# 7th & 8th Grade Multimedia
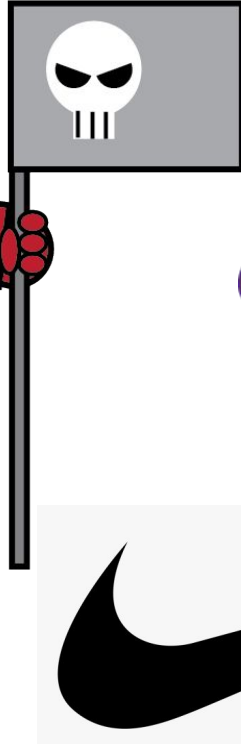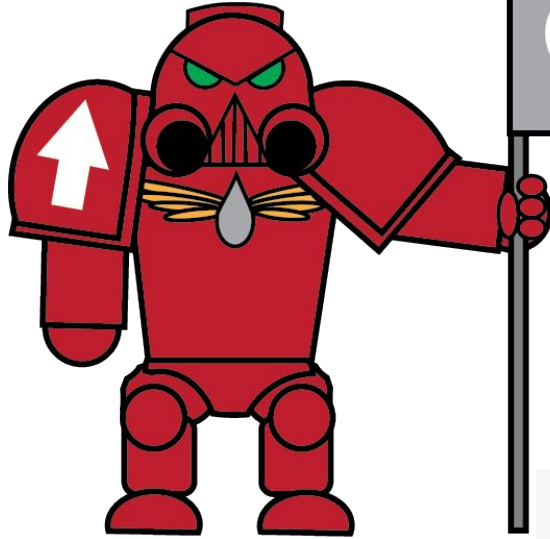# Lesson: April 6

**Learