

Pixel Art with Microsoft Excel

MS365 Tool: Microsoft Excel	Activity Description: Create pixel art using Microsoft Excel
Subject: STEAM	Learning Objectives: <i>Students will be able to...</i> <ul style="list-style-type: none">• Understand the concept of pixels within digital images• Apply conditional statements• Produce a digital image using elements of a particular style

Before the Lesson:

- Ensure students have a working email address, preferably an Office 365 Education Account
- Ask students to choose an image (APPENDIX A) (*challenge: find your own image*)
- Ask students to recreate their image on the graph paper (APPENDIX B)

Introduction:

- Explain the lesson objectives
 - *We will learn about pixels within digital images, we will learn how to apply conditional statements, and we will produce pixel art using these conditional statements*
- Explain the concept of pixels within digital images
 - *i.e., tiny squares that change color depending on the image being displayed on your screen, video games/computer games*

Activity:

- Log-in to Microsoft Excel
- Open a blank workbook
 - PAUSE to allow students to login and open a new document*
- Students begin creating their image using the following steps:
 - Make spreadsheet a grid
 - PAUSE to allow students to mirror task*
 - Explain conditional statements/conditional formatting rules
 - Add conditional formatting rule
 - Repeat for each color needed to complete image
 - PAUSE to allow students to mirror task*
 - Create a key which represents the colors associated to each value
 - PAUSE to allow students to mirror task*
 - Add values to each cell using the rules, recreating the image
 - Complete the image
 - PAUSE to allow students to mirror task*
 - Add a background using another conditional formatting rule
 - PAUSE to allow students to mirror task*
 - Change all the initial rules to blend font color with fill color
 - PAUSE to allow students to mirror task*
 - Remove gridlines
 - PAUSE to allow students to mirror task*

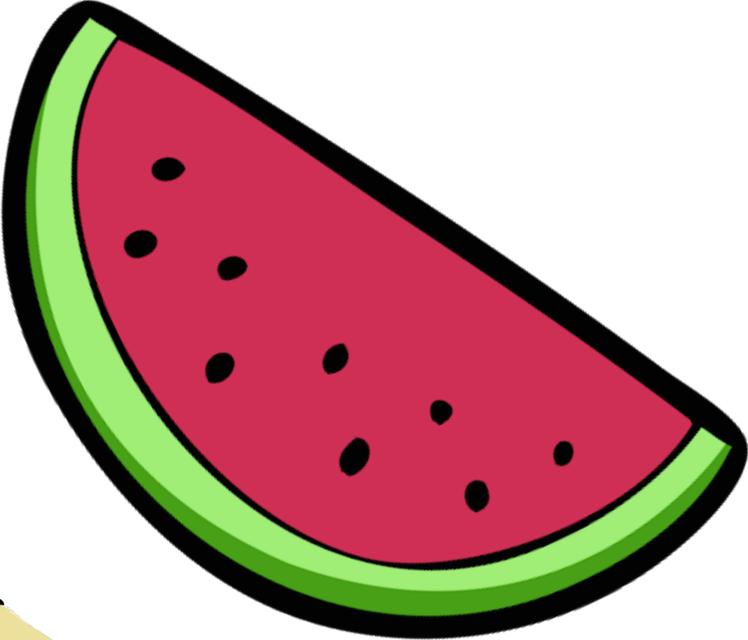
Closing:

- Save document to OneDrive
- Send document to teacher using a link
 - PAUSE allow students to save and send document*

