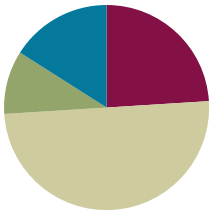
Lesson 1

Objective: Model composition and decomposition of numbers to 5 using actions, objects, and drawings.

Suggested Lesson Structure



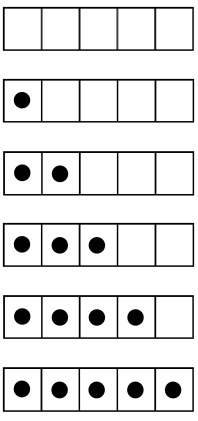
Fluency Practice	(12 minutes)
Application Problem	(5 minutes)
Concept Development	(25 minutes)
Student Debrief	(8 minutes)
Total Time	**(50 minutes)**

Fluency Practice (12 minutes)

- 5-Frames: Counting Dots and Spaces **K.OA.5** (3 minutes)
- Making 3, 4, and 5 Finger Combinations **K.OA.3** (4 minutes)
- Make 5 Matching Game **K.OA.5** (5 minutes)

Note: The following fluency activities review hidden partners of 3–5. This review helps students recall familiar relationships between numbers 1–5, preparing them to explore those relationships using the number bond model.

5-Frames: Counting Dots and Spaces (3 minutes)



Materials: (T) Large 5-frame cards (Fluency Template 1)

T: Raise your hand when you have counted the dots, and then wait for the snap to say the number. How many dots? (Show 4 dot card. Wait until all hands are raised, and then give the signal.)

S: 4.

T: How many empty spaces? (Wait until all hands are raised, and then give the signal.)

S: 1.

Continue to show cards, exploring all of the decompositions of 5.

Making 3, 4, and 5 Finger Combinations (4 minutes)

T: I'll show you some fingers. I want to make 3. Show me what is needed to make 3. (Show 2 fingers.)

S: (Show 1 finger.)

T: Raise your hand when you can say the number sentence. Start with my number.

S: 2 and 1 make 3.

Continue with number pairs for 3, 4, and 5. Once students understand the game, let them play with a partner rapidly and energetically.

Make 5 Matching Game (5 minutes)

Materials: (S) Matching game cards (Fluency Template 2) (use only dots, dice, and fingers) per pair

1. Shuffle and place the cards facedown in two equal rows.
2. Partner A turns over two cards.
3. If the total of the numbers on both cards is 5, then she collects both cards. If not, then Partner A turns them back over in their original place facedown.
4. Repeat for Partner B.

Variation: Provide each partner with a stick of 5 cubes to help them determine the missing part. For example, a student turns over 4, then breaks off 4 cubes, revealing 1 as the missing part; that way, he knows to look for the card with the number 1.

A NOTE ON MULTIPLE MEANS OF ENGAGEMENT:

For students with processing or memory issues, place cards faceup to play the game. Students can match partners of 5 without the added memory requirement.

Application Problem (5 minutes)

Materials: (S) Personal white board

MP.1 Julia went to the beach and found 3 seashells. Her sister Megan found 2 seashells. Draw the seashells the girls found. How many did they find in all? Talk to your partner about how you know.

Note: This problem anticipates the composition of numbers to 5 in today's lesson.

NOTES ON MULTIPLE MEANS OF ACTION AND EXPRESSION:

Scaffold the Application Problem for students working below grade level by giving them linking cubes to use in solving the problem. Once students are comfortable solving problems with manipulatives, transition them to the pictorial strategy of drawing a representation of the problem.

Concept Development (25 minutes)

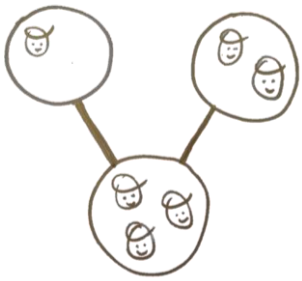
Materials: (T) 3 hula hoops, colorful masking tape, graphic of birds (Template 1) (S) Number bond (Template 2), 5 cubes

Before the lesson begins, prepare a large number bond template in the center of the rug using hula hoops and tape. Have students sit on the edges of the rug.

T: We are going to play a game today! Student A, please come and stand in this hula hoop. (Direct the student to stand in one part of the "number bond.") Students B and C, please come stand in this hula hoop. (Direct students to stand in the other part.) What do you notice?

S: There are two students in one hoop and one in the other. → There are three students standing up. → One hoop is still empty. → There are some lines on the floor, too!

T: Yes, there are some special paths on the floor connecting our hoops. I am going to make a picture to show our friends right now. (Construct a visual of the number bond on the board showing two students in one part and one in the other.)



T: Let's pretend the students are all going to a party. Please walk along the tape paths to get to the party. Don't fall off the path! What do you notice now?

S: Now, all three of them are in one hoop!

T: So, we started with one student in one hoop and two in the other. Now, we have all three students in one hoop! Let me put that in my picture. (Complete the pictorial number bond on the board.) 1 student and 2 students together make …?

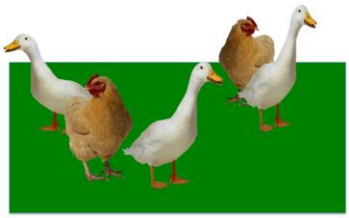
S: 3 students!

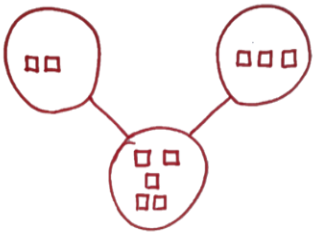
Repeat the game three times with other students and combinations for 3, 4, and 5, recording the results in the pictorial number bond on the board each time.

A NOTE ON MULTIPLE MEANS OF REPRESENTATION:

After introducing *number bonds* to the class, create a visual of a number bond, and put it on the math word wall. Be sure that the visual shows number bonds in all orientations. The visual may help English language learners remember what the term means and enable them to use it in partner talks.

Next, have students rotate around the rug to see the number bond from a different perspective. Ask, "Did the story change?" Also, rotate the number bond on the board to support using it in different orientations (whole on top, bottom, or side).





T: (Place the template graphic of birds on the board.) Look at the picture of the birds on the board. What do you notice?

S: I see some geese. There are chickens, too.

T: How many birds are there?

S: 5.

