

## Dot Cards Color Sort



1-4 players

Ages 2+

5-10 minutes

Cards to use:

Red dot cards 1-2



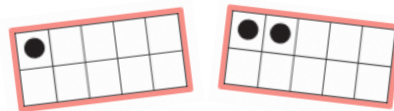
Yellow dot cards 1-2



Orange dot cards 1-2



Pink dot cards 1-2



GOAL of the game:

To sort the dot cards  
by color into  
multiple sets

VOCABULARY words:

- sorting
- same
- different

QUESTION prompts:

What do you notice  
about these cards?  
What is the same?  
What is different?

Setup:

1. Shuffle cards

2. Lay cards face up on a table or on the floor

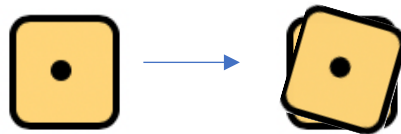


Play:

Take turns picking up one card and telling the other players what color the card is.



Put the card on the table in a pile according to its color. If there is already a pile of that color cards, add your card to the pile.



Once all of the cards are sorted by color, take turns counting how many cards are in each color pile.



The game ends when each pile has been counted!

To extend the game, return all of the cards into a larger pile and have children sort the cards by the number of dots on each card (one pile of one-dot cards and one pile of two-dot cards). Then, hand children the “1” and “2” numeral cards and have them label each pile with its numeral.

What children are learning:

- This game targets an important sorting skill – children use one sorting attribute (color) to sort the dot cards into multiple color sets.
- When children count how many cards are in each set, they are learning that sets can be counted and quantities can be compared.
- For a higher challenge, add more dot card colors to be sorted. Try including different quantities of each color (e.g., two red cards, three yellow, and five green) for children to compare.









# Hungry Numbers



1-18 players

Ages 4+

5-10 minutes

Materials:	
Start with:	Later games:
<p>Numeral cards 0-3</p>  <p>Yellow dice cards 0-3</p>  <p>Pink ten-frame cards 0-3</p> 	<p>Add red triangle dots cards 0-3</p>  <p>Add blue circle cards 0-3</p>  <p>Add orange scattered dots cards 0-3</p>  <p>Add 4-10 cards</p>

Goal of the game: to match numerals cards to their corresponding dots cards.

## Setup:

1. Arrange the numeral cards in a line in order from 0-3. At first, arrange the cards together with children. Once children are ready, have them arrange the cards independently.



2. Shuffle the remaining cards together. Place the cards into a face-up pile.

Play:



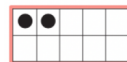
Point to the numeral cards and say, “These numbers are hungry!”



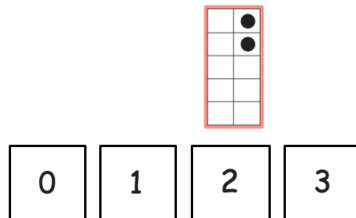
Then, point to the pile of face-up cards and say, “The number cards can eat the dots cards in this pile. But, they can only eat the cards that match their number.”



“Let’s look at the top card in this pile. How many dots are there?”




“Yes, there are two dots. Let’s put this card above the number 2 card to be eaten!”



Play continues as children take turns “feeding” the numeral cards. The game ends when all of the cards in the pile have been “eaten!”

*Note:* You can use plates, baskets, or other containers in this game. Label the containers with the numeral cards and have children sort the dots cards into the correct containers to be “eaten.”

What children are learning:

- You could use *Hungry Numbers* as a transition activity – e.g., give each child one dot card and have them feed it to its matching numeral before leaving the table.
- This game helps children recognize written numerals (number symbols) and quantities (the number of dots).
- In preschool, children begin to understand how quantities relate to number words and numerals. Support children’s learning by naming numbers (e.g., “two”). This helps children connect number words to written numerals (2) and quantities (  )


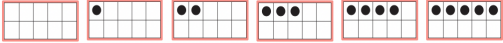



# Match the Dots



1-4 players

Ages 3+

5-10 minutes

Materials:	
Start with:	Later games:
<p>Yellow dice cards 0-5</p>  <p>Pink ten-frame cards 0-5</p> 	<p>Add other dots cards 0-5</p>    <p>Add 6-10 cards</p>

Goal of the game: to match quantities that are shown in different configurations.

## Setup:

1. Shuffle the cards

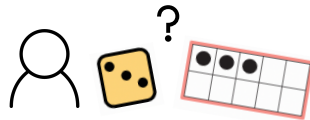


2. Place the cards face up so all can see. If 12 cards are too many, remove 1-2 pairs. You can add more pairs as children are ready.

Play:



Say, "I'm going to try to find two cards that have the same number of dots on them. I think these cards have the same number! Do they match? How do you know?"



Say, "Now it's your turn. Can you find two cards with the same number of dots on them?"

The game ends when all of the pairs are matched!



What children are learning:

- Some children may count the dots on each card to see if they have the same number. When children count, notice whether they say the correct number order (1, 2, 3, 4...) and whether they point to the dots one-by-one.
- When children are able to count objects one-by-one in the correct number order, they are using one-to-one correspondence. Help children label the last number they count as the total number in the set (e.g., "one, two, three, there are three in all"). This helps them practice *cardinality* – knowing how many in all.
- As children practice, they may begin to look at the cards and know how many dots there are right away. This is called *subitizing* – recognizing how many immediately. Subitizing is an important early math skill. You can model subitizing by saying, "I saw 4 dots here, and 1 more dot, and I knew that was 5!"


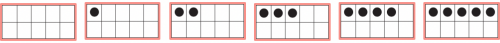



# Can You Find?



1-4 players

Ages 4+

5-10 minutes

Materials:	
Start with:	Later games:
<p>Yellow dice cards 0-5</p>  <p>Pink ten-frame cards 0-5</p>  <p>Red triangle dots cards 0-5</p> 	<p>Add orange scattered dots cards</p>  <p>Add blue circle cards 0-5</p>  <p>Add 6-10 cards</p>

Goal of the game: to immediately recognize and retrieve a particular quantity card.

## Setup:

1. Begin with the 0-3 cards. Add the 4-5 cards when children are ready. Once children are strong with the 0-5 cards, add the 6+ cards.

2. Shuffle the cards



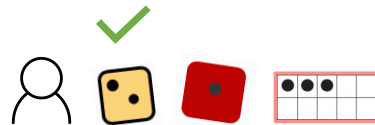
3. Put three cards down. Each card should have a different quantity of dots.



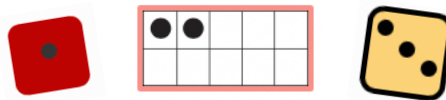
Play:



Ask one player, "Can you find the card with 2 dots?" Notice whether they see 2 immediately or need to count the dots on each card.



Once the player correctly identifies the card, say, "Ready for a new set?" Put down three new cards.



Ask another player, "Can you find the card with 3 dots?"



Notice whether children are able to subitize. For example, you might see them subitize 4 by chunking two groups of 2.

What children are learning:

- This game builds on the *Quick Images* game. In *Quick Images*, children practice seeing how many quickly. *Can You Find* is more difficult because children have to quickly see how many on three different cards and then figure out which card matches the number said.
- To make this game easier, put down only two cards.
- To make this game more challenging, add more cards or use cards with larger numbers of dots.



# Dot Memory



1-2 players

Ages 4+

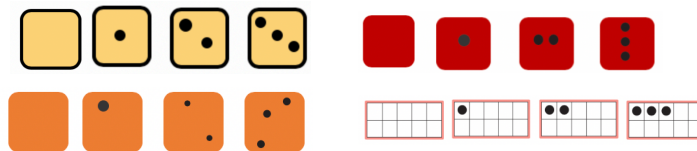
5-10 minutes

## Materials:

Numeral cards 0-3



Any dots cards 0-3



*Note:* Once children are comfortable matching 0-3, add 4+ cards

Goal of the game: to remember and match pairs of cards.

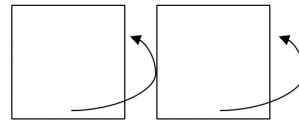
## Setup:

1. Make sure you have an even number of 2-dot, 3-dot, and 4-dot cards.
2. Start with 6 cards (3 pairs). Add more pairs as children are ready.
3. Shuffle the cards. Lay the cards face down in a line.



Play:

Children take turns turning over two cards.

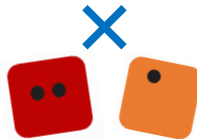


If the two cards have the same number, keep the matched cards and go again.

*Note: The type (numeral or dots) of number and arrangement of dots can differ.*



If the two cards do not match, turn them back over. It's now the next player's turn. *Note: Encourage all players to remember which numbers are on the cards being turned back over!*



The game ends when all of the cards have been matched!



What children are learning:

- This game extends the *Hungry Numbers* game by adding in a memory component. This supports children's executive function skills. Children are practicing thinking flexibly, remembering where particular cards can be found (working memory), and taking turns (inhibitory control).
- Young children are learning how to take turns and share materials. Be sure to model the turn-taking process and give children lots of practice taking (and waiting for) their turn.
- Show children how to flip over the cards -- many will want to pick the cards up and hold them instead of flipping them over for all to see.
- Say the number out loud after every card flip. For example, "3 dots here! 4 dots here. No match!"

# Make 5!



1-4 players

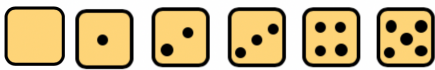
Ages 4+

5-10 minutes

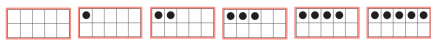
## Materials:

### Start with:

Yellow dice cards 0-5

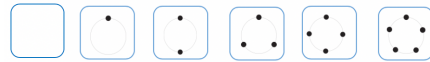


Pink ten-frame cards 0-5



### Later games:

Add more 0-5 dots cards



Play *Make 10!*

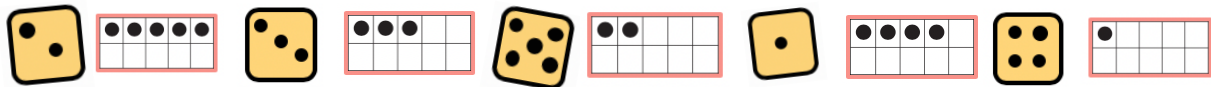
Goal of the game: to combine two dots cards so that they add up to five.

## Setup:

1. Shuffle the cards



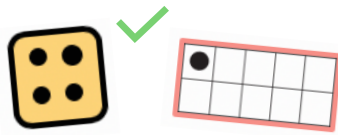
2. Place all cards face up in a row



Play:



Say, "I'm going to find two cards that add up to five! Let's see. Do these two cards add up to 5?"



Say, "Yes! There are four dots on this card, and one more dot is 5!"

Put the cards back in the row.



Say, "Now it's your turn. Can you find two cards that make 5?"

Children continue to take turns matching to 5.

What children are learning:

- This game focuses on number composition – knowing that two smaller numbers make up a larger number. In this game, children are looking for two smaller numbers that together make five.
- Practicing number composition in preschool helps children's math learning later on.
- It's important for children to recognize that a given quantity can be represented in different ways — with fingers, numerals, dots in different configurations, and more. Having practice playing with number in many forms helps to strengthen this concept.

## Same? One More? One Less?



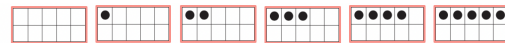
1-20 players

Ages 3+

5-10 minutes

### Materials:

Any dots cards 0-5 (at least two sets)



Goal of the game: to immediately recognize a given quantity and to name the quantity +1 or -1.

### Setup:

1. Shuffle the cards



2. Lay the cards face-up on the table so all can see

Play:

Hold up one card. Ask, “Can you find a card that is the same as mine?”

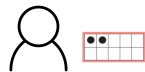


Wait for children to look through the face-up cards. They can choose one matching card or multiple matching cards.



*Note: Notice whether children match correctly. If they make a mistake, you do not have to correct them. As they practice, see if they can self-correct.*

Hold up a new card. “Can you find a card that is one more than mine?”



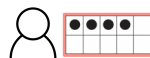
Wait for the children to look through the cards and choose one.



Hold up a new card. “Can you find a card that is one less than mine?”



Wait for the children to look through the cards and choose one.



What children are learning:

- Talking about more, less, and same helps build math vocabulary. It also helps children understand the number line because they are practicing knowing which numbers come before and after each other.
- *Variations:* Hold up your fingers and ask children to find a card with the same number of dots as fingers. Say a number and ask children to find a card with that many dots (connecting number names to quantities). Hold up a numeral card and ask children to match the numeral to that quantity of dots (connecting numerals to quantities).
- As children gain experience, have them take on the adult role!


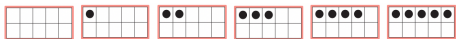




## Quick Images



1-20 players

Ages 3+

5-10 minutes

Materials:	
Start with:	Later games:
<p>Yellow dice cards 0-5</p>  <p>Pink ten-frame cards 0-5</p>  <p>Red triangle dots cards 0-5</p> 	<p>Add light green line dots cards </p> <p>Add orange scattered dots cards </p> <p>Add blue circle cards </p> <p>Add 6-10 cards</p>

Goal of the game: to immediately recognize the quantities on the cards.

Setup:

1. Shuffle the cards



Play:



Say, "I'm going to show you a card for just a few seconds. Look at the card and try to remember what you see. Then, tell me how many dots were on the card. Ready?"



Hold up a card for three seconds. Then put it face down.



Ask, "How many dots?"

Children can call out their response or use their fingers.



To extend this activity, ask, "How did you know how many?" Children may respond, "I saw two dots and two dots and knew that was four."

