Grade Level/Course: Kindergarten
Lesson/Unit Plan Name: Compare, Compare, Compare!
Rationale/Lesson Abstract: Kindergarten students need experiences with both hands-on and numeric representations to compare sets/numbers using the following vocabulary (more than, greater than, less than, fewer than, equal to, and same). Students will use multiple methods to explore comparing concepts and gain number sense.
Timeframe: 5 - 30 minute whole class or small group mini-lessons/centers.
Common Core Standard(s): K.CC.6: Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group, e.g., by using matching and counting strategies (up to 10). K.CC.7: Compare two numbers between 1 and 10 presented as written numerals.

Instructional Resources/Materials:

Activity 1 - Unifix/snap cubes (tower of 5 for each student in same color (e.g., red), other towers with more/less in various colors spread out around the room).

Activity 2 - Large floor number line, individual number lines*, stacks of cubes or bags with various numbers of cubes in them (1-10).

Activity 3 - Ten frames* (2 per student or pair), dice (one per student or pair), various counters.

Activity 4 - Dot cards* (set per table or pair) 3 paper plates per student, counters/manipulatives**.**

Activity 5 - Ten frame cards*(2 sets per pair of students), or dot cards* (2 sets per pair of students), or number cards (2 sets per pair of students).

*Included at end of lesson.

Activities/Lessons:

Math Warm Up - This warm up can be done throughout the week. Students start standing crouched down on floor and slowly rise while counting to 5. When they get to 5 they should be standing all the way up. Then count back from 5 to 1 slowly lowering body back to floor. Practice several times and then call out a number and students move their body to that position (e.g., for 3 students would stand midway up). You can also move your body to a position and have students call out what number you would be. Can be extended from 1-10 as the week goes on.

Activity 1 - **Comparing Stacks of Cubes**

Part 1

Pass out a stack of 5 unifix/snap cubes to each student (best if all have same color (e.g., red) for comparing to other stacks in Part 2).

Ask students, "What do you notice about all your stacks of cubes?"

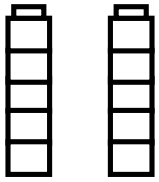
Responses may be, "They are all the same color." "They are all the same size." "They are all the same amount." "We all have 5."

Ask students, "How do you know they are all the same?" Ask them to compare with a partner and share how they know.

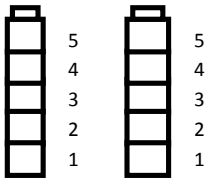
Responses may be, "We can match them up." "We can count they are both the same – 5." "They are both the same size."

Demonstrate with students the 3 ways they may compare their stacks:

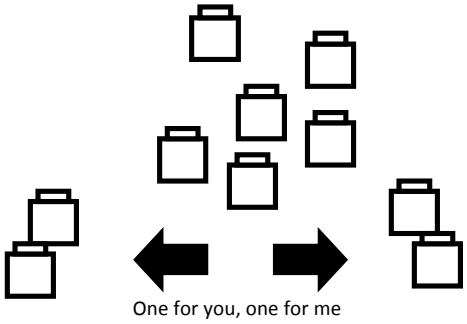
Matching: have students line their stack up with a partner and match 1:1



Counting: Have students point and chorally count their stacks to 5



Redistributing: Show with two towers how you can take apart the cubes put in a pile and then "redistribute", giving "one for you and one for me" until there are no more left and both receive the same amount (5 again).



One for you, one for me

One for you, one for me . . .

Tell students "When sets have the same amount we say they are equal." "All of you have 5 in your towers and they are equal or the same."

Part 2

Hold up a tower of 7 cubes now (different color, e.g., blue) and again ask students what they notice about the new tower you have.

Student responses may include "It is larger, it has more, it is bigger, there are 7." Demonstrate again how we can match them up 1:1 and see there are extra or "more" blue. We can count and see that "7 is greater than 5." We can also mix them all up and make two stacks again to see that there are more blue left over if we take one for each stack at a time.

Explain to students that when we compare groups and there are "extras" of one group we say this group has "more" or that it is "greater than" than the other group. "The blue tower has more cubes than then red tower, or we can also say "7 is greater than 5."