T: How many geese? (3.) How many hens? (2.) So, we have 5 birds. There are 3 geese and 2 hens. Repeat after me: 3 and 2 make 5. (Write the number sentence on the board.)

S: 3 and 2 make 5.

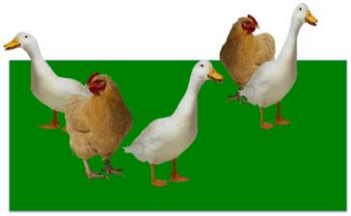
T: I can show that in a hoop picture like we did before! We call this sort of picture a **number bond**. It takes a long time to draw ducks and hens, so I will just draw squares instead.

T: In my picture, I have 3 pretend geese and 2 pretend hens. I have 5 pretend birds in all. Look at my picture to see how this is like what we did with our students in the hoops. (Demonstrate and guide students to see that 3 and 2 make 5 in the number bond.)

T: In both stories, two groups were **put together**. One is about students going to a party, and one is about geese and chickens, but the number bond is the same!

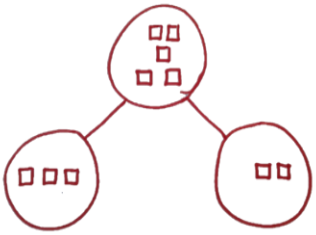
T: Turn and talk to your partner. Partner A, tell a *put together* story about apples and bananas that matches the same number bond. (Wait for Partner A to share.) Now, Partner B, tell a *put together* story about monkeys and lizards to match the number bond.

Listen as students share their composition stories with each other, and give new ideas if they need more practice.



T: Great job putting bananas and apples together and putting the monkeys and lizards together. Now, let's start with all the birds and put them into two groups. Look at the picture of the 5 birds. What would you tell me?

S: There are two different kinds of birds. → There are 5 birds in the picture. 3 are geese, and 2 are hens!



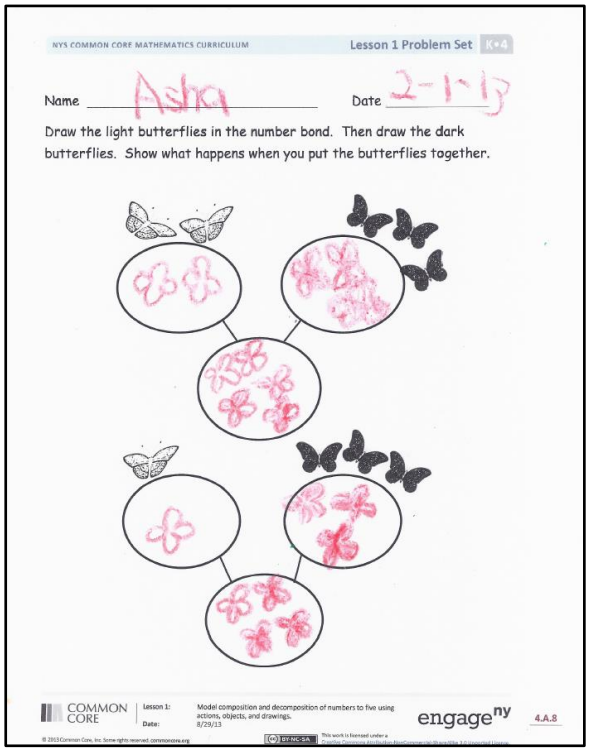
T: Yes. I could take my 5 birds and show that we have 3 geese and 2 hens. The number bond shows that, too, but I am going to switch it around! (Demonstrate with the bond on the board, this time putting the total on the top.)

T: Let's tell **take apart** stories to match the number bond, too. Turn and talk to your partner. Partner A, tell a *take apart* story about 5 animals in two groups: snakes and turtles. (Wait for Partner A to share.) Partner B, tell a *take apart* story about 5 balls in two groups: basketballs and tennis balls.

T: We're going to practice this some more in our Problem Set. You will get a chance to draw some *put together* and *take apart* number bond pictures yourself.

Problem Set (10 minutes)

Students should do their personal best to complete the Problem Set within the allotted time.


NYS COMMON CORE MATHEMATICS CURRICULUM Lesson 1 Problem Set K•4

Name Asha Date 2-1-15

Draw the light butterflies in the number bond. Then draw the dark butterflies. Show what happens when you put the butterflies together.

COMMON CORE Lesson 1: Date: Model composition and decomposition of numbers to five using actions, objects, and drawings. 8/29/13 engage^ny 4.A.8

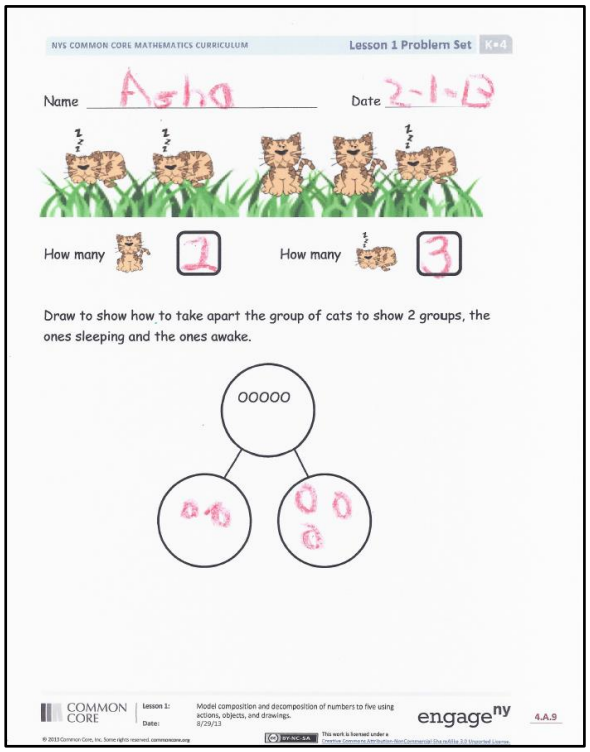
Student Debrief (8 minutes)

Lesson Objective: Model composition and decomposition of numbers to 5 using actions, objects, and drawings.

The Student Debrief is intended to invite reflection and active processing of the total lesson experience.

Invite students to review their solutions for the Problem Set. They should check work by comparing answers with a partner before going over answers as a class. Look for misconceptions or misunderstandings that can be addressed in the Student Debrief. Guide students in a conversation to debrief the Problem Set and process the lesson.

