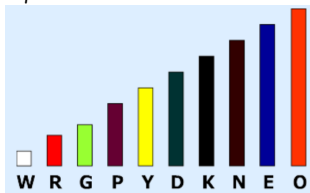


Things We Want Them To Notice/Wonder

This document was created in preparation for a third grade multiplication lesson where students would be using Cuisenaire rods for the first time.

- A. Staircase: Arranging rods so that each rod is one more unit longer than the ones before it. Could be vertical, horizontal, double, etc.
- Why does this staircase work? (You are trying to get them to articulate the idea that each one is one more unit longer than the one before it.)
 - Somebody built this...why can't we call this a staircase? (If you can't get a sufficient description of a staircase, build one, take out 2 in the middle, and ask about it. Defining why something is a non-example can help you write criteria for the definition.)
- B. Equivalence: We can put rods together to make trains equal to a given rod.
- A train is 2 or more rods end to end, laying down on the table
 - Show how we can write statements of equivalency.
 - 2 yellows = 1 orange
 - $2y = o$ (this is showing multiplicative thinking)



- In this system, Black, brown, blue are named by last letter

 - If no one uses white to make equivalencies, make sure you ask a leading question to get them to do this.
 - Some kids think they look like teeth. How many teeth equal the blue mouth?
- C. White is the unit. Every other block can be made from a certain amount of whites
- For right now, we're going to call the white 1 (Do this once the white has been discussed...not as a starting point. Wait for them to bring it up)
 - If white is one, what is yellow?
 - If white is one, what is blue?
 - If white is one, which color represents 6?
- D. White blocks are 1 cm
- Maybe provide rulers during their investigation?

- b. Be aware that because of imperfections between the rulers or pieces, they might not be exact. Address that and tell them that we will go with nearest cm
- c. OR give them a ruler later and ask, in or cm?

E. Need for a staircase

- a. Point out a kid that builds one and uses it during the guided exploration. Let the idea come from them. Maybe display one as an anchor chart?