



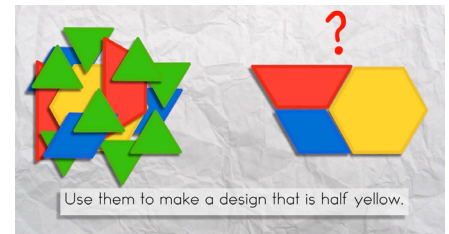
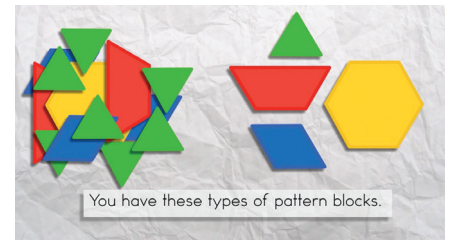
PATTERN BLOCKS #1



Pattern Blocks #1

What's the point of this task?

Students need to recognize that one half can mean either one half of an area (i.e. There is an equal amount of yellow area as area of other colours, the case when a yellow and 2 reds are used, for example.) or one half can mean one half of a number (i.e. There are two blocks and only one is yellow or four blocks and two are yellow.). It is also valuable that students realise that because only half of the colour is required to be yellow, the other half can vary; it might be red or blue or green or some combination. As well, it is important for students to realise that being half does not require that there be a line of symmetry and that even if there were, if some blocks were moved, the fraction would still be one half. And finally, it is important for students to realise that duplicating a copy of one half leads to another copy of one half, i.e. the colour ratio does not change and equivalent fractions/ratios are created.



Questions to facilitate the learning

Other questions that might be asked include:

- Did your design have a line of symmetry? Did it have to have one in order to be correct?
- What colour combinations are possible?
- What is the fewest number of blocks possible? Why that number?
- Why might someone who uses one yellow and two reds be correct? In what way is it not one half yellow? Why might someone who uses one yellow and one green be correct? In what way is it not one half yellow?
- If you duplicated your design and put the two copies together, what fraction would be yellow? Why?

Curriculum connections

This activity relates to representation of fractions and equivalent fractions.

Scaffolding the learning

- Put down one yellow block. How could you use only red with the yellow to show one half? What about only green?
- Could there more than one yellow block? How would that change your original answer?
- Once you have a correct answer, does moving a block to a new location always result in another correct answer?

Extending the learning

Students might create patterns that are one third or two fifths yellow. Other interesting extensions involve asking students to create patterns that are two thirds red and one third green (where no other colours are possible since red with green make up the whole) or patterns that are one half green and one fifth blue (where students begin to realise the value of a common denominator like ten to describe either the number of units of area or number of pieces).

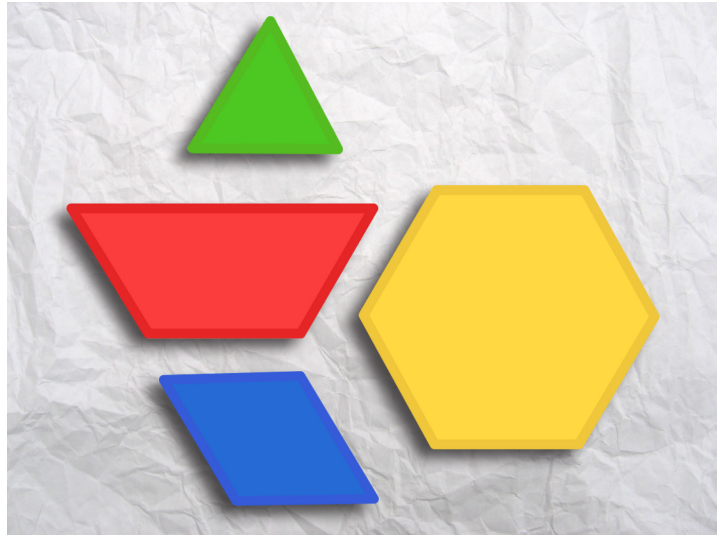
Pattern Blocks #1

You have these types of pattern blocks.

Use them to make a design that is half yellow.

Record your design.

Explain why it is half yellow.



Name _____