Any combination of the questions below may be used to lead the discussion.


NYS COMMON CORE MATHEMATICS CURRICULUM Lesson 1 Problem Set K•4

Name Asha Date 2-1-13

How many 2 How many 3

Draw to show how to take apart the group of cats to show 2 groups, the ones sleeping and the ones awake.

COMMON CORE Lesson 1: Date: Model composition and decomposition of numbers to five using actions, objects, and drawings. 8/29/13 engage^ny 4.A.9

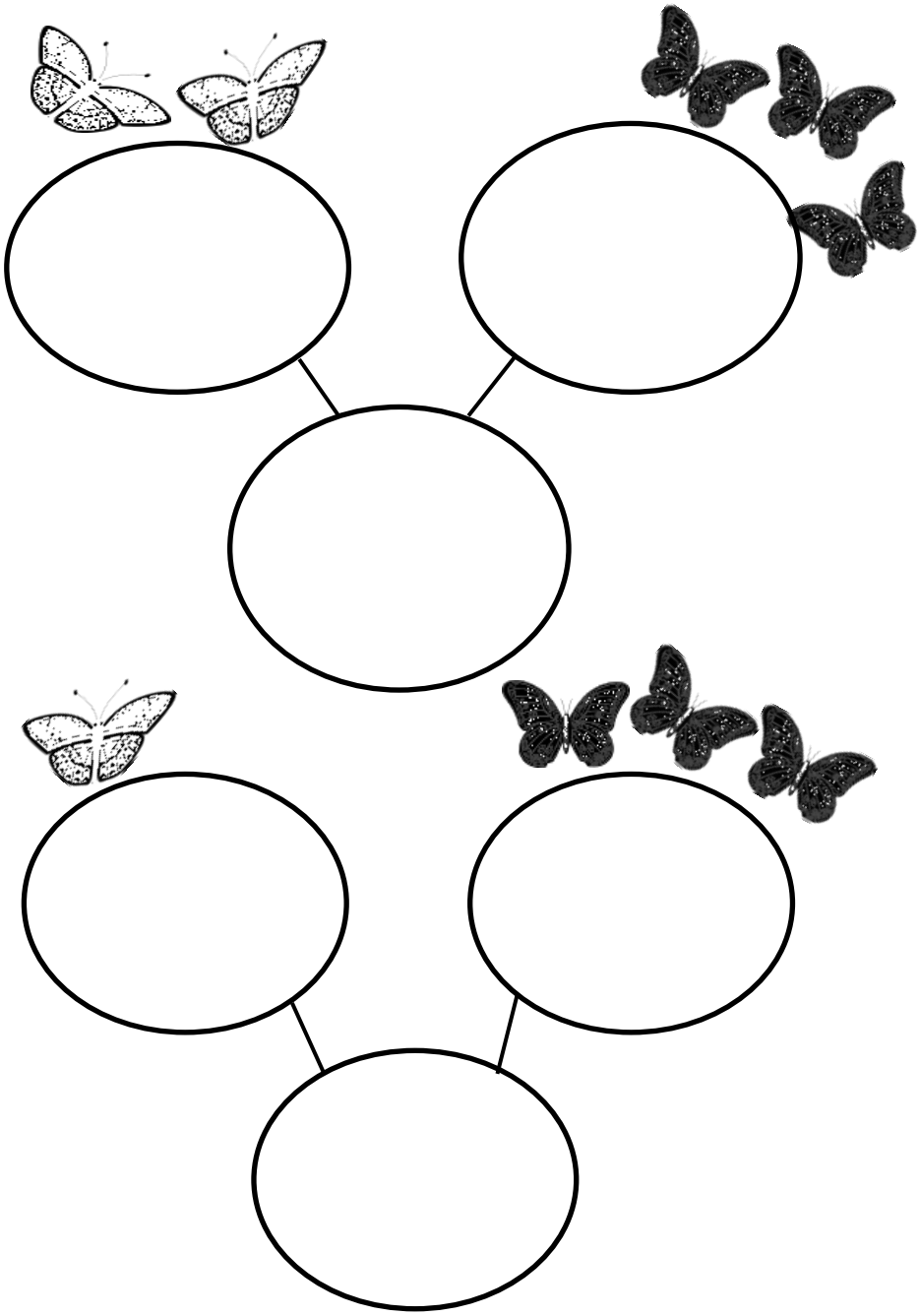
- What new type of drawing did we use today? (**Number bond**.)
- In the Problem Set, which story was about **putting together**, and which story was about **taking apart**?
- Did you notice that the number bond was different for the butterflies and cats? Why do you think I drew the number bond differently?
- Look at the butterflies on your Problem Set. Why did we draw all the butterflies in the bottom circle?
- We drew circles in the last number bond on our Problem Set. What do the three circles represent?
- What do the two circles you drew represent? How does drawing little circles instead of cats help us in math?
- What happened when we played the games with the hula hoops?
- How did you know what we should write in each of the hoops in our number bonds?
- Did our number bond look different when we worked backward, starting with the whole group of birds?

Homework

Homework at the K–1 level is not a convention in all schools. In this curriculum, homework is an opportunity for additional practice of the content from the day's lesson. The teacher is encouraged, with the support of parents, administrators, and colleagues, to discern the appropriate use of homework for her students. Fluency exercises can also be considered as an alternative homework assignment.

Name _____ Date _____

Draw the light butterflies in the number bond. Then, draw the dark butterflies. Show what happens when you put the butterflies together.

