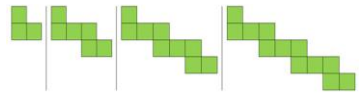
Created by Mr. Lischwe

Warmup $5/\left(\frac{67+67+67}{67}\right)$

1. Draw the next step (step 5). How many squares are there?
2. How many squares would be in step 40?
3. Make a "quick sketch" of step 40. (you don't have to draw all the squares!)
4. If "n" is the step number, write an expression that gives the number of squares in step "n".

Step 1 Step 2 Step 3 Step 4



Escape Problem

36 Creatures, 150 arms

Strategy: Guess & Check

18 of each: $18 \cdot 5 + 18 \cdot 3 = 90 + 54 = 144$ Too low! (need more zeebles)

19 Zeebles, 17 Quarks: $19 \cdot 5 + 17 \cdot 3 = 95 + 51 = 146$ Too low!

20 Zeebles, 16 Quarks: $20 \cdot 5 + 16 \cdot 3 = 100 + 48 = 148$ Too low!

If we take out a Quark and add a Zeeble, we add two arms!

21 Zeebles, 15 Quarks: $21 \cdot 5 + 15 \cdot 3 = 105 + 45 = 150$ Too low!

Escape Problem

36 Creatures, 150 arms

Strategy: Start w/ all Zeebles

36 Zeebles: $36 \cdot 5 = 180$ We have 30 arms too many!!!

***If we change a Zeeble into a Quark, we subtract two arms.

So, we need to change 15 of the Zeebles into Quarks.

36 – 15 = 21 Zeebles, 15 Quarks

Escape Problem

36 Creatures, 150 arms

Strategy: Start w/ all Quarks

36 Quarks: $36 \cdot 3 = 108$ We need 42 more arms!

***If we change a Quark into a Zeeble, we add two arms.

So, we need to change 21 of the Quarks into Zeebles.

36 – 21 = 15 Quarks, 21 Zeebles

Strategy: Draw a Picture

36 x 3 = 108 arms

(Need to add 2 21 times to get to 150)

Escape Problem

36 Creatures, 150 arms

Strategy: System of Equations

Creatures Equation: Q + Z = 36

Arms Equation: 3Q + 5Z = 150

You can multiply the top equation by -3 to eliminate Q, or by -5 to eliminate Z.

Go over Visual Patterns Worksheet

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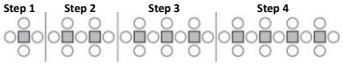
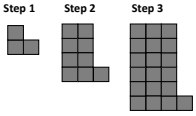


Go over Visual Patterns Worksheet



Group Project: Patterns Poster

You will start by working on a pattern individually. You will attempt to answer all the questions on the front of your sheet. There are several different patterns. After you have had time to work individually, you will get with your group (which will not be your table!)

COMPLETE, INDIVIDUALLY:

1. Draw step 5 and count how many units (squares, circles, etc.)
2. Draw a "quick sketch" of step 13 and calculate how many units
3. Complete the chart: →
4. Write an expression.

Step	Units
1	
2	
3	
4	
5	
13	
40	

Posters

- You will get your poster paper once I approve:
  - Your T-chart on the worksheet
  - Your "step 13" sketch
  - Your expression
- This is not due tomorrow – you will get more time in class to work on it