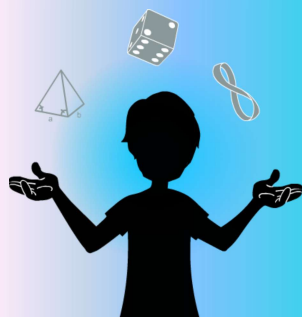




AMAZINGMATHS

Materials:

- A box of multibase blocks or small Lego pieces
- Activity Sheet
- Pencil
- Paper

ACTIVITY

- RECTANGLES, SQUARES -

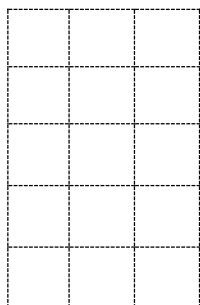
Instructions

The example's problem:

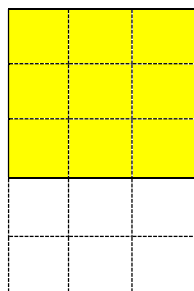
A rectangular sheet of paper measures 3 by 5. We cut the sheet into two pieces, in a straight line, to get the biggest square possible. We throw away this square and we cut the remaining piece in the same way. We continue cutting that way as long as it is possible. What is the measurement of the smallest square obtained?

Note: all the rectangles and the squares must have whole dimensions (no fractions).

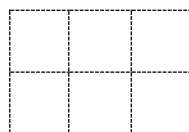
Initial Grid



First Cut



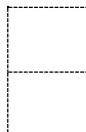
Remainder of the first cut



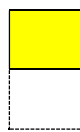
Second Cut



Remainder



Last Cut



Final Remainder:



Dimensions : 1 unit per 1 unit



SUGGESTED PROCESS



Step 1: Introduction (10 minutes)

Explain the activity to the students by doing the example in the “Rectangles, Squares” Explanation Sheet. Draw the cuts on graph paper or on a grid, following the steps in the example, then cut each square to verify the answer with the students.

Step 2: Creations (30 minutes)

Distribute a 20 by 10 sheet of graph paper or the first grid in the appendix. Ask the students to cut like in the example, then observe the result. Question the students on the difference between these numbers and the previous ones. Get them to observe that 10 divides 20 in two and that it is what they just did by cutting.

Come back to the first example and ask the students why they get 1 by 1 with the example. Get them to notice that these numbers are prime numbers.

Distribute a 24 by 15 sheet of graph paper or the second grid in the appendix. Ask the students to cut like in the example, then observe the result. Get them to realize that it is the greatest common divisor.

Step 3: Review

Come back over what has been seen. You may refer to the “Rectangles, Squares” Explanation Sheet for help.