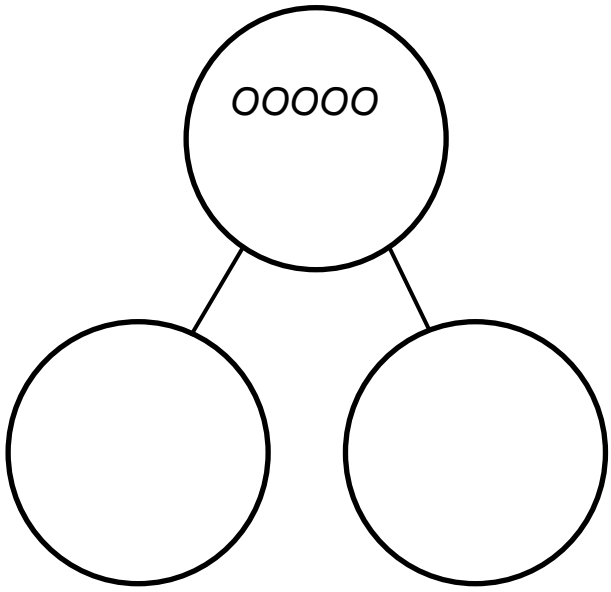


Name _____ Date _____

How many  ? ☐

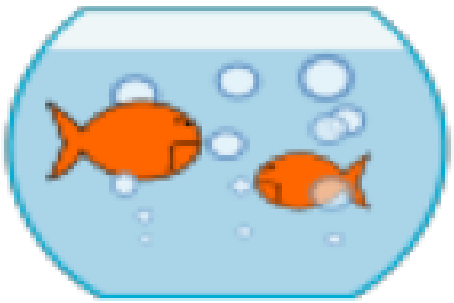
How many  ? ☐

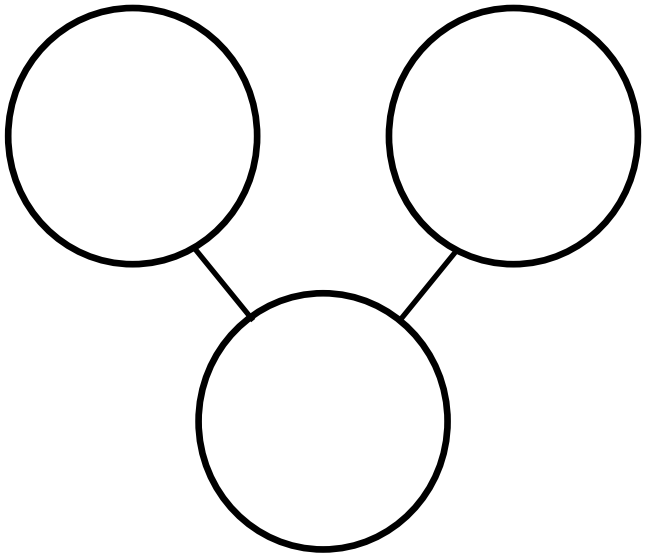
Draw to show how to take apart the group of cats to show 2 groups, the ones sleeping and the ones awake.



Name _____ Date _____

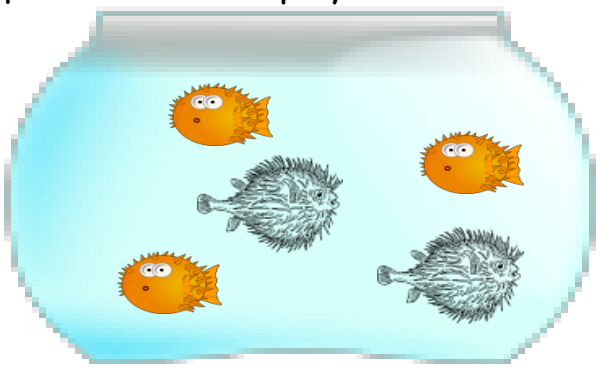
Draw the blue fish in the first circle on top. Draw the orange fish in the next circle on top. Draw all the fish in the bottom circle.

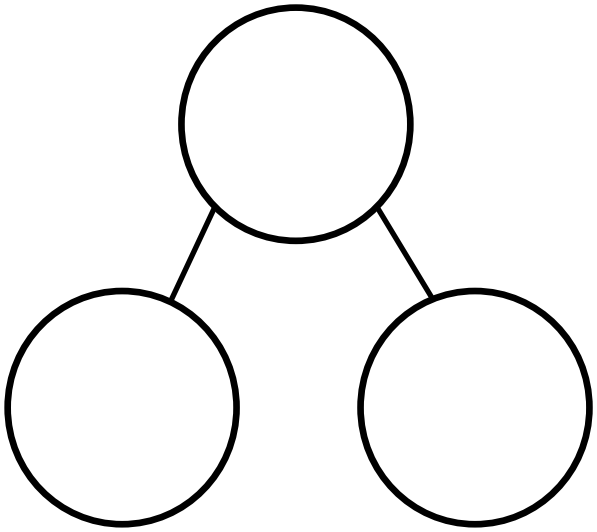




☐ and ☐ make ☐

Draw a square for each fish in the top circle. Draw a square for each goldfish in the bottom circle. In the last circle on the bottom, draw a square for each spiny fish.





