

12 Vs. 21 Sort

This activity is designed to give children practice in discriminating between and identifying the two numbers 12 and 21. For more information, see Heidi's blog post on 12 vs. 21.

This file has three sets of 12 vs. 21 flash cards. All three sets have three pages of flash cards with the number 12 printed in different fonts, and three pages of flash cards with the number 21 printed in different fonts. Here is the difference between the three sets:

Set One "The Arrow Version":

(pgs 2-7): The numbers on these flash cards all have an arrow on the bottom of them to remind children to begin reading on the left and proceed to the right. I've decided to call these "The 12 Vs. 21 Sort Arrow Version"

Set Two "The Dotted Line Ver-

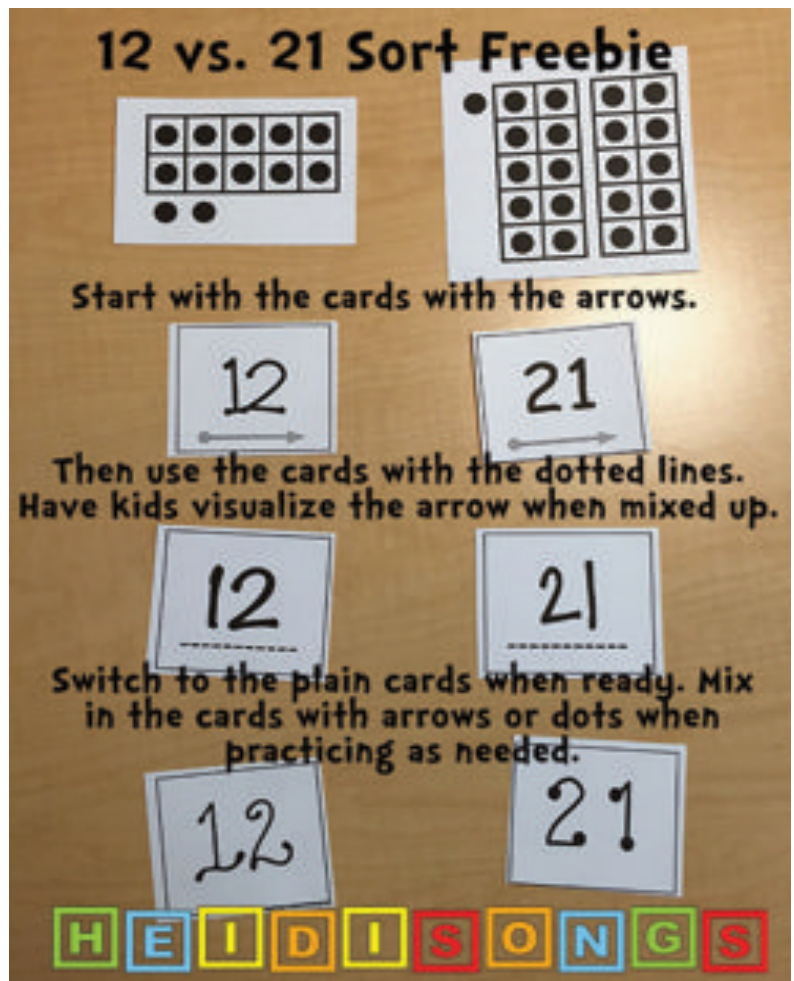
sion": (pgs 9-14): The numbers on these flash cards do not have an arrow, but they do have a dotted line on the bottom to help children figure out which side of the card is "up." (The dotted line is always at the bottom of the card.) This is "The 12 Vs. 21 Sort Dotted Line Version."

Set Three "The Plain Version":

(pgs 16-21): These flash cards have the numbers 12 and 21 on them, and nothing else. There is no line on the bottom of the cards to help them figure out which side of the number is up or down, etc. It's just a number! This is "The 12 Vs. 21 Sort Plain Version."

Suggested use:

Duplicate the cards and cut them apart. Pick one set of cards to use (either with the arrow, the dotted line at the bottom, or plain cards) and have the children sort them into two sets: 12 & 21. I suggest that you put the ten frame pictures of 12 and 21 at the top of a pocket chart to mark the two categories, and have children put the number flash cards under the ten frame pictures. That way, hopefully, they are associating the numeral with a quantity of objects, rather than simply reciting the name of a numeral without any meaning.



Any three-dimensional, real representation of the quantities is even better. If you are working in a small table group, then perhaps you can put out some blocks on paper plates or in cups to represent 12 and 21. You could put one set on the left side of the table and one set on the right. Of course, base ten blocks will work if you have them, or unifix cubes snapped into groups of ten are other good choices. However you mark your sets for sorting, it should be as meaningful for the children as possible.

Here is a suggested lesson plan for children that are struggling with mixing up the numbers:

1. Practice sorting the 12/21 cards from set one with the arrow below them (12 Vs. 21 Sort Arrow Version). The children should say the number aloud each time they sort, reading it by running their finger under the number from left to right.
2. Once your kids get pretty good at the "12 Vs. 21 Sort Arrow Version" start mixing in some of the cards with just the dotted line on the bottom, "the 12 Vs. 21 Sort Dotted Line Version." Remind them to visualize the arrow in their mind. Where would it start from? Keep having them say the number aloud each time they sort, reading it by running their finger under the number from left to right.
3. Eventually, the hope is that you will be able to start mixing in the plain 21 vs. 21 cards, that the children will be able to identify the numbers without them getting messed up. Keep reminding them to visualize the arrow in their mind. Where would it start from? Encourage them to run their finger under each card from left to right as they read it aloud.

Prompts and Strategies to Help Children That Are Struggling with Reversals:

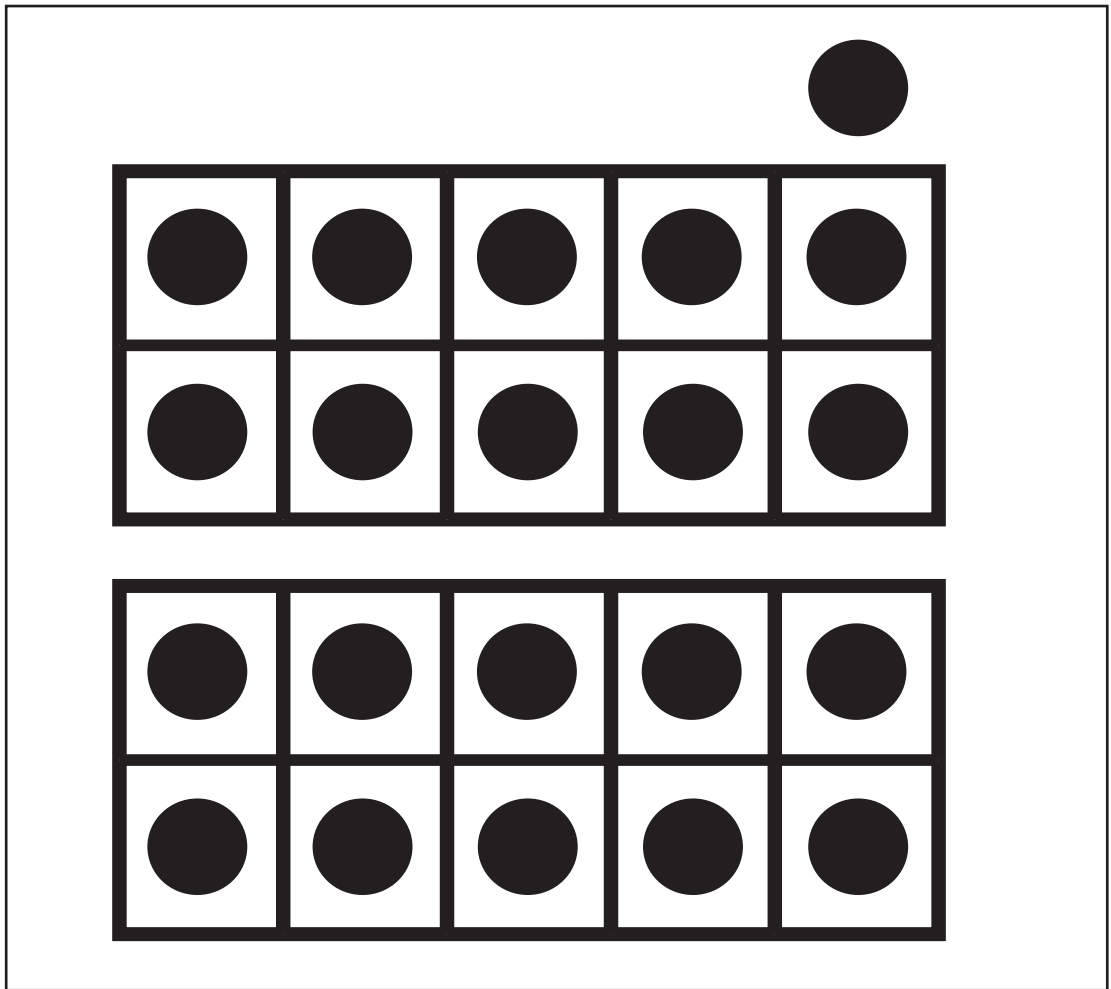
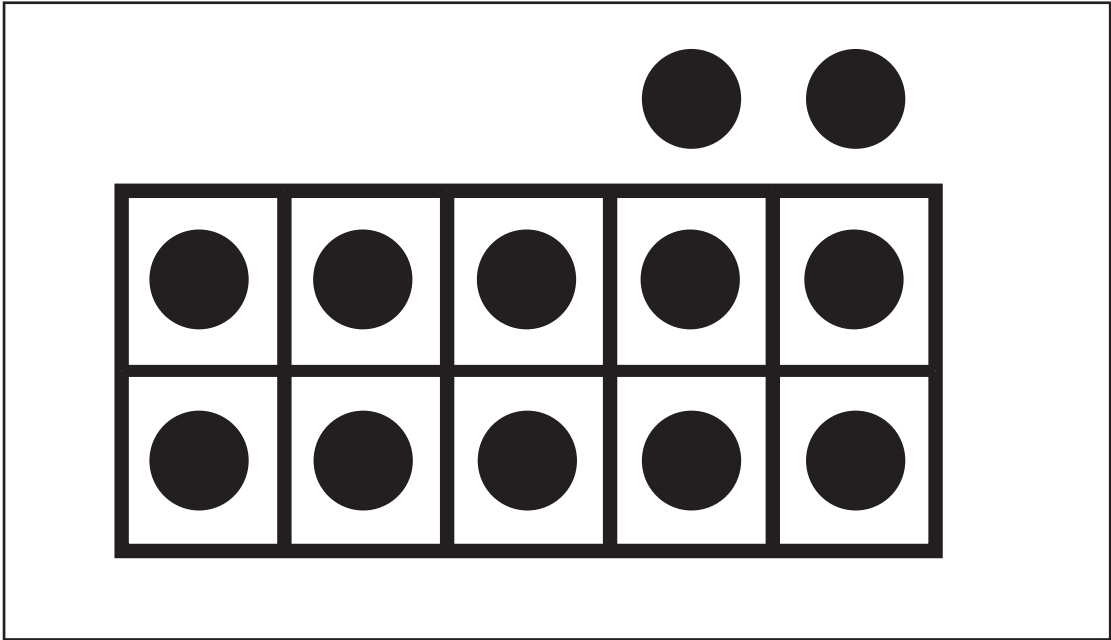
1. Try a musical approach: Remind them of "The 12 Song" (Jumpin' Numbers Vol. 2), "The 21 Song" (Jumpin' Numbers Vol. 2), or "The 12 vs. 21 Song" (Musical Math Vol. 2) as needed.
2. Teach kids to figure out which side is their left or right side. Help them figure out which side is their left by teaching them to hold up a hand and make an L. If the L is heading the correct direction, that's the left side. Some children may be able to figure out which hand is their left hand by knowing which one is "their pencil hand," and by knowing if they are "a lefty" or not. For most of us, the hand that we write with is our right hand. "We write with our right hand." Get it?
3. Ask children to close their eyes and visualize the arrow (from the 12 Vs. 21 Sort Flash Cards) in their minds. What does it look like? Where is the dot, and where does it begin? Can they put their finger on that imaginary dot and run their finger along that imaginary line?

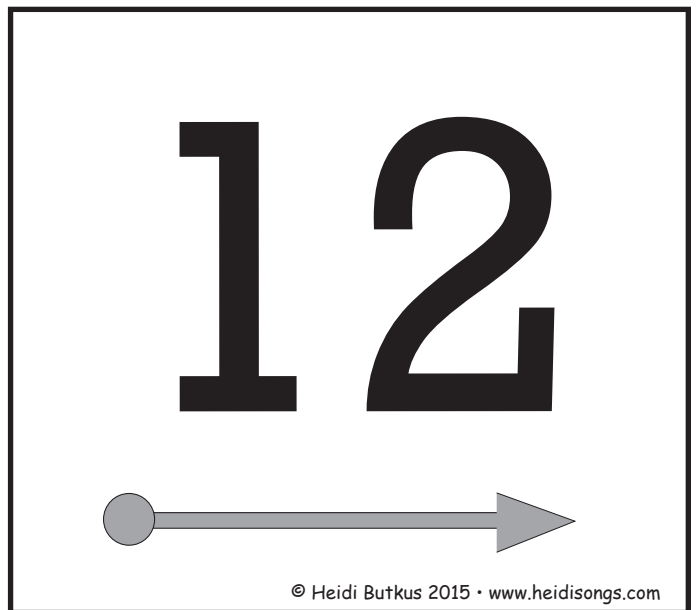
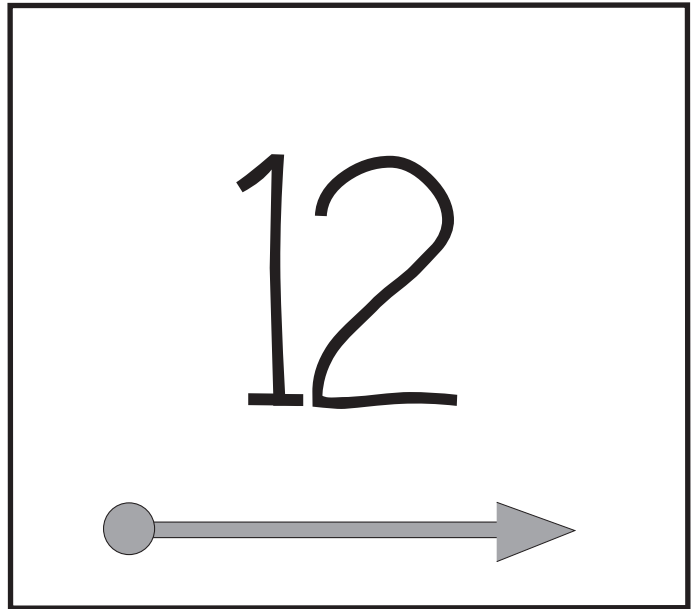
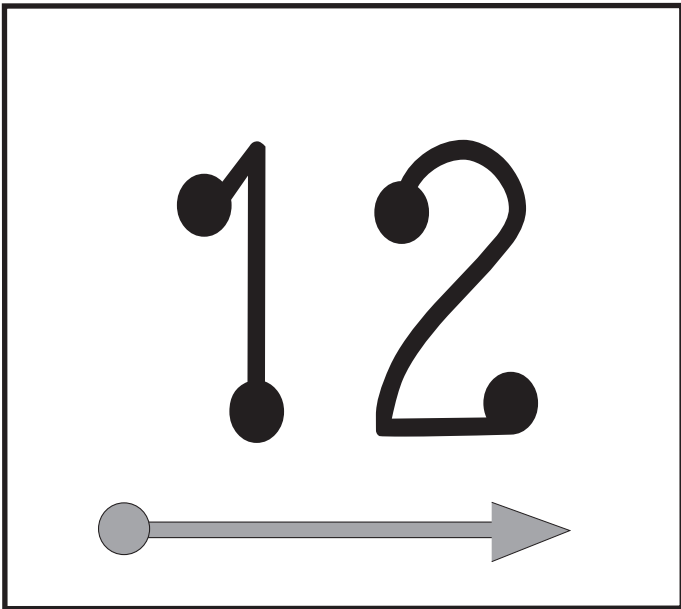
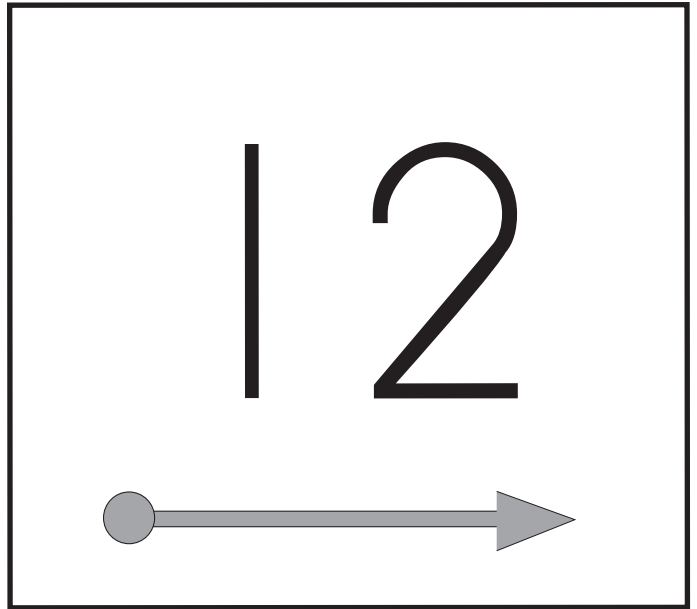
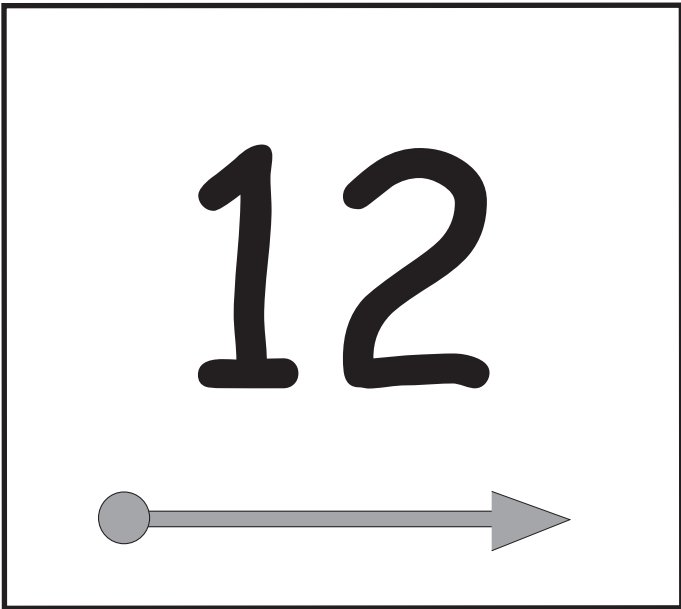
4. Match the number to one on a number line. Have the child first count the number line to the number that he thinks he is looking at, touching the numbers one at a time on the wall. Then have him place the number on the flash card right underneath it. Do they match? Touch them. Are the two numbers in the same places?

