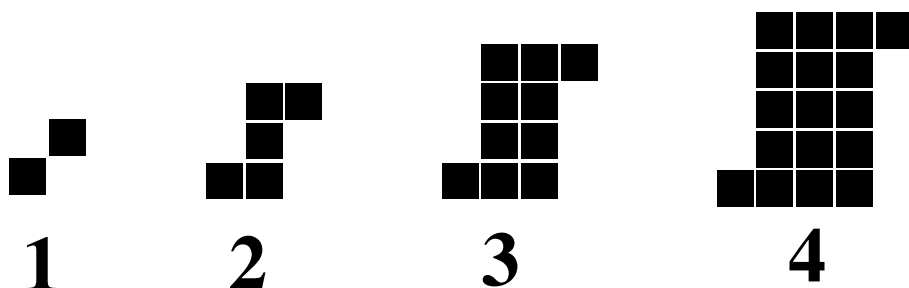


The Growing-S Pattern¹

Examine the figures below and explore the next few figures in the sequence to discover any patterns you might see. What do you notice changing? How might you draw and/or describe future figures?



After investigating the sequence of figures, compose a letter to another student that describes what you know about the growing-S pattern. Some things you may want to think about and discuss in your writing include:

- What patterns do you notice among the set of figures?
- What would the next few figures in the sequence look like?
- How would you describe a figure in the sequence that is larger than the 20th figure? Can you see the figure in more than one way?
- Do these patterns suggest a specific equation for the total number of tiles in any figure in the sequence? How does this equation connect to the visual diagram of the figures?

Your letter should address the above questions, along with any other observations about the pattern that you find meaningful. Think about how you might use various representations such as words, sketches, numerical and symbolic expressions to communicate your understanding. You might also want to include any questions you have about the pattern. Another student will read your letter and provide feedback on your thinking within the next week. As such, I would encourage you to begin your letter with a short introduction. You will be exchanging responses with a peer several time throughout the month of September and it might be nice to know with whom you are corresponding.

¹Adapted from Foreman, L.C. & Bennett, A.B., Jr. (1995). Visual Mathematics: Course II, lessons 1-10. Salem, OR: Math Learning Center.