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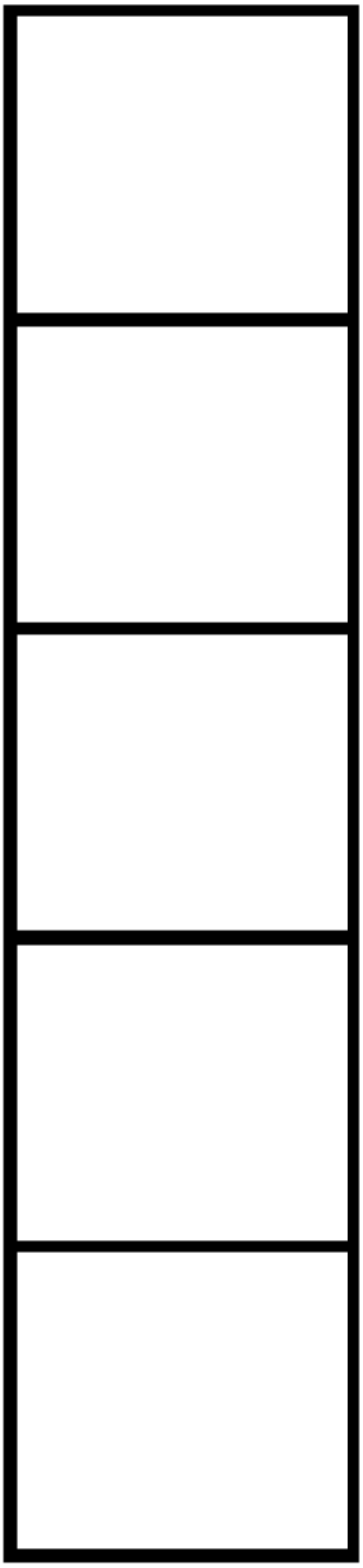
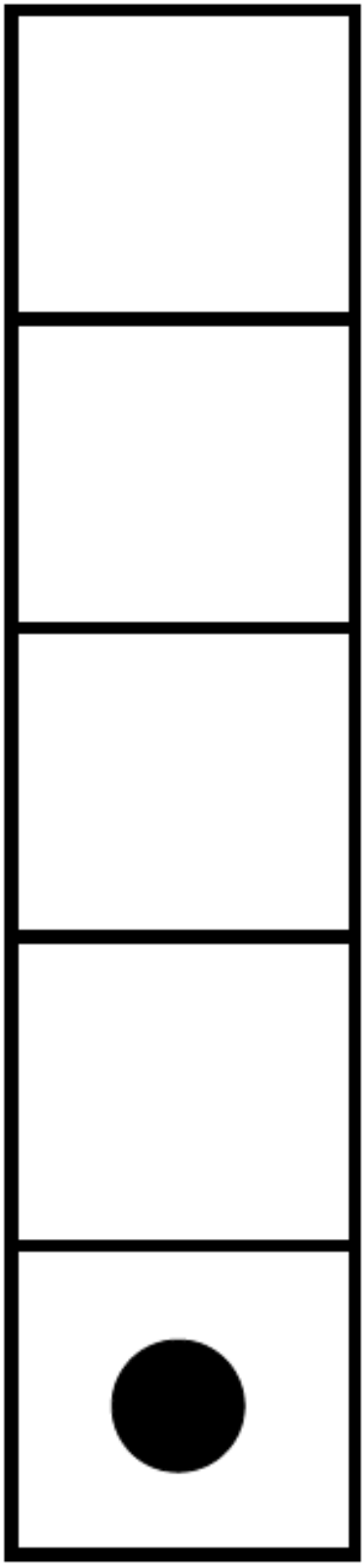
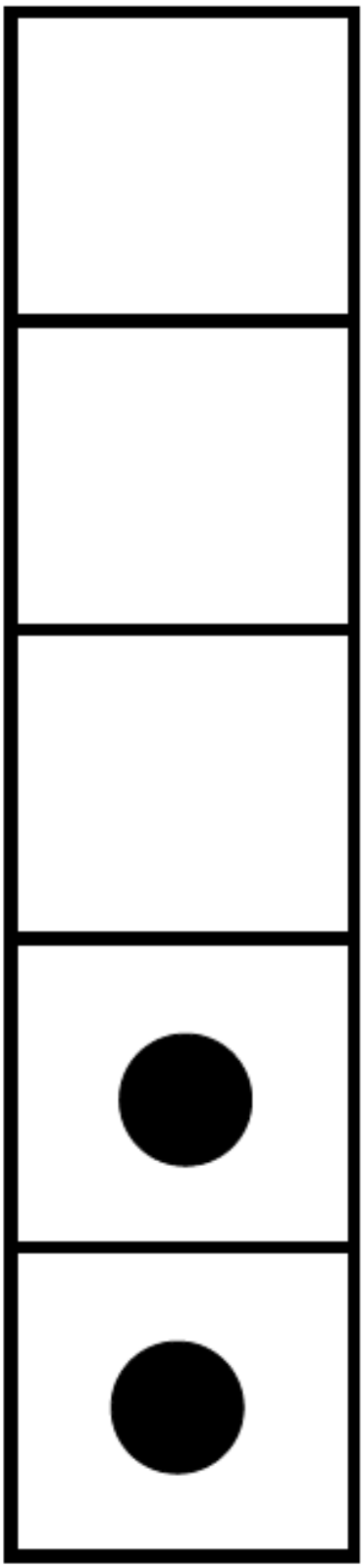
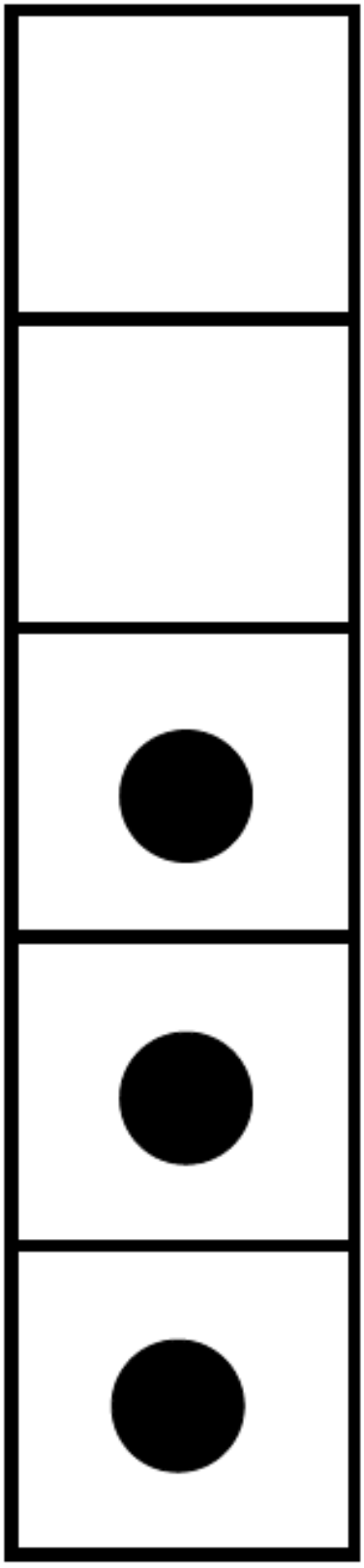