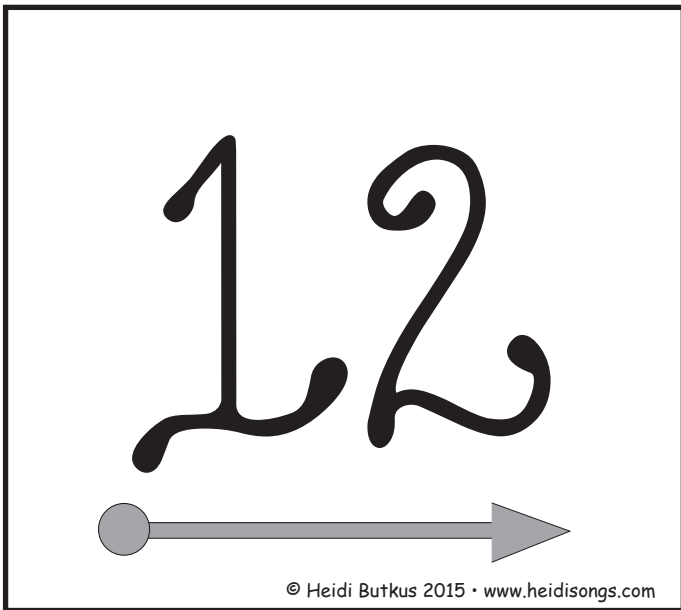
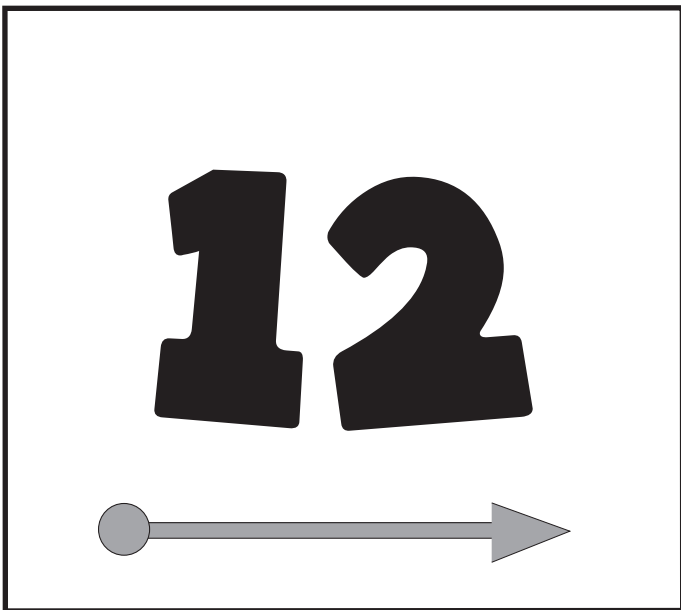
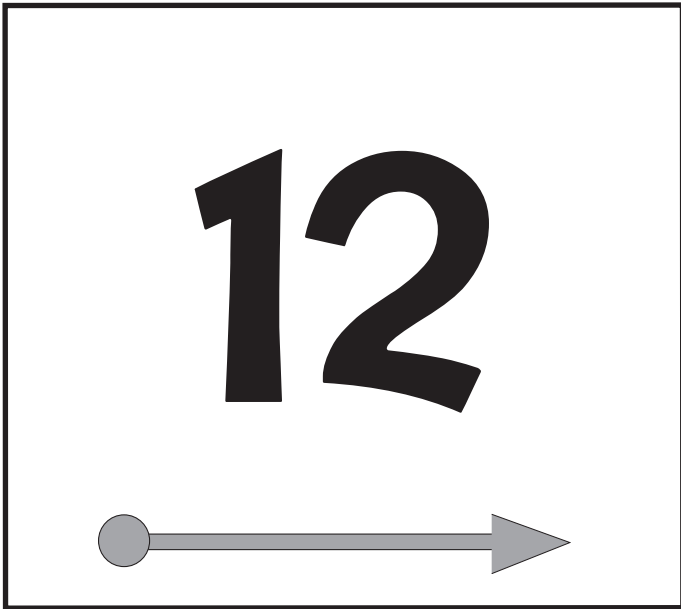
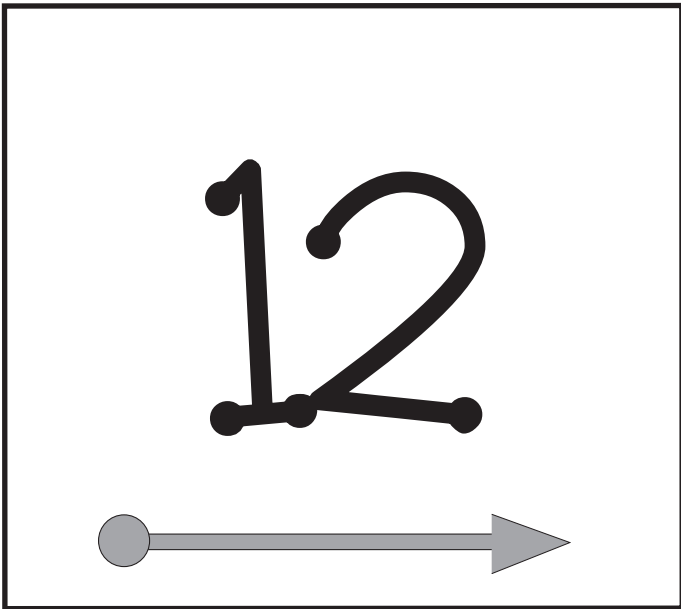
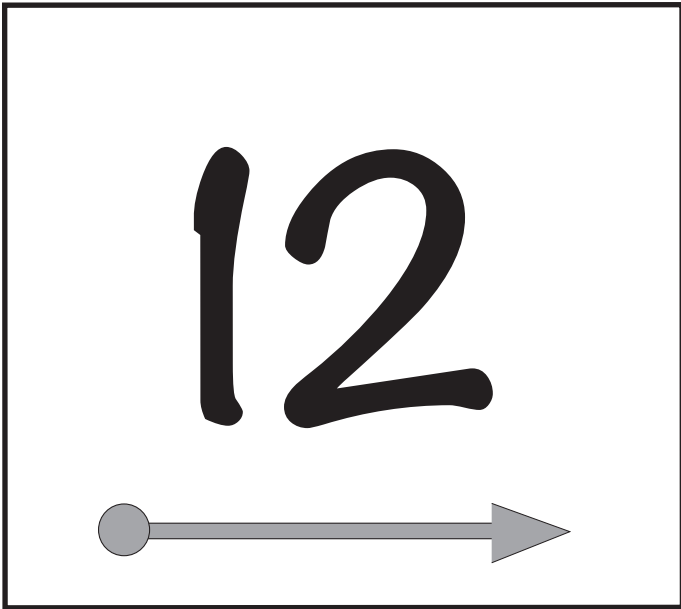
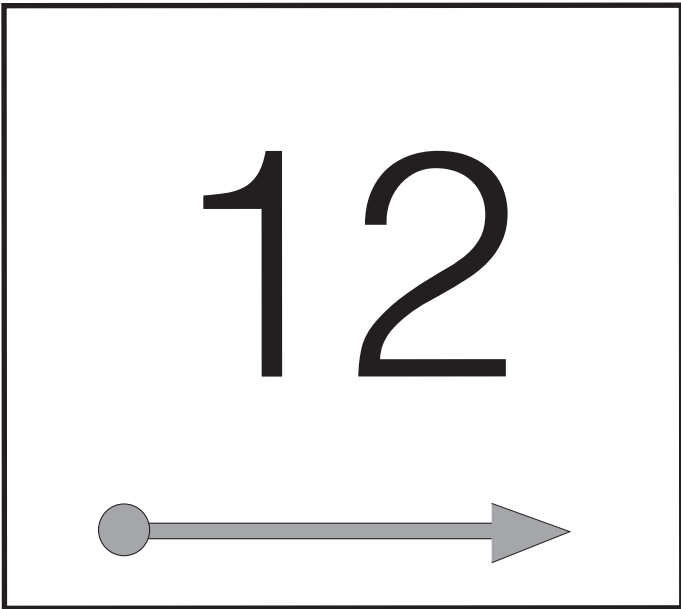
After practicing with the cards with the arrows or the dotted lines, you may wish to mix these cards in with the others and see if the children can still figure out which side is up and which number is which, even without a dotted line or an arrow. By mixing all three formats together at random, you may get an insight to see if the children are doing better with the dotted line at the bottom, with the arrow at the bottom, with the flash cards with no cue at the bottom, or if those supports make no difference at all.