What children are learning:

- *Quick Images* is a great game to play during transitions or when you have just a few minutes. This game allows children to practice subitizing – quickly seeing how many in a small set. Research suggests that children who are strong at subitizing tend to do better in math.
- Children usually recognize 1-2 dots without needing to count them. But, subitizing has limits. For larger quantities, we may need to cluster or chunk objects into smaller groups in order to subitize. For example, 8 dots are usually too many to subitize as 8, but if the dots are arranged as two groups of 4, and we know that two 4s make 8, we can quickly see 8.
- Dots arranged in circular and scattered arrays are more challenging to subitize.
- Playing this game helps children build a strong visual image of number. As children gain experience, talk about seeing smaller number groups in larger sets. For example, "I saw a group of two dots and a group of three dots and I knew that was five!" Each child might "see" how many in a different way.



# Which One Doesn't Belong?



1-4 players

Ages 4+

5-10 minutes

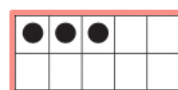
Materials:	
Start with:	Later games:
<p>Yellow dice cards 0-5</p> <p>Pink ten-frame cards 0-5</p> <p>Red triangle dots cards 0-5</p>	<p>Add orange scattered dots cards</p> <p>Add blue circle cards 0-5</p> <p>Add 6-10 cards</p>

Goal of the game: to give a clear explanation of why a particular card does not belong among a set of cards.

*Note:* This is a variation of the *Can You Find?* game. But, instead of asking children to find a specific quantity card, you'll ask them which card doesn't belong. Any reasoning that children can explain and that makes sense is great! See if they can come up with more than one reason a card doesn't belong.

## Setup:

1. Place three cards on the table.

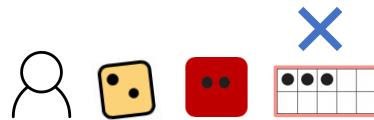


Play:



Ask, "Which card doesn't belong? Why?"

Accept all answers that children can justify. It may be that the card with three dots doesn't belong because the other cards have two dots.



Or, it could be that the card with two dots in a diagonal line doesn't belong because the dots are in a straight line on the other cards.



Once the child explains why one card does not belong, say, "Ready for a new set?" Put down three new cards. Ask, "Which one doesn't belong? Why?"

Continue to play with different cards. Once children are comfortable with cards 0-3, add the 4-5 cards. Once children are strong with 0-5, add the 6+ cards.

What children are learning:

- This game encourages children to practice subitizing. Explain how chunking dots into groups can make it easier for them to subitize. For example, seeing 2 dots and 2 dots is 4 dots, or 2 dots and 3 dots is 5 dots. This will help children learn addition and subtraction later on.
- It is okay if some children count the dots one-by-one.
- This game also helps children practice cardinality. They are comparing "how many in all" on three dots cards and identifying which cards are the same or different.
- Don't worry if you accidentally put down three cards with nothing in common. Have children explain how all three are different!

# Top It!



2-4 players

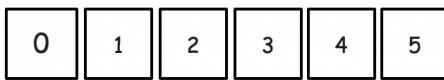
Ages 5+

5-10 minutes

## Materials:

### Start with:

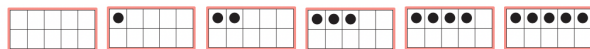
#### Numerical cards 0-5



#### Yellow dice cards 0-5

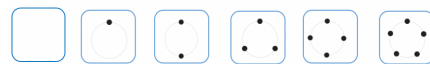


#### Pink ten-frame cards 0-5



### Later games:

#### Add more 0-5 dots cards



#### Add 6+ cards

Goal of the game: to collect all of the cards by flipping over higher number cards than other players.

## Setup:

1. Shuffle the cards



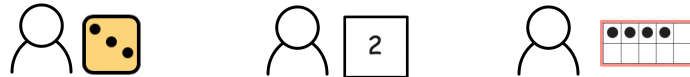
2. Deal the cards face down into equal piles for each player. Don't look at your cards yet!



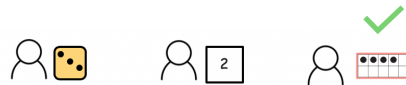
Play:

Say, “We’re each going to turn over the top card in our pile. Whoever has the highest number on their card wins this round and gets to keep all of the cards. Ready?”

Each player turns over the top card in their pile for all to see.



Ask, “Which card has the highest number? Who gets to keep all of the cards? How can we tell?”



If two players flip over the same highest number, those players flip over their next top cards. Whoever has the highest number wins all of the cards from both rounds.

Players can add the cards they “win” to the bottom of their piles. Continue playing. The game ends when there are no cards left to flip over!

What children are learning:

- Comparing cards that have many different configurations of quantity on them supports children’s understanding of diverse numerical representations.