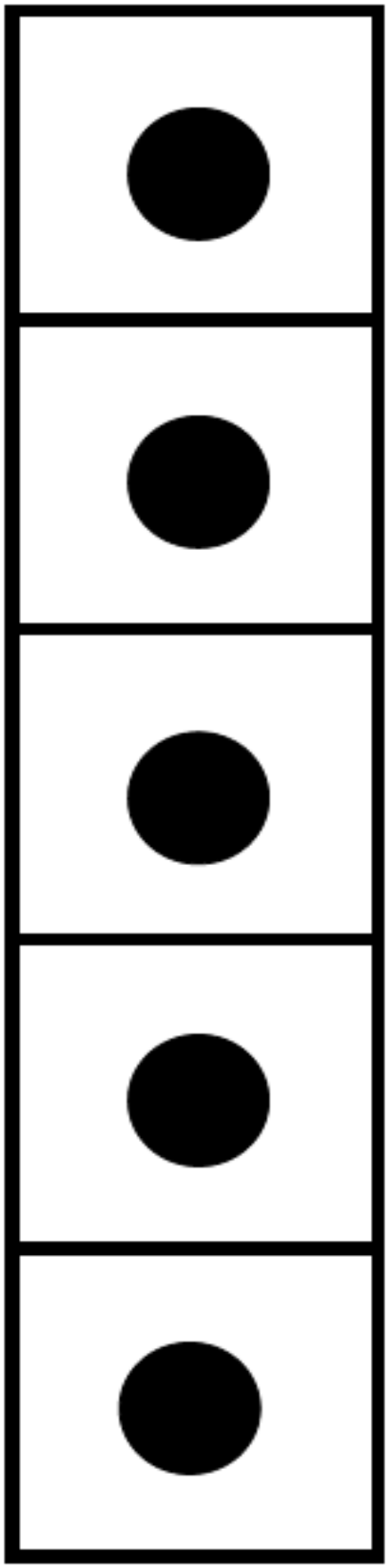


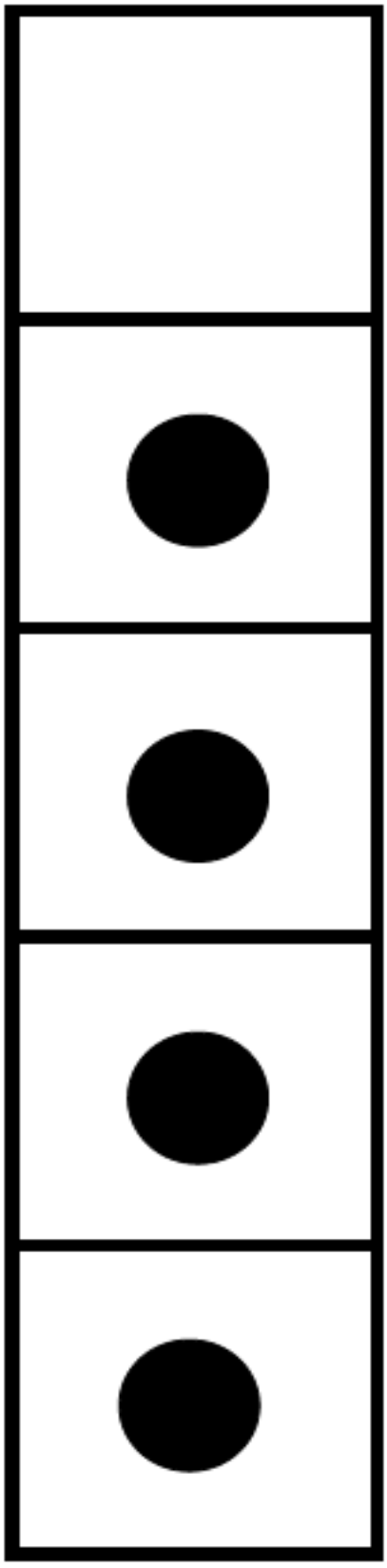
large 5-frame cards





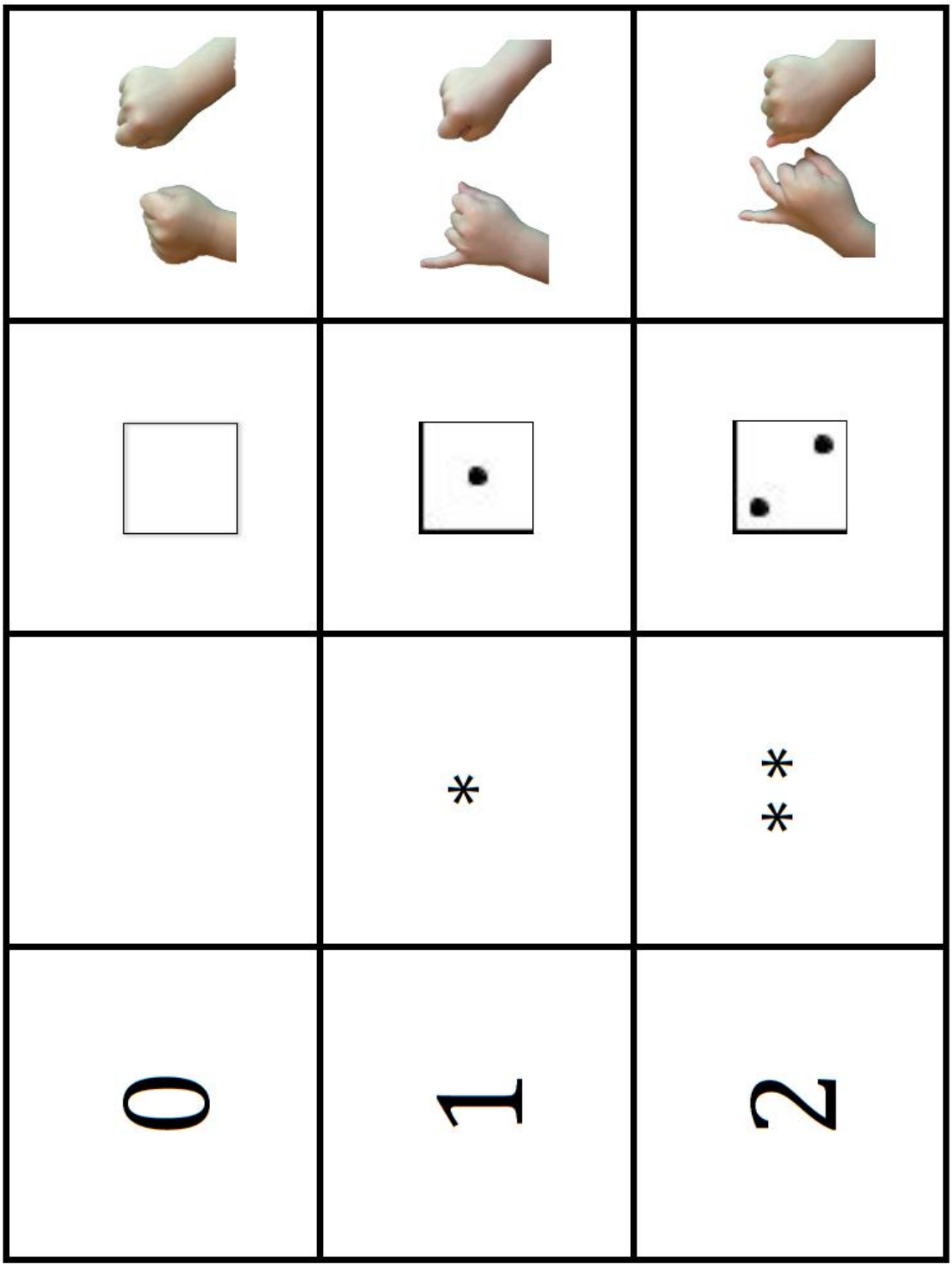
