

Unit 1: Intro to Graphic Design

1.F Images

Estimated time – (2) 45 minute class periods

Graphic Design: Vector vs. Raster Images

LEARNING OBJECTIVES:

Students will be able to differentiate between vector and raster graphics, explaining their characteristics, uses, and advantages.

Students will be able to find and use images according to needs and copyright.

ASSESSMENTS:

Students will create a visual comparison chart that illustrates the differences between vector and raster graphics, including examples and applications.

KEY POINTS:

- Vector Graphics: Made up of paths defined by a start and end point, along with other points, curves, and angles. They can be scaled without losing quality.
- Raster Graphics: Made up of pixels; quality decreases when scaled. Commonly used in photographs and detailed images.
- Applications: Understanding the best use cases for each type of graphic, like logos (vector) vs. photographs (raster).
- Graphic Locations: Students will explore websites offering different graphics, including AI generators

OPENING:

- Begin with a visual presentation showcasing both vector and raster images. Have students use this public Kahoot - <https://create.kahoot.it/share/is-it-raster-or-vector/d9b63b82-bae5-4648-8a94-5a3f7fd29a73>
- Ask students: "Have you ever noticed how some images look pixelated when enlarged? Why do you think that happens?" This question will engage students by prompting them to think about their own experiences with digital images.

INTRODUCTION TO NEW MATERIAL:

- Begin lesson <https://edu.gcfglobal.org/en/beginning-graphic-design/images/1/>

- Have students complete the term/question worksheet provided. There is space on the worksheet for the information below.

- **Finding images for projects:**

Note to teacher: before you share the resources below, be sure you understand how to check the resolution of images, how to download them, and how to understand the copyright that accompanies them. Determine if you want your students to make accounts. The sites I chose do not require purchase for basic images/graphics.

- Photos – www.pexels.com, www.pixabay.com , www.unsplash.com
 - Vectors – www.freepik.com – need to set up a free account, 10 downloads allowed per day, requires attribution
 - AI Generated – www.recraft.ai – need to set up an account, select free plan, you have 50 free credits daily. Become familiar with this site before showing students.
- Explain vector graphics, highlighting their scalability and use in logos and illustrations.
 - Introduce raster graphics, emphasizing their pixel structure and common use in photos.
 - Discuss the advantages and disadvantages of each type.
 - Common Misconception: Students may believe that all digital images are the same and can be scaled without issue. Clarify the differences early on.

GUIDED PRACTICE:

- Provide students with a set of images (both vector and raster) and ask them to identify which is which.
- Scaffold questioning: Start with easy identification, then ask students to explain why a particular image is vector or raster.
- Monitor student performance by walking around the classroom, providing guidance, and facilitating discussions.

INDEPENDENT PRACTICE:

- PowerPoint assignment included, can push through Google Classroom as Google Slides – has students use all sites discussed, download images, site images, determine type of image.

CLOSING:

- Show class all graphics turned in. Vote on the most creative AI Generated.

EXTENSION ACTIVITY:

- For students who finish early, challenge them to create a simple logo in a vector format using free online tools like Canva or Vectr.

HOMEWORK:

- Assign students to find one vector image and one raster image online. They should write a paragraph explaining how they identified each type and the context in which they would use them.

STANDARDS ALIGNED:

- PA Standard 3.5.11 A: Analyze and evaluate various types of media.
- PA Standard 3.5.11 B: Create and present media products.