

[Illustrative Mathematics](#)

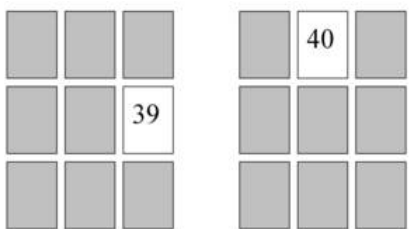
1.NBT “Crossing the Decade” Concentration

[Alignment 1: 1.NBT.A.1](#)

This game is a version of the traditional memory or concentration game.

You will need to create a set of number cards for each of the pair of numbers that cross the decade, i.e., 19 and 20, 29 and 30, 39 and 40, 49 and 50, etc.

Students place all the number cards that end with “_9” face down in an 3x3 array on the left and all the number cards that end with “_0” face down in a 3x3 array on the right. Working in pairs or trios, students take turns. The first student selects a card from the left array, stating the number name and the counting number that follows (“I have 39, I need 40”).



He or she then picks one card from the array on the right (the “_0” numbers), hoping to find the target number. If the student does not find a pair, both cards are replaced face down in their original spots. It is now the second student’s turn to choose a card from the “_9” array and to try to find the appropriate “_0” card. Students should try to remember where each number is located. (The game is called “Concentration” not “Guessing.”)

When a student finds a matching pair he or she keeps that pair of cards. Play continues until all cards have been matched. The student with the most matched pairs wins.

Commentary:

- One of the most common areas that young children struggle with when learning to count forward is crossing from one family to the next, for example getting to 29 in the counting sequence and not knowing what comes next or stating a random decade number. This game supports student development in this area. Students should have beginning knowledge of the counting sequence beyond the “teen” numbers before playing this game.
- This game can be introduced whole group on the board by making slightly larger cards and using a sentence pocket chart (or magnetic tape on a magnetic board) to arrange the cards in two arrays face down against the board. The teacher then plays against the rest of the class, modeling the process of picking from the left to begin, stating the number name and the number after and then picking from the right.
- It is very important to train the students to draw a card from the left and state what they need before they draw from the right. This will encourage them to think about and problem solve the next decade number. When the students get in the habit of picking up two cards simultaneously the game become much more about luck (although they do have to confirm that it is a pair, so do get some practice) and students are less likely to internalize the information and use it when counting.
- Students who become proficient with playing the game to support counting forward can gain experience in backward counting by picking from the right array first (the “_0” numbers) and then looking for the correct “_9” number. Changing the cards to 20-21, 30-31, 40-41, 50-51 etc with the “_0” numbers on the left and the “_1” numbers on the right is very supportive for another common error in backward counting which is to leave out the decade number when counting backward ie. “33, 32, 31, 29, 28”.

Solution: Solution

Cards will be matched 19-20, 29-30, 39-40, 49-50, 59-60, 69-70, 79-80, 89-90, 99-100. This game can be modified when playing for the first time or for a struggling student by only making cards up to 50 and making 2 of each pair.



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