What's The Difference Between Raster & Vector File Types?

Raster Graphics *(Bitmaps)*

Composition: Composed of a grid of **thousands of tiny pixels** (dots).
Scalability: Resolution-dependent; zooming in or enlarging makes them look **grainy/pixelated.**
Best Use: Photographs, complex shading, web images with continuous tones.
Common Formats: JPG/JPEG, PNG, GIF, TIF.
File Size: Generally larger, as they contain data for every pixel.

Vector Graphics *(Editable Shapes)*

Composition: Defined by **mathematical equations, lines, and curves**.
Scalability: Infinitely scalable **without losing quality.**
Best Use: Logos, icons, typography, and crisp illustrations.
Common Formats: EPS, SVG, PDF, AI.
File Size: Smaller, as they only store formulas, not every point.

Key Differences

Editing: Rasters allow for pixel-level, detailed editing, AKA. "destructive editing." Vectors allow for easy, independent adjustment of individual elements (like color, shape, or curve).
Compatibility: Raster images are more widely supported across applications and web browsers.
Creation: Vector images require specialized software like Adobe Illustrator or CorelDraw.

RASTER
*Notice the pixelation

VECTOR
*Notice the smooth lines

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