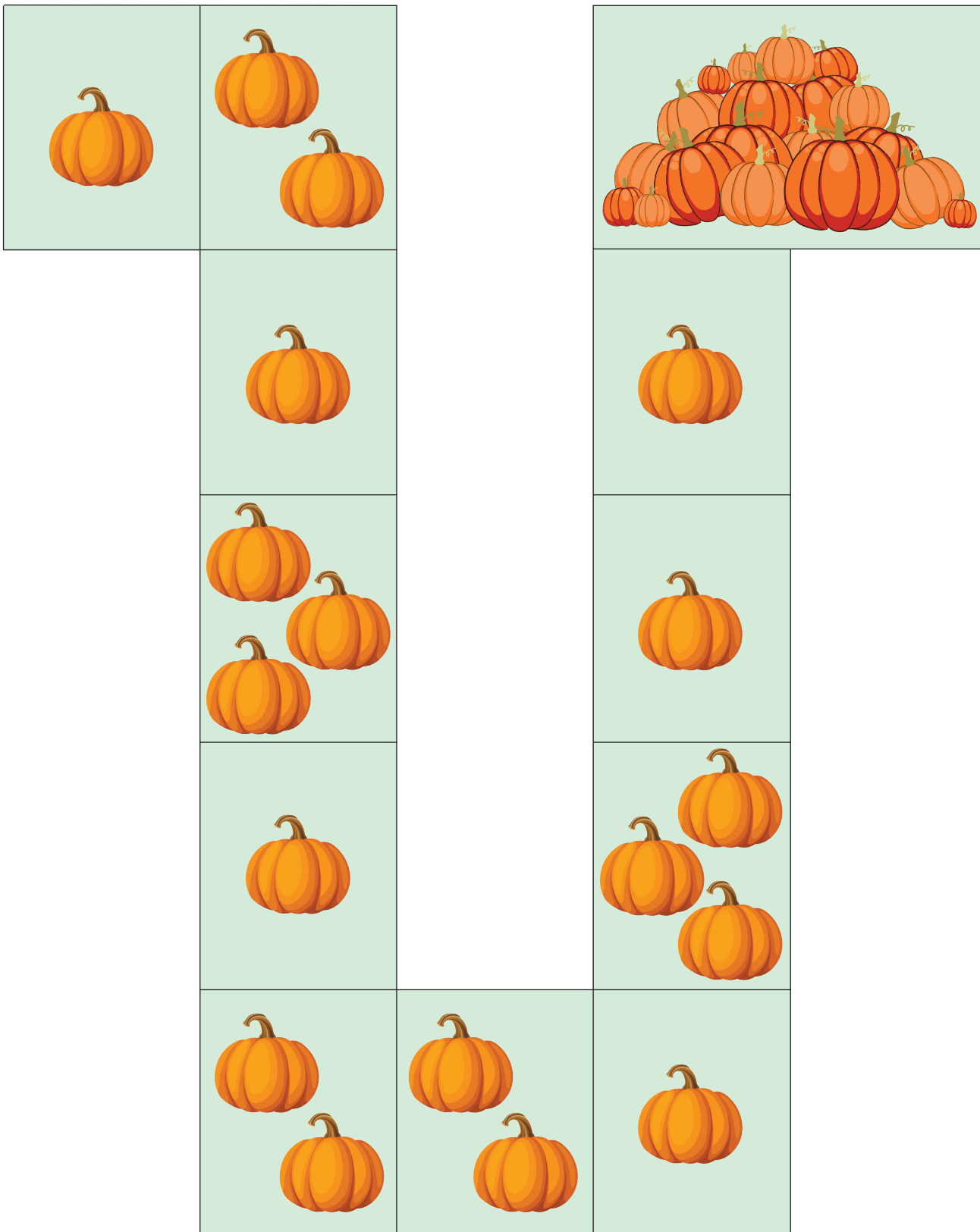


Handout 6: Path to the Pumpkin Patch—1, 2, 3 (two pages)