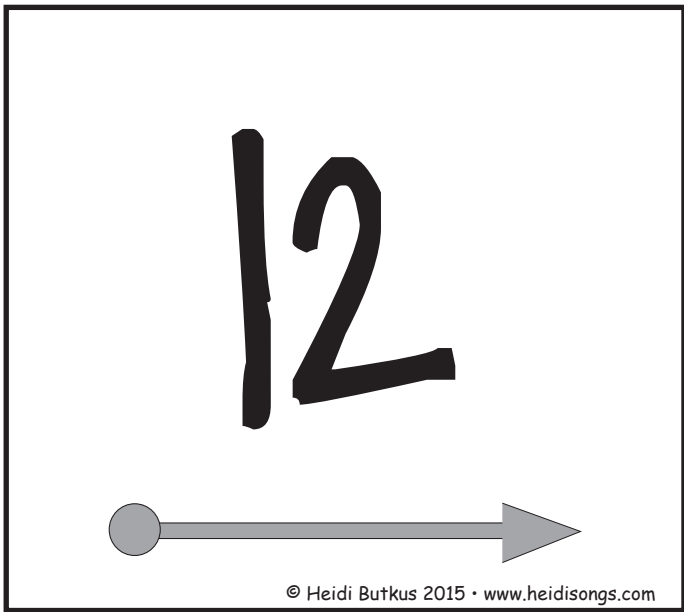
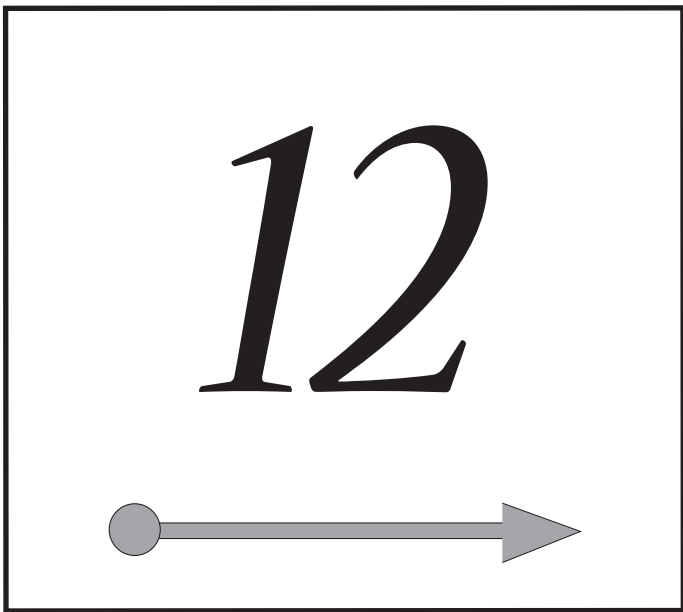
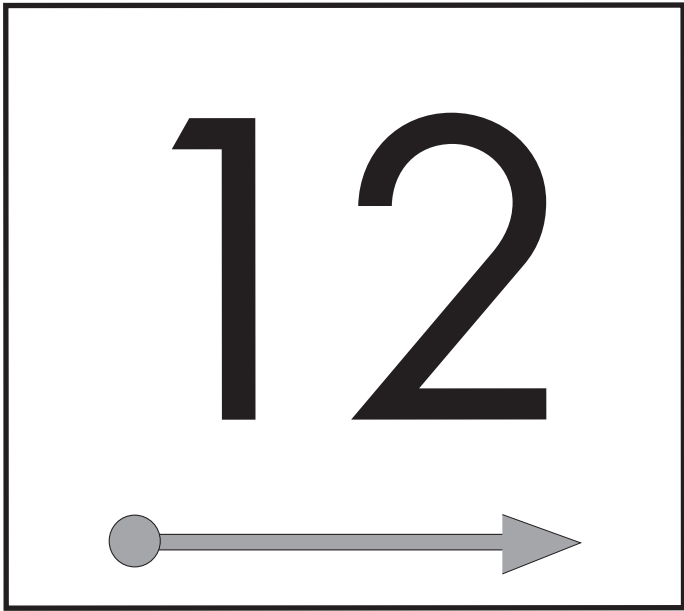
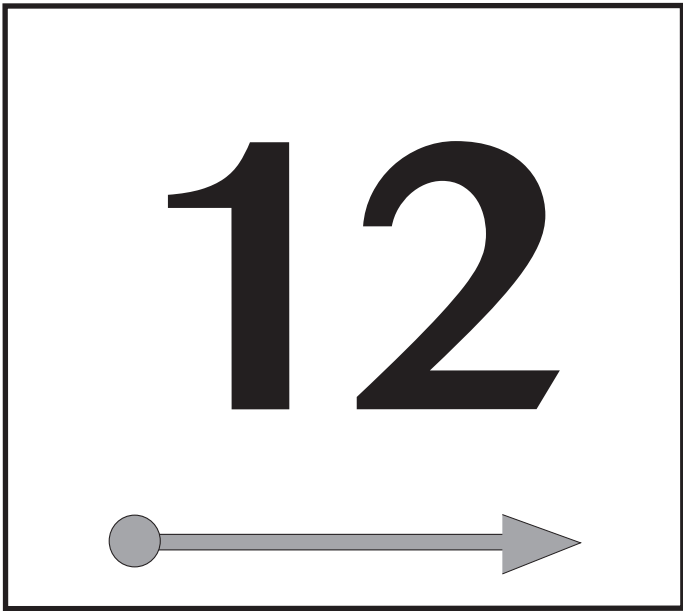
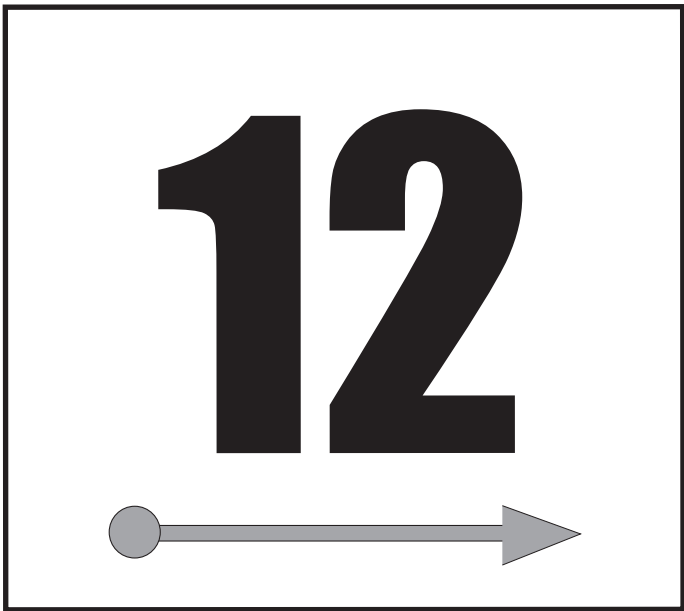
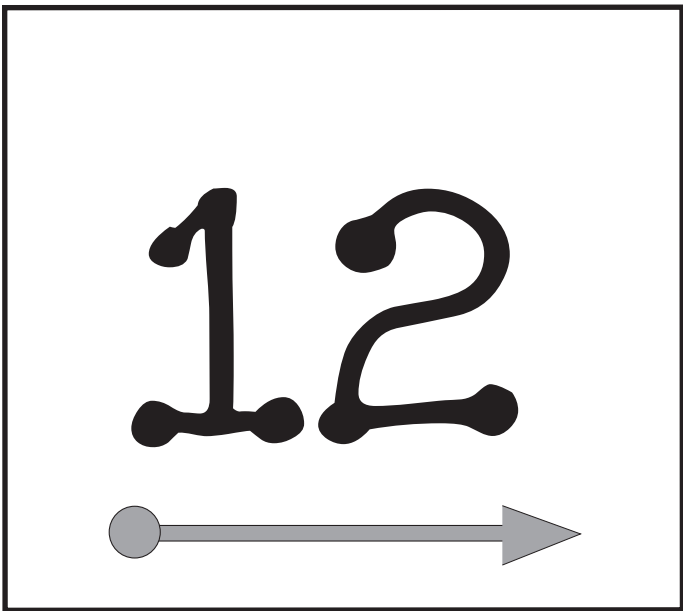
There are blank masters for the flash cards at the end of this file so that you can adapt this activity to other numbers, letters, or words.

