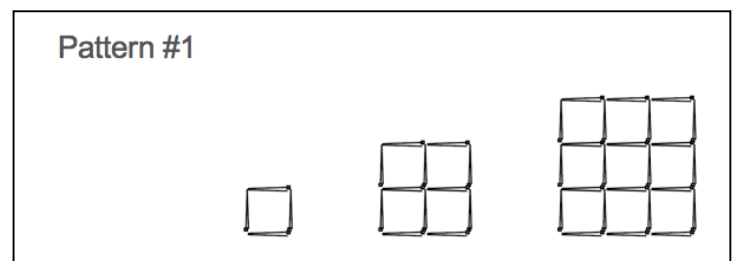## Pattern Project

1. Go to visualpatterns.org

2. You will choose any 4 patterns to work with: 2 that are linear and 2 that are non-linear.

3. For each pattern:

   - Include a picture of the original pattern. This can be printed, drawn, created, etc.
   - Show the next two steps of the pattern.
   - Explain <u>in writing</u> how the pattern is changing. You may include math (numbers, symbols, operations, etc) as well, but make sure that your answer is easy to follow for someone unfamiliar with the task.
   - Create a table of values for the pattern.
   - Create a graph.
   - Tell whether your pattern is linear or not. Give evidence to back this up.
   - For the two linear patterns: Tell the equation.
   - BONUS: give the equations for the two non-linear patterns.
   - Display all of your information in a neat, clear, professional, easy to read format.
     [note: no lined paper]

Some things...

* You can be creative with what you decide to count as the pattern. For example, in the pattern to the right you could choose to count the number of boxes or you could choose to count the number of lines in each figure. Just be sure that it is clear what you are counting.

Pattern #1

* For each pattern, the first one drawn is figure 1.

* If you need any supplies (big paper, coloring supplies, construction paper, graph paper, square tiles, etc), just ask.

* There will be a penalty for late projects.

* The grading rubric is included…look at it! Use it!

Pattern Project # Pattern #:

4	3	2	1	0
Original Pattern : 1 pt				
			Original pattern is included.	Original pattern is not included.
Next two terms : 2 pts				
		Both terms are shown correctly	One term is shown correctly	Neither term is shown correctly.
Verbal Explanation : 4 pts				
Explanation is correct and clearly explained. Answer is easy to read and follow. Answer flows and uses appropriate math language.	Explanation is mostly correct, but may contain some slight error. Answer is easy to follow. Appropriate math language is used.	Explanation contains some major mistakes, but is not completely incorrect. May be difficult to follow or understand. Math language may not be used.	Explanation is unclear and difficult to follow. Explanation shows a significant lack of understanding.	Verbal explanation not present.
Table of Values : 4 pts				
Table of values is present. All values are correct.	One value may be incorrect.	Two values may be incorrect.	Three or more values may be in correct.	Table of values not present.
Graph : 4 pts				
Axes are drawn. Appropriate scales and spacing are used. Points are plotted correctly. Axes are labeled correctly.	Graph is missing or has one incorrect element.	Graph is missing or has two incorrect elements.	Graph is missing or has three or more incorrect elements.	Graph is not present.
Linear or Non-Linear Explanation : 4 pts				
Linearity is correctly identified and sufficient evidence is given.	Linearity is correctly identified, but explanation is not clear enough.	Linearity is correctly identified, but sufficient explanation/evidence is not given.	Linearity is not correctly identified. Explanation is present.	Explanation not present.
Linear Equations : 4 pts				
Both equations are correctly written. All variables are defined.	Both equations are given, but one may include slight errors.	Both equations are given, but both include slight errors.	Both equations are given, but include major errors.	Equations not present.
		Total Points:		/ 23

Pattern Project   Name: _____

Pattern #:	/ 23
Pattern #:	/ 23
Pattern #:	/ 23
Pattern #:	/ 23

8	3	0
Overall Project & Format		
Project display is exceptionally creative. Student used unique materials and/or display. All guidelines were followed and project is complete.	Project display is neat and easy to understand. Layout is clear, organized and easy to follow. Guidelines were followed and project is complete.	Nothing handed in.

Total Score:	/ 100

Pattern Project   Name: _____

Pattern #:	/ 23
Pattern #:	/ 23
Pattern #:	/ 23
Pattern #:	/ 23

8	3	0
Overall Project & Format		
Project display is exceptionally creative. Student used unique materials and/or display. All guidelines were followed and project is complete.	Project display is neat and easy to understand. Layout is clear, organized and easy to follow. Guidelines were followed and project is complete.	Nothing handed in.

Total Score:	/ 100