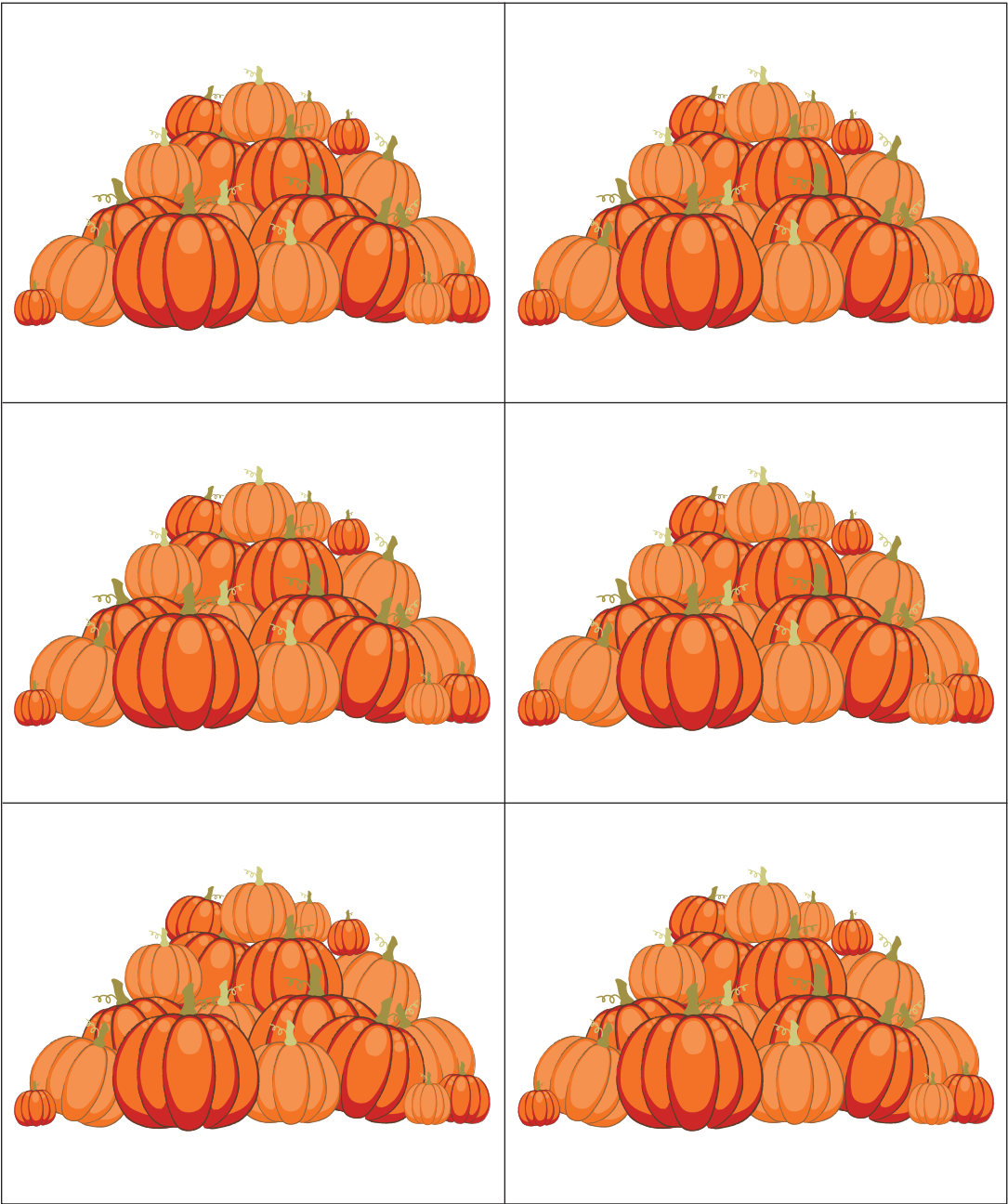


Join Game Boards Here

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Handout 7: Additional Game Cards





Just for Families

Playing Together: Hide and Peek

Young children are Learning many early math skills in their first five years. One of them is the ability to recognize small quantities of objects without counting. You can practice this skill at home with a game called “Hide and Peek.” All you need is an empty shoebox or plastic food container and 3-5 small objects (like blocks, crayons, small food items like pretzel sticks, or even pebbles from outside).

Tell your child that you’re going to play a game called “Hide and Peek.”

Take the top off the shoebox. Place the box on its side so children can’t see what’s behind it.

Choose a small quantity of blocks and place them behind the shoebox. Start with 1 block. Then turn the shoebox over to cover the block.



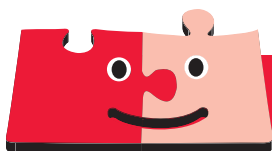
Ask your child, “Are you ready to play Hide and Peek? There are some blocks hiding under this shoebox. I’m going to lift the box up just long enough for you to have a peek Then I’ll cover it again. Try to peek at how many blocks are there. Are you ready?”

Lift the box up for about 2-3 seconds and replace it. Ask: “Did you get a peek at how many blocks were hiding?”

Continue the game with a mix of quantities (1, 2, or 3 blocks) in no special order. If your child is able to easily name quantities up to 3, then include quantities of 4 and 5.

You can also make the game more challenging by lifting the lid for shorter periods of time (1-2 seconds). Don’t forget to give your child a turn at hiding blocks for you!

If your child labels the quantities incorrectly, lift the box and point to each block and count them together out loud. It’s no big deal to make mistakes – keep the game fun and your child will learn over time!



Solo para familias

Jugando juntos: Juguemos a “Esconder y ver”

Los niños pequeños aprenden muchas habilidades para las matemáticas en los primeros 5 años de vida. Una de ellas es poder reconocer cantidades pequeñas de objetos sin tener que contarlos. En la casa, puede darles la oportunidad a los niños de practicar esta habilidad con un juego llamado “Esconder y ver”. Solo necesita una caja de zapatos o un envase plástico vacíos y de tres a cinco objetos pequeños (como bloques, lápices de colores, meriendas como los palitos de pretzel o hasta piedritas del jardín).

Dígale a su hijo que van a jugar a “Esconder y ver”.

Quite la tapa de la caja de zapatos. Coloque la caja de lado para que los niños no vean lo que está detrás.

Seleccione varios bloques y póngalos detrás de la caja de zapatos. Empiece con un bloque. Luego cubra el bloque con la caja de zapatos.



Pregúntele a su niño, “¿Estás listo para jugar a Esconder y ver? Hay varios bloques escondidos debajo de esta caja de zapatos. Voy a levantar la caja rápido para que puedas ver. Luego la volveré a bajar. Trata de ver cuántos bloques hay. ¿Estás listo?”

Levante la caja durante dos o tres segundos y bájela otra vez. Pregúntele: “¿Pudiste ver cuántos bloques estaban escondidos?”

Siga con el juego mezclando las cantidades (1, 2 o 3 bloques), sin ningún orden en especial. Si el niño puede decir fácilmente cuántos objetos ha visto cuando hay 3 o menos, entonces aumente la cantidad hasta 4 y 5.

Para que el juego sea más difícil, levante la tapa por menos tiempo (1 o 2 segundos) ¡No se le olvide de dejar que su niño esconda los bloques para que *usted* los vea!

Si su niño se equivoca al contar los bloques que están escondidos, levante la caja, señale cada bloque y cuéntelos en voz alta junto con él. ¡No importa si el niño se equivoca si el juego lo divierte, aprenderá con la práctica!