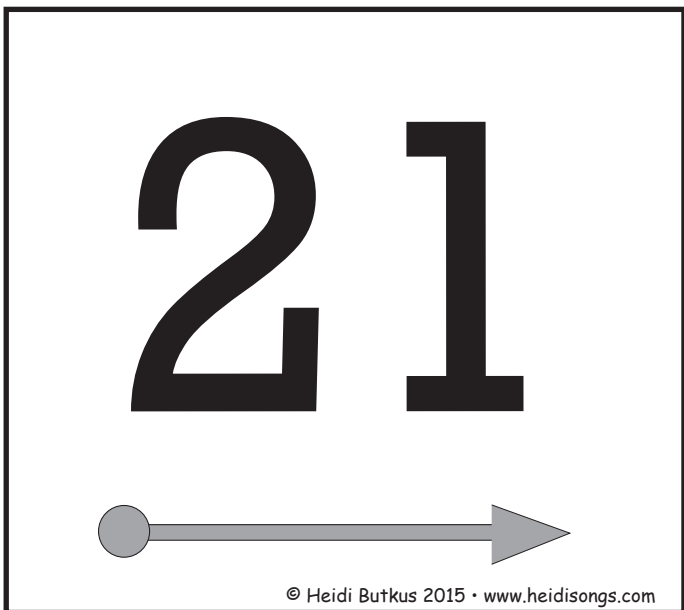
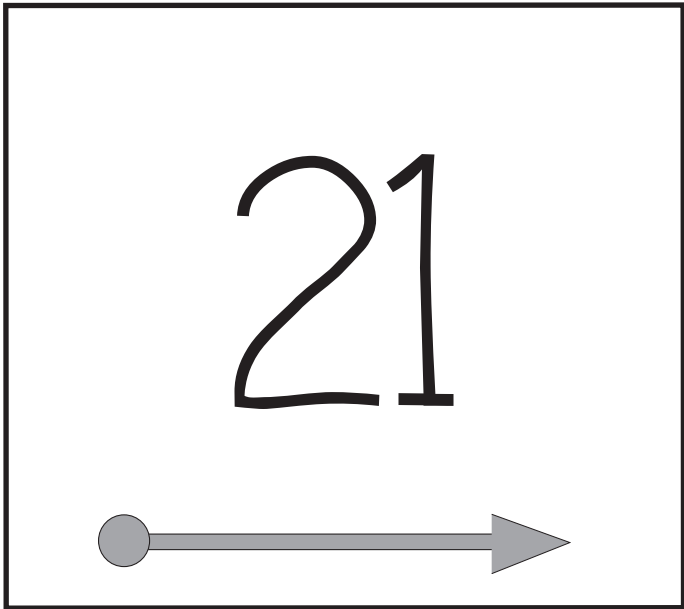
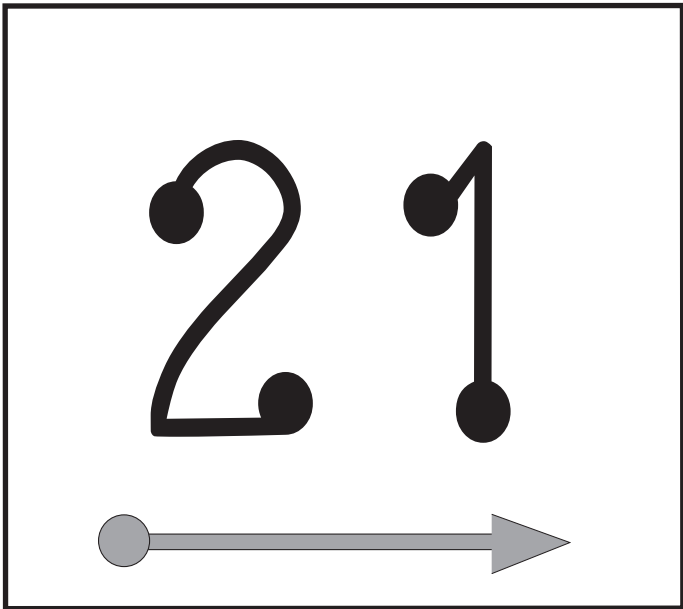
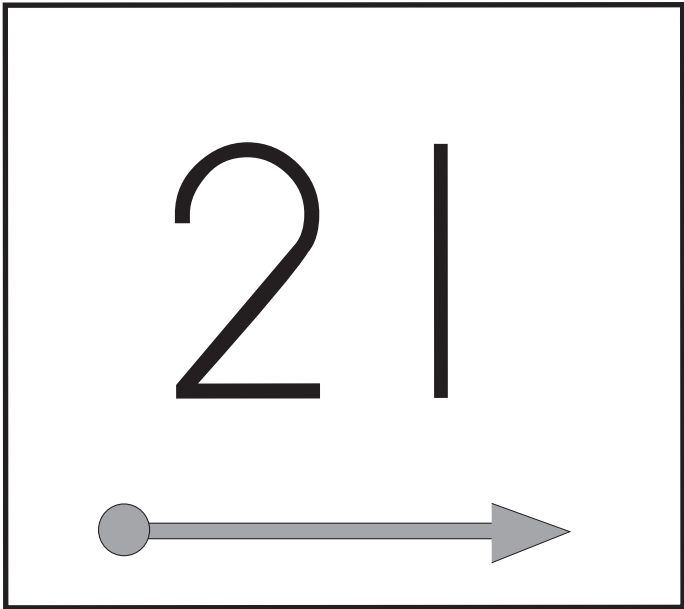
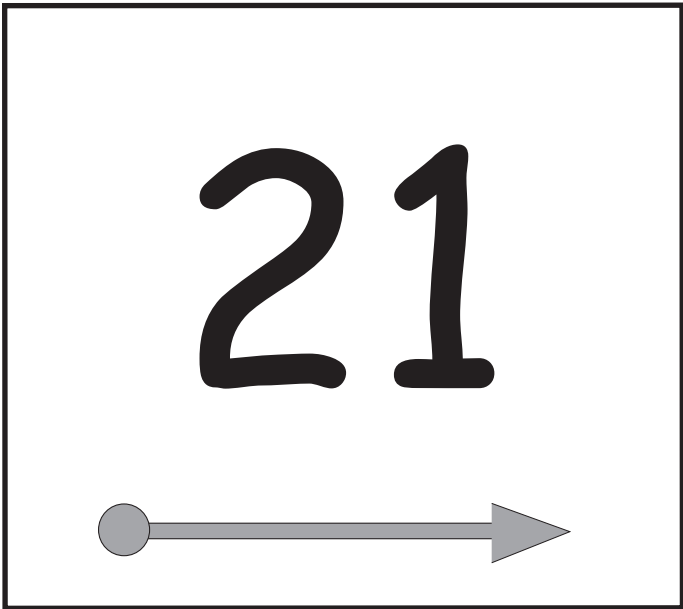


