**Fairfield Public Schools Balanced Math Instructional Model**

Grade K Unit 4 Lesson 17

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| Materials: Fluency: 20 unifix cubes (10 red, 10 white) Lesson: Unifix cubes (185), number cards 10-20 Gr K U4 L17 S1 | |
| Fluency Work  (1-5 min.) | Hold up a unifix cube stick with 5-red/5white (10-stick) and 4 more red. Ask students if they think it is more or less than ten. Ask them to T&T before sharing out. Ask how they now. Change the number of cubes for a variety of numbers both greater than and less than 10. Extend this activity by asking if they know if the number is more or less than 15 and how they know. Provide them with T&T time before sharing out. |
| Teaching Point | Building teen numbers |
| Mini-Lesson | *Have a teacher prepared set of towers 10-20.*  Tell the students that today they are going to build teen number towers with unifix cubes. Ask them what all the numbers need to have in common (a ten-stick and some more). Tell them they will work together to build different numbers. Explicitly model your expectations by holding up a ten-frame with ten dots and another ten-frame with 3 dots. Then ask a volunteer to help build a model of thirteen using unifix cubes. Then repeat the process but this time display a number 10 and the number 5 and ask for another volunteer to build a matching tower. Ask students to explain what is expected of them before they leave the meeting area. |
| Focus Questions for APS | How did you build your teen number? |
| Active Problem Solving | Have students work in pairs to build teen numbers. Provide different tables and groups different sets of teen numbers to build so that among all the groups all the number towers 10-20 are built by the time the task is completed.  As you confer with groups encourage cooperation and division of labor as not all students need to build all the teen numbers. Encourage all students to participate and assign roles if some are dominating the process. |
| Differentiation Suggestions | Differentiate for students by providing them with numbers that are easily accessible to them. For example you might want to give one group the 10, 11, & 15 towers, and another group may take the 18, 19, and 20 towers.  You may need to provide a math rack to some  Others you may be able to present with the teen number in written from, i.e. “18” and they will be able to build the number. |
| Assessment Point | Note which students   * count from 1. * Count-on from ten. * use the five and ten structure to help build the numbers. * skip count to pull out the proper number of cubes. * who build all the ten-sticks before they even begin to build the teen number? * Who recognize that a teen number is composed of a ten and some more. |
| Reconvene &  Focus Q. | When the towers are built ask students to carefully reconvene in the meeting area with their towers. The next task is to put them in sequential order. Ask students that if we start with the ten-stick, what number comes next. As the children build steps confer and notice the following:  *I noticed you left a space between this stair-step and this other step. Why? How did you know to leave a space?*  *What do you still need to finish your staircase?*  *We have a ten and four step and a ten and six step next to each other. How many more cubes does your six step have then your four step?*  *How many steps do we still need? Which towers?*  Continue to place them in order from least to greatest.  Once they are all lined up (on the floor or on the board-tray where all can easily see) ask them to look for patterns. Provide students with time to T&T before sharing ideas. One might suggest that if they were organized by lining up all the bottoms on a baseline it might be easier to see. Remind students that organizing your work in math is what mathematicians often do to see patterns.  Be very strategic when picking children to share. Notice a child that used interesting language while they built their towers. For example; the towers are growing. This tower is one more. Have those children share their thoughts and show what they mean with their staircase. Another student can share their thinking about why the staircase with ten-one and then ten- two and ten-three and so on. Have them explain why they did not start with three then go to five then four and six and two.  At this time if a student is explaining her/his thinking by using words like I had one more than a tower with 2 more and a tower with three more. Model this on a whiteboard or your easel. 7  6 6  5 5 5  4 4 4 4  3 3 3 3 3  2 2 2 2 2 2  1 1 1 1 1 1 1  10 10 10 10 10 10 10 etc…  By now you can show the students what their thinking as they share. Ask students to point out numbers within numbers. Do they see the ten in each of the teen numbers? Challenge them to count the number of 5s in each of the numbers? What other numbers do they see inside any of the other numbers? Provide time for students to T&T before they share their thinking with the group.  Record on a class chart student noticings when making number larger than ten. |
| Notes for Next Lesson | Keep the ten-twenty unifix cube towers for Lesson 18 |