large 5-frame cards



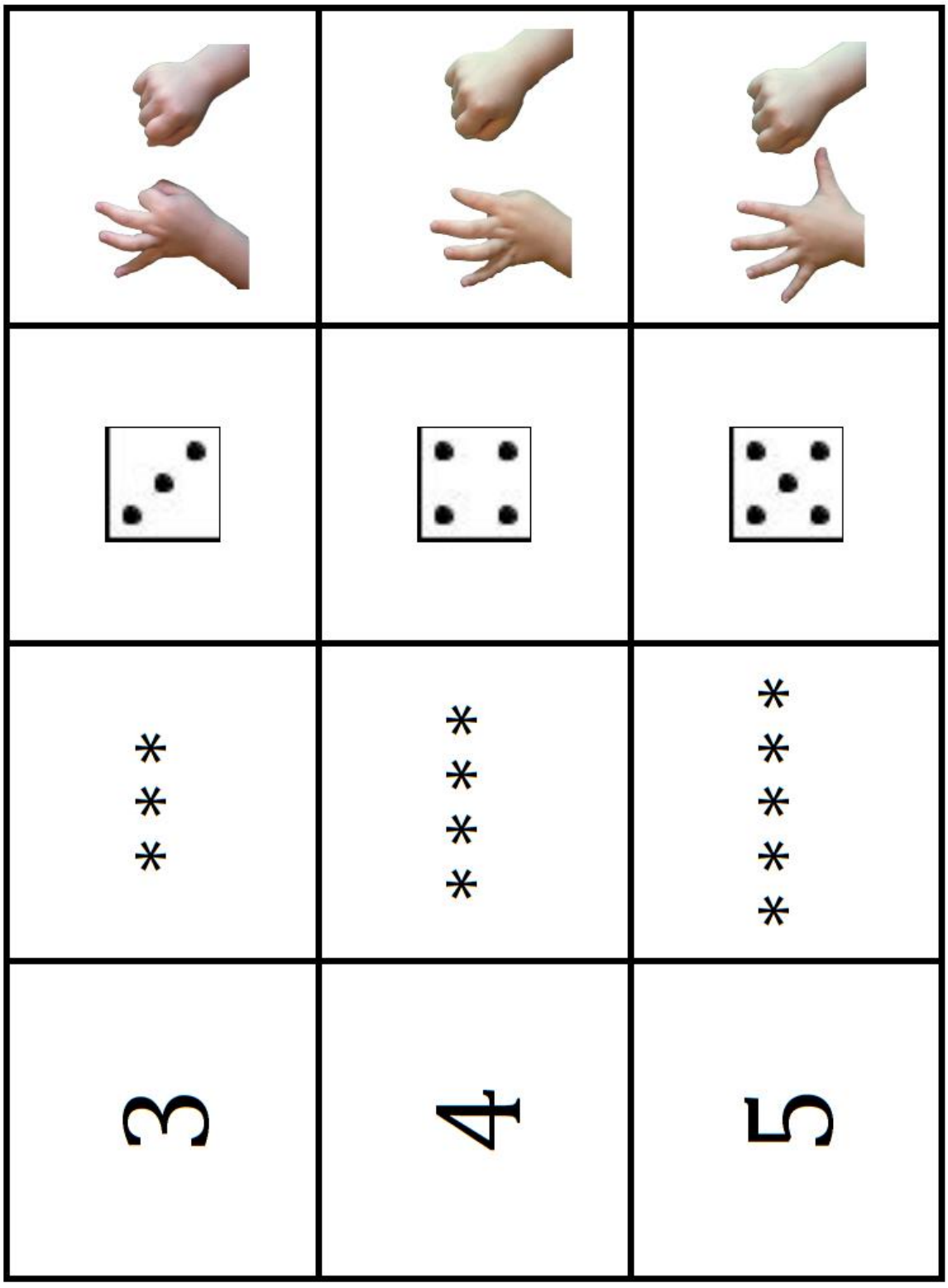


large 5-frame cards

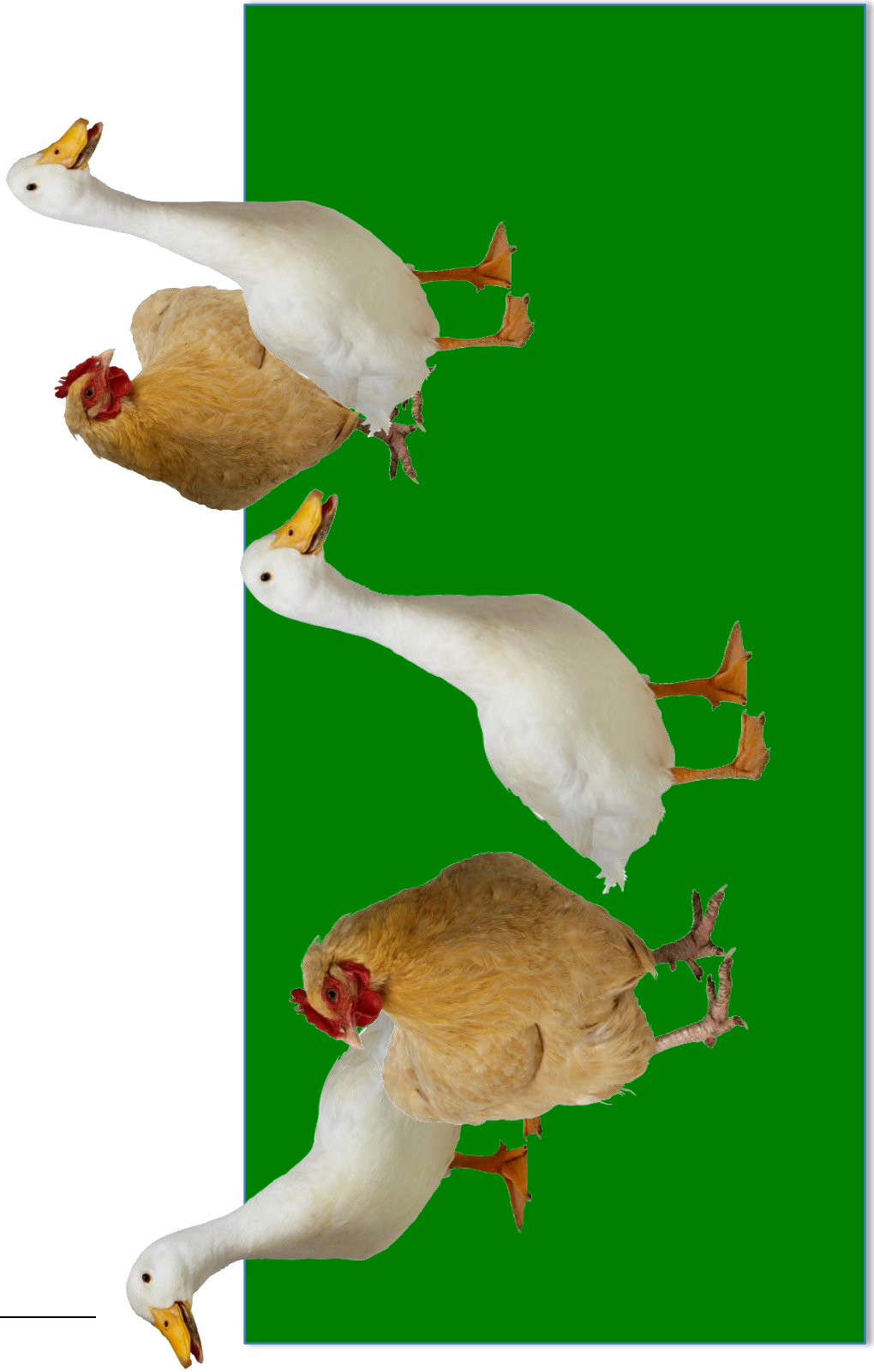
Cut along lines to create cards. Print on