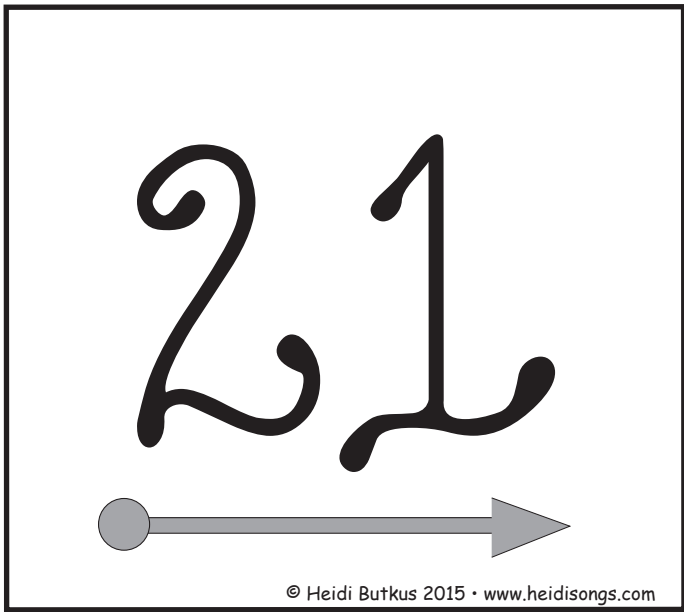
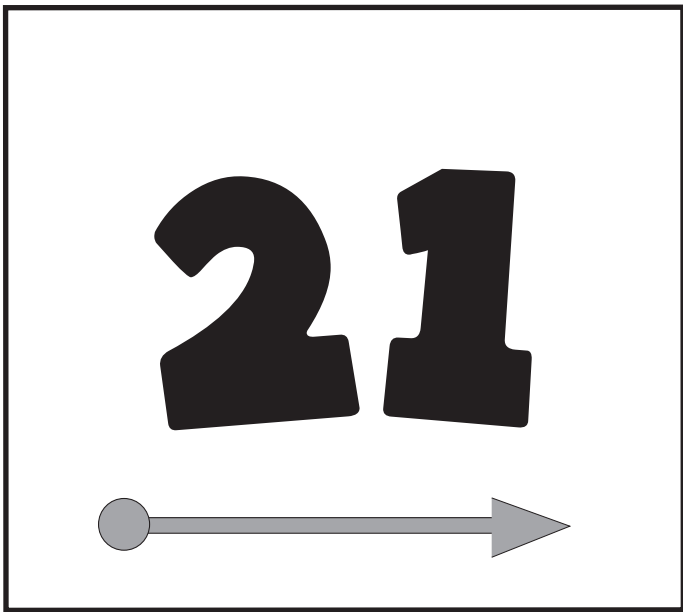
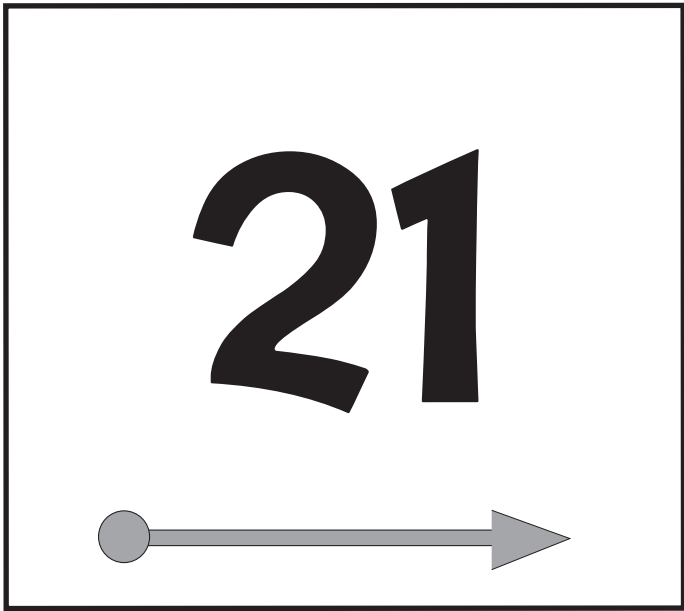
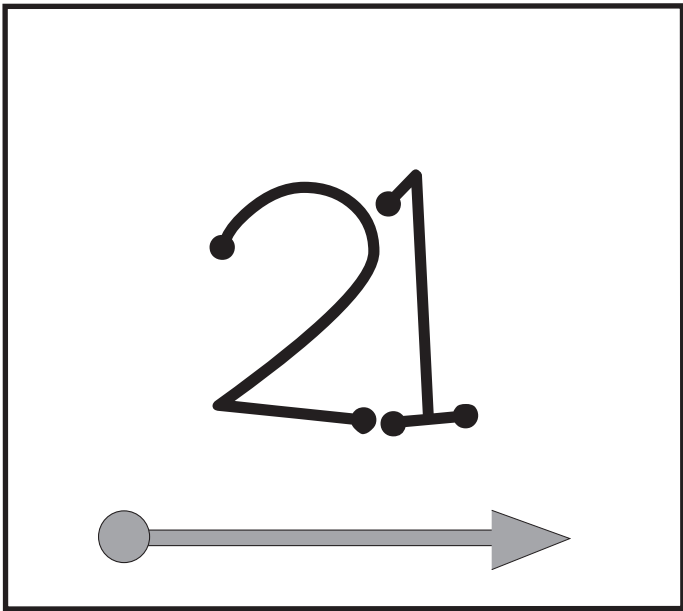
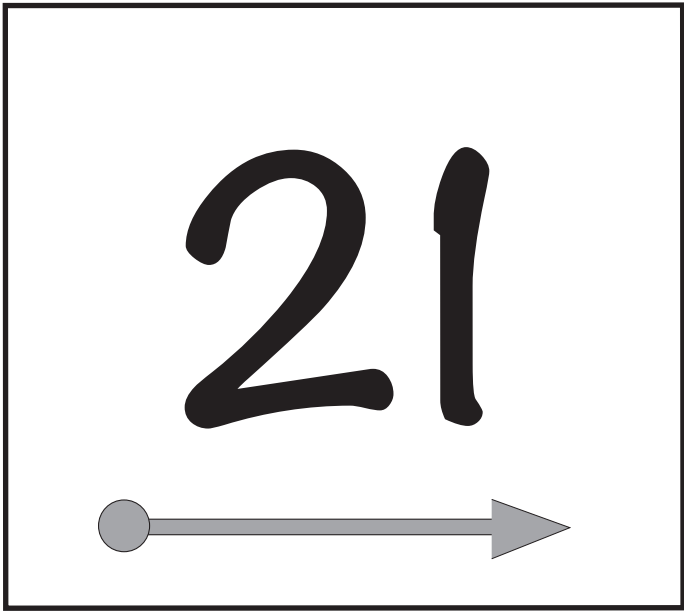
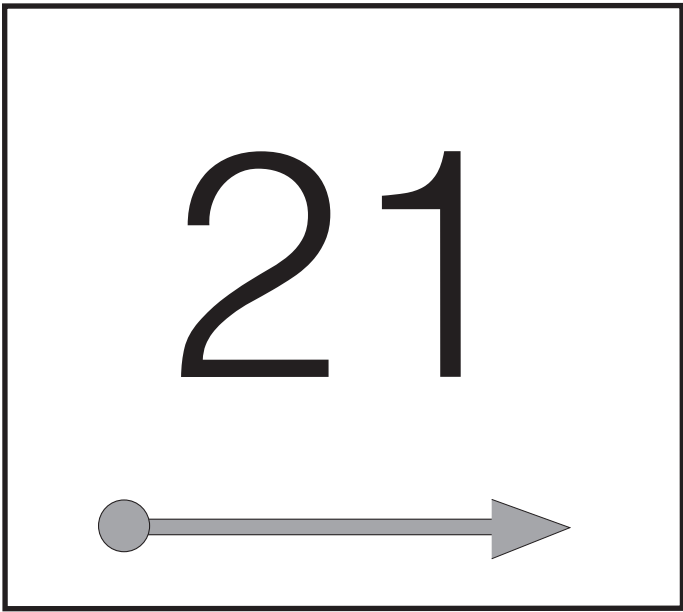