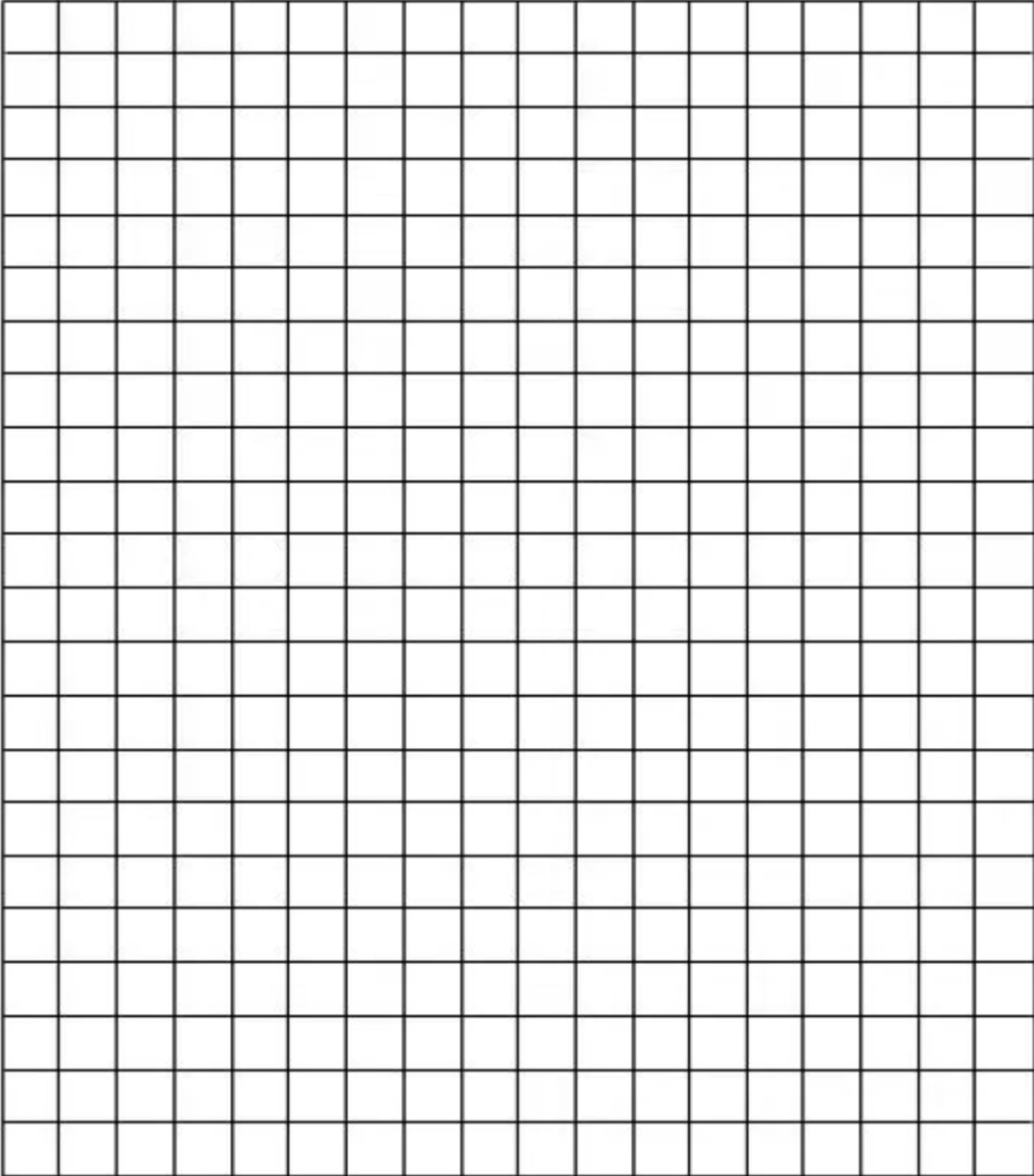
Assessment:

- Planning and Organization: *Does the student demonstrate an understanding of pixels?*
- Process: *Does the student use conditional formatting rules to add color?*
- Style: *Does the student create a digital image using the style of pixel art?*

Pixel Art with Microsoft Excel



Pixel Art with Microsoft Excel



Pixel Art with Microsoft Excel

	Exemplary	Accomplished	Developed	Beginning	SCORE
Planning and Organization	Student clearly demonstrates an understanding of pixels within their plan	Student mostly demonstrates an understanding of pixels within their plan	Student somewhat demonstrates an understanding of pixels within their plan	Student struggles with demonstrating an understanding of pixels within their plan	/4
Process	Student always uses conditional formatting rules to add color	Student mostly uses conditional formatting rules to add color	Student somewhat uses conditional formatting rules to add color	Student struggles with using conditional formatting rules to add color	/4
Style	Student produces a digital image using the style of pixel art accurately. Student includes elements of originality in their final product.	Student produces a digital image using the style of pixel art. Student makes an obvious attempt at including elements of originality in their final product.	Student produces a digital image using the style of pixel art somewhat accurately. Student somewhat attempts at including elements of originality in their final product.	Student struggles with producing a digital image using the style of pixel art. Student does not include elements of originality in their final product.	/4
					/12