Tell students they will now go on a hunt around the room to find a tower that has more cubes than theirs. They can use all the strategies we used (matching, counting, redistributing) to test and prove the new tower they find has more than their tower of 5.

Have students find a tower that has more cubes than theirs and bring back to the group. Have students demonstrate how they can prove the new tower has more. Collect towers that have more.

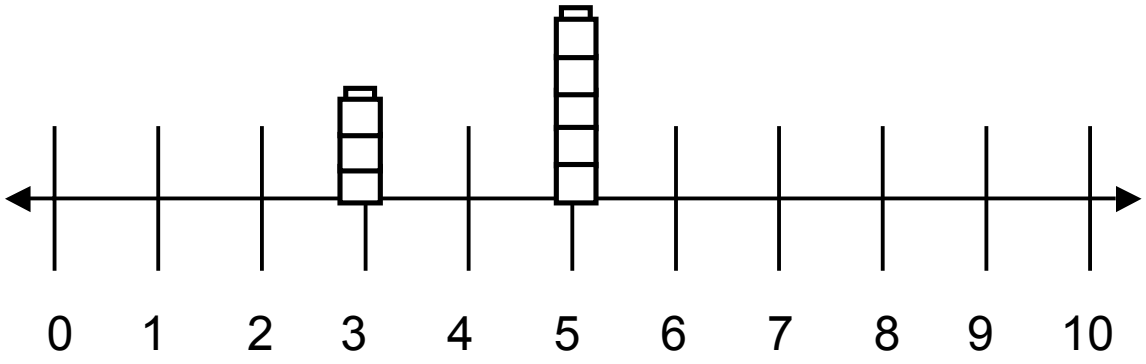
Part 3

Repeat the same steps above in Part 2 demonstrating a tower that has 3 or is "less than 5." Have students go on a hunt for a tower with "less cubes" than their tower of 5 around the room.

Activity 2 - Comparing on the Number Line

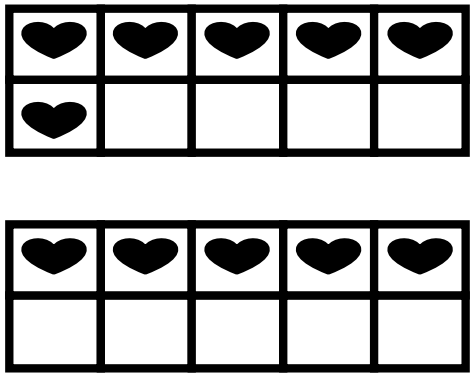
Using two of the stacks of cubes explored in Activity 1 have students help you place where they would belong on a large class number line. Chorally count the number of cubes in each stack and then place above the corresponding number on the number line. Compare the two stacks identifying which number is greater than, less than, or if they are equal. Have class chorally repeat with you the comparison. "5 is greater than 3, 3 is less than 5." Repeat with another 2 stacks of cubes and ask students "Did you notice anything about where the greater number was both times?" "Where was the number that was less?" Check to see if their predictions are correct with another 2 stacks of cubes.

Students can work in pairs or alone to compare the number of cubes in bags on a small number line. Students dump contents out of a bag and count to determine how many. They then build and place the stack of cubes above the corresponding number on the number line. Repeat again with a second bag of cubes. They can then compare the two stacks identifying which number is greater, less than, or equal and then verbalize;"5 is greater than 3, 3 is less than 5."



Activity 3 - More and Less on the Ten Frame

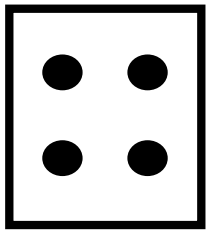
This activity uses the ten frame as a method to compare numbers. It can be done whole class, in small groups, independently, or with a partner. Student rolls dice (with either dots or numbers 1-6) and counts out that many counters/manipulatives on one ten frame. Student then rolls dice again and counts out that many on the 2nd ten frame. Student compares the two ten frames and verbalizes;"6 is greater than 5, 5 is less than 6."

