**Math Centers**

**Various math centers that can be used to support student learning of number sense through partitioning.**

**Center 1**

***What Fraction of This Shape is Red?***

Using pattern blocks to support students number sense concept of fractions and their relationship to a whole.

Using pattern blocks and pattern block triangle paper we create a design. The design can be any variation of the pattern blocks drawn on the triangle paper. The illustrations should include some red pattern blocks. After a picture is completed the student is to decide what fractional part of the picture is comprised of red blocks. The student should examine the red blocks comparatively to the entire picture and see if they are able to describe this relationship using a fractions.

https://www.teachingchannel.org/videos/teaching-fractions

* This can be simplified for younger students by asking ‘how many red blocks are in the picture? How many red blocks could be used to cover this picture?
* This activity could be extended by asking students to express this relationship using a decimal or percentage.

**Center 2**

***4-Block Trains- Partitioning Patterns***

Using cube-a-links, uni-fix cubes or cuisenaire rods to demonstrate numbers and how they can be created by combining various other numbers.

The cubes or rods are prepared by being combined in groups of 1, 2, 3 and 4 (if you are building larger sized trains you will increase the sizes of the groupings available accordingly). Students will be asked to use the combinations of blocks to create trains that are 4-blocks in length. By combining the available groupings students will discover and note the various combinations that create 4 length trains. They should be recording their solutions (1+3, 2+2, 4, 1+1+2, etc.) This demonstrates the various ways in which a number can be made.

https://m.youtube.com/watch?v=9k9xL9w7-3w

* To extend this activity you can increase the train length students are asked to build. Students can also examine patterns created through this activity. As the train length increases by 1 students can record the number of combinations they are able to create. A table can be made to record this information and students can look for patterns and further examine why these patterns exist.

**Center 3**

***Creating Equivalent and Adding Fractions Using Cuisenaire Rods***

Using cuisenaire rods and grid paper to compare and create equivalent fractions and/ or add fractions.

Students can place the Cuisenaire rods on grid paper to compare fractions. They can increase or decrease the number of rods they place on an original fractional representation to see how the two compare and to create equivalent sized fractions. They can also be used to create fractions with common denominators for adding.

<https://m.youtube.com/watch?v=QuJayqMsXE0>

**Center 4**

***Finding Factors of a Number Using Cuisenaire Rods (or Fraction Factory)***

Students will compare the length of cuisenaire rods to find factors of a given number.

Students can use cuisenaire rods to represent a given number and compare the length of cuisenaire rods

 to find factors. If a particular rod can be repeated and meet the exact length of the original rod (or rods) that rod is considered a factor of the first length.

<https://m.youtube.com/watch?v=E7tfXLT064E>

* The length of cuisenaire rods can be used to solve addition problems (when combining rods that meet the length of the original rod or rods).