

Questions from Growth Pattern Problem-Posing Activity

- What would the first figure look like?
- What is the pattern going to look like with the number of increasing squares in each phase?
- What can learn by exploring the negative space as the figure grows?
- If this were made of toothpicks, how many toothpicks are needed for each figure? How does the number of toothpicks grow?
- Would pile 5 have an even or odd number of squares? Would pile 10 have an even # or an odd number of squares?
- Is there a way to figure out if the number of squares in a given figure number will be even or odd?
- Will any of the figures have 75 squares?
- How does the perimeter and area grow? (How) Are they related?
- What would figure -1 look like? Is it possible to have a figure -1?
- Is it possible for figure 29 to have x squares?
- Is the number of squares in each figure growing at a constant rate?
- How could you describe what the 19th figure would look like so someone else could draw it?
- If figure 2=4, 3=5, 4=6 (at its highest height and widest width), then would figure 1=3, fig. -1=2, fig. -2=1, fig. -3=0?
- How many squares (at least 2 by 2) can you make in the 4th figure? In the 15th figure? In the nth figure?
- Can the # of squares ever be exactly 15 times greater than the figure number?
- Will any figures have a prime number of squares?
- How many squares would there be in the 23rd figure, not including the top and bottom rows?
- What does figure 10 look like? Figure 100? What is the function for the relationship between the figure number and the number of squares?