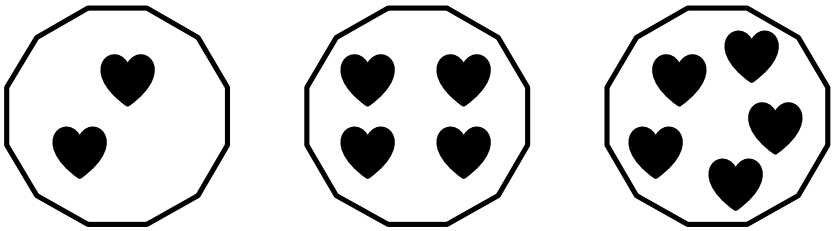


Optional Variations – Use dice with numbers 5-10, students can record their results on paper ten frames and circle sets with more or label; "more, less, or equal."

Activity 4 - Building Sets with Dot Cards

Students use one dot card at a time to build three different sets on three empty plates. Students will build a set that is "equal" on one plate, "less" on another plate, and "more" on the third plate with counters/manipulatives. After building their three different sets they can verbally explain to a partner/teacher which plate has more, less, or is equal to their dot card. Or you could have a partner try and figure out which plate is which.





Less Than Equal Greater Than

Activity 5 - Compare Card Games

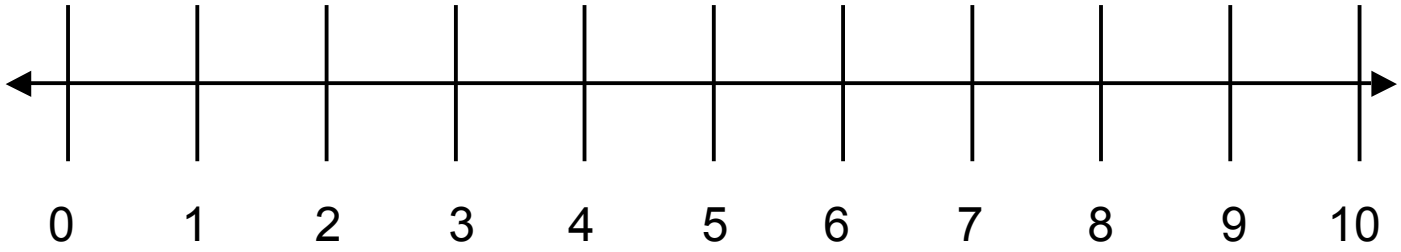
Students play a game of compare with various types of cards (ten frame dot cards, dot cards, number cards 1-10). At first, use one type at a time (2 sets of the same).

Divide the cards between two students. Each student turns over one card at a time and they "compare" their cards. The student that has a greater number says, "5 is greater than 3" and takes both cards. If cards are equal then both students say "equal" and turn over 1 more card and compare again.

Other Variations: Play where student that has number that is "less" takes the cards, use a variation of dot cards/ten frame cards/ number cards together.

Assessment

Student work can be used as formative assessment for these activities. Students can record their sets from Activity 3 on ten frames and label equal, more, or less. In Activity 5 students can also record on plates (or round pieces of paper) sets they build and label equal, greater, or less.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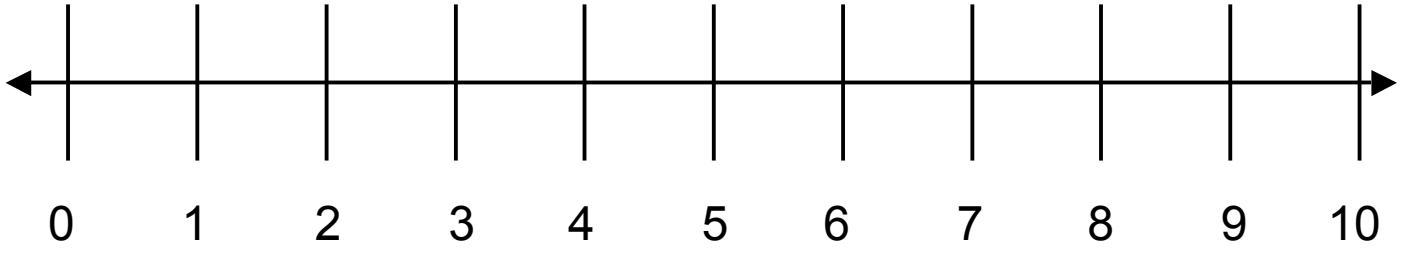
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