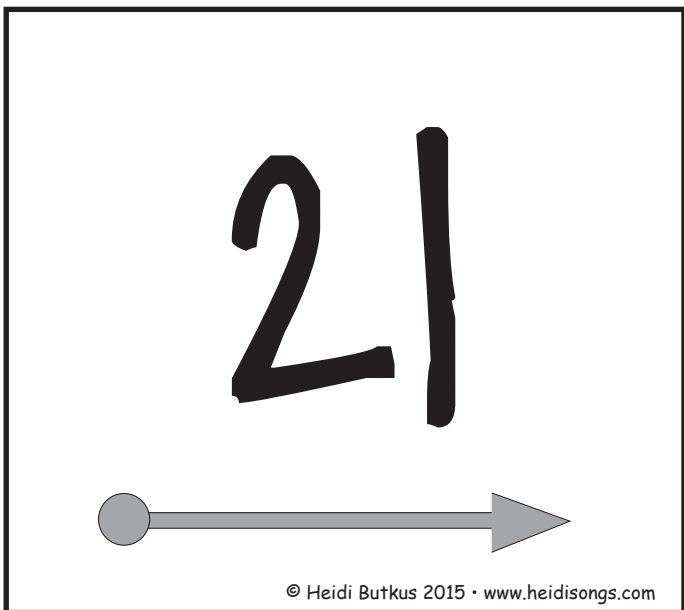
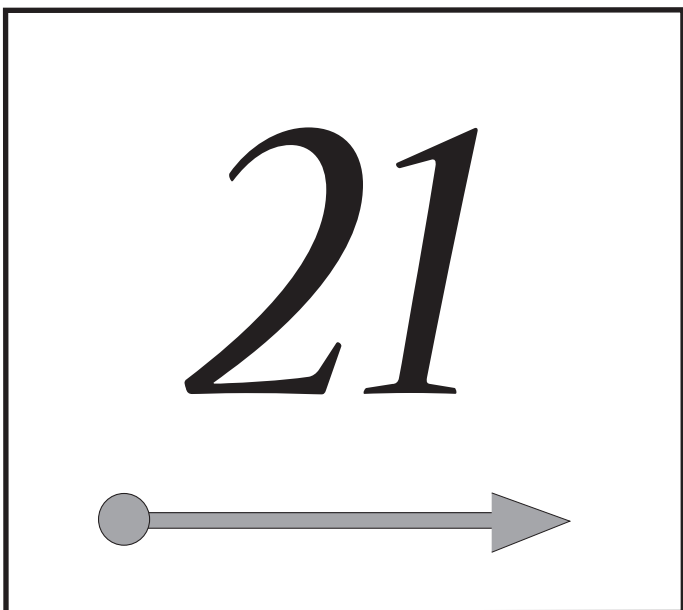
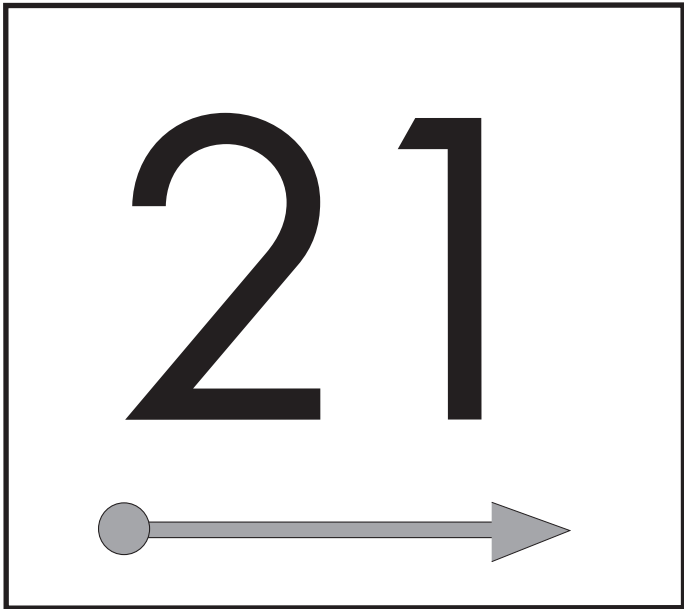
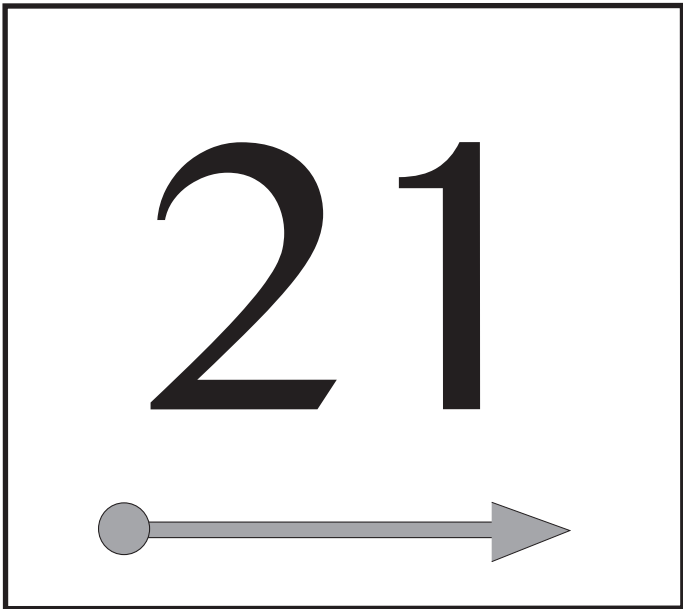
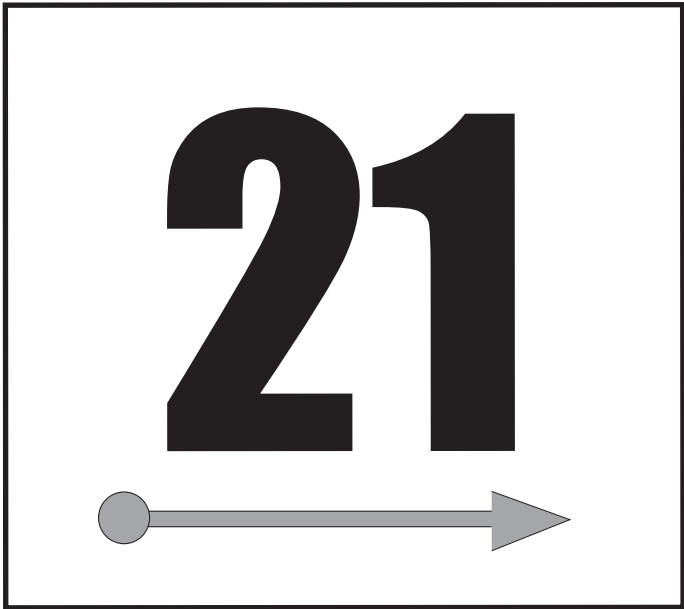
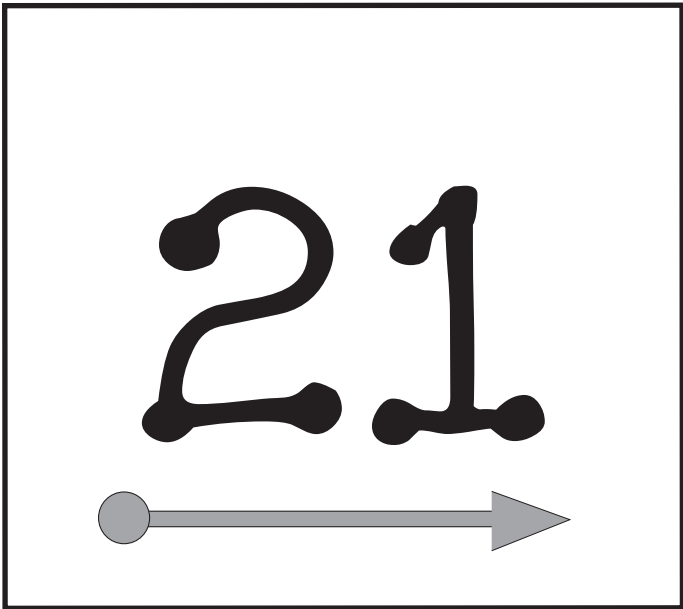