cardstock or laminate for repeated use.



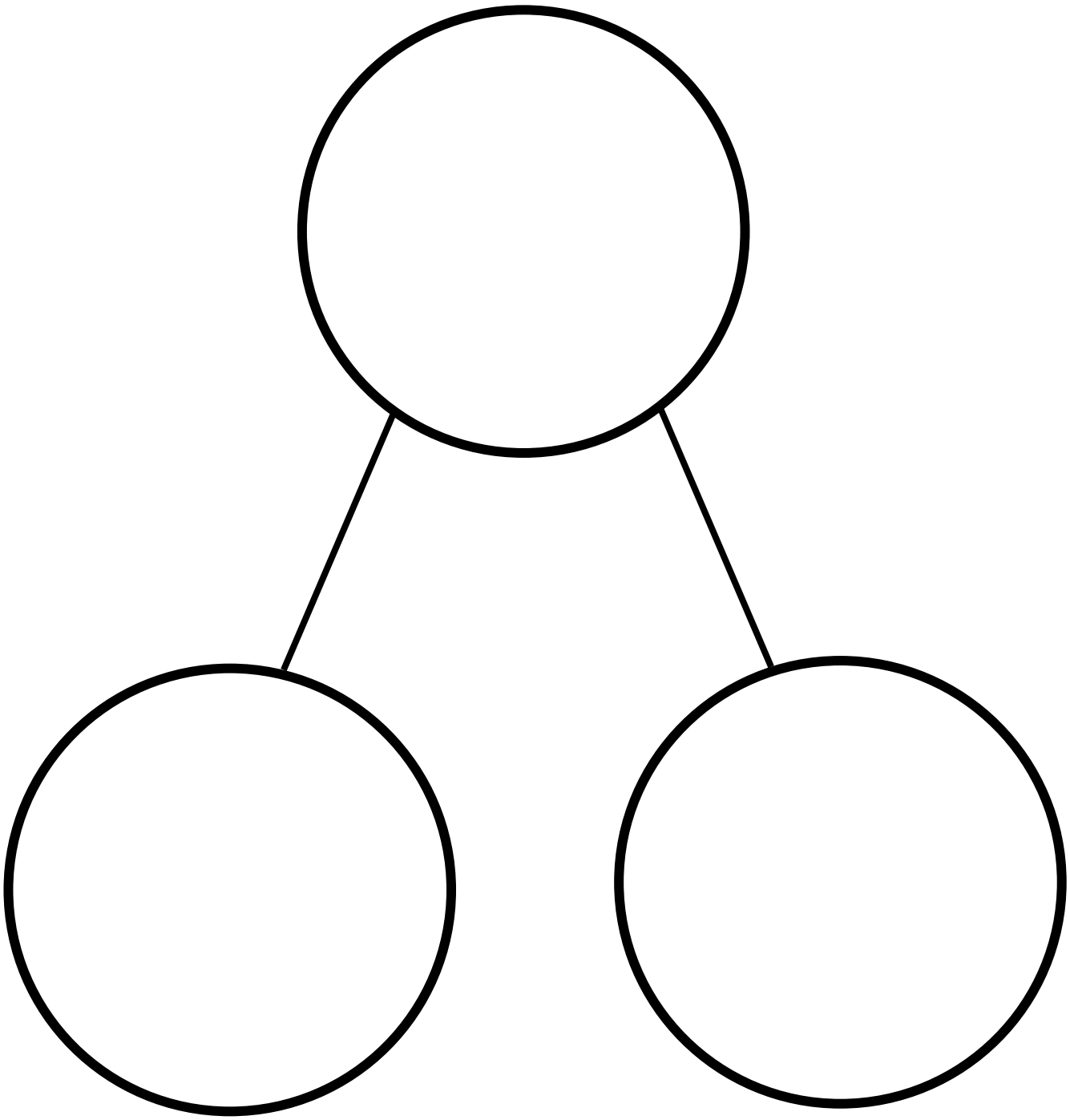
matching game cards



matching game cards



graphic of birds



number bond