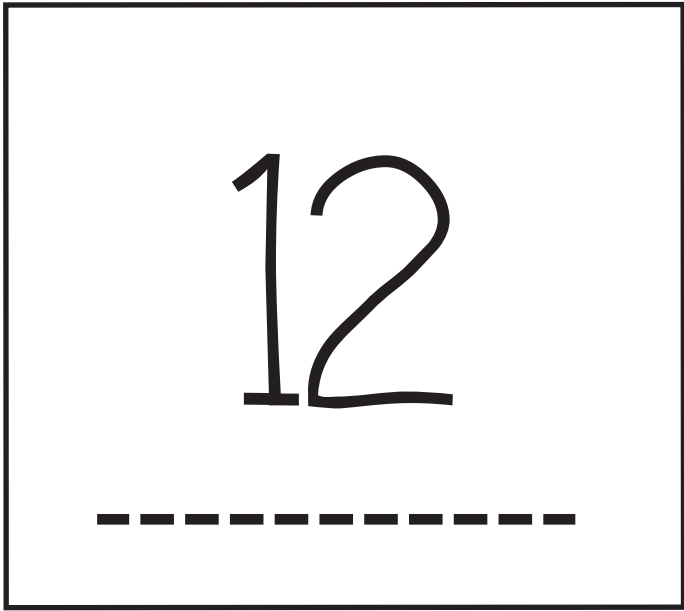
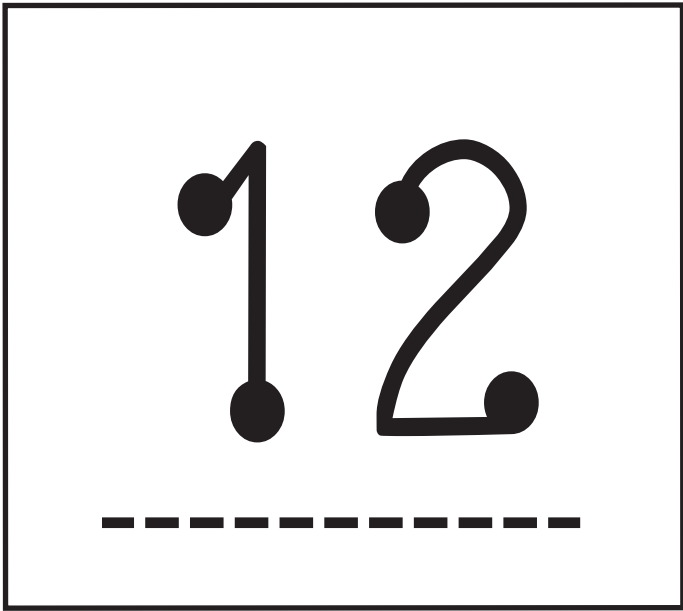
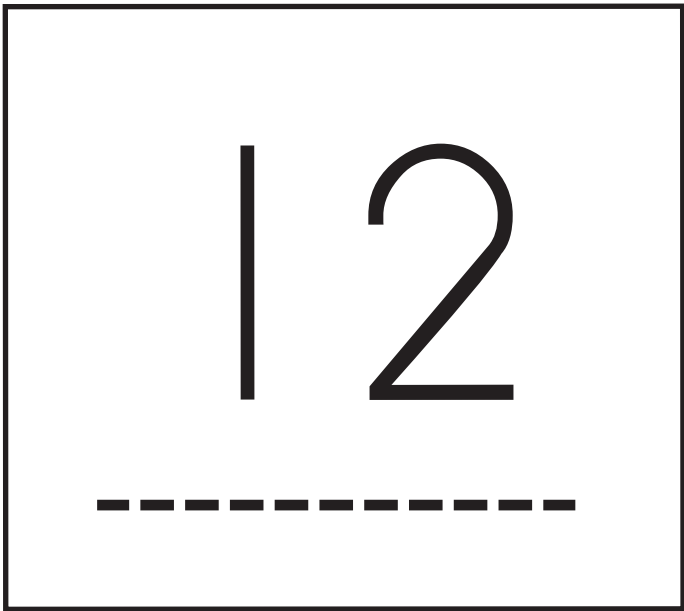
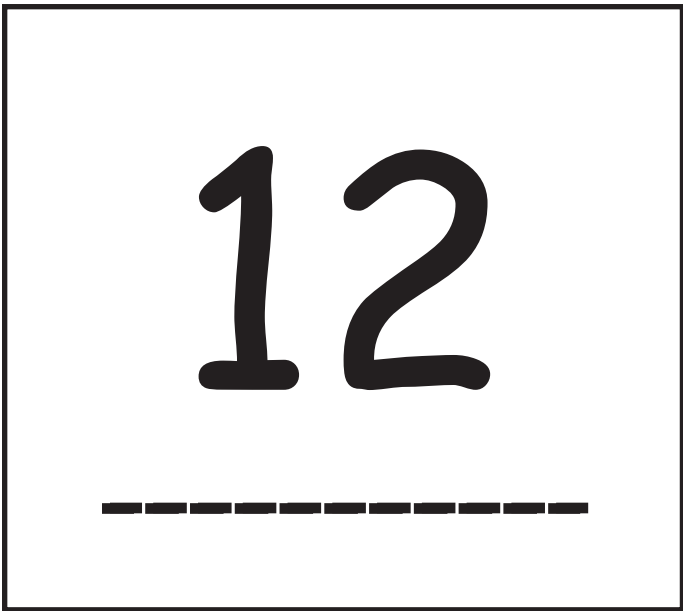








The following pages (11-16) are exactly the same as the first six pages, except that they have a dotted line at the bottom of the flash card instead of an arrow. The dotted line is there to help children identify which side of the card is "up."



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The following pages (18-23) are exactly the same as the first six pages, except that they have no dotted line or arrow on the bottom of the cards to help children figure out which side is "up." They are just plain old 12's and 21's.

After practicing with the cards with the arrows or the dotted lines, you may wish to mix these cards in with the others and see if the children can still figure out which side is up and which number is which, even without a dotted line or an arrow. By mixing all three formats together at random, you may get an insight to see if the children are doing better with the dotted line at the bottom, with the arrow at the bottom, with the flash cards with no cue at the bottom, or if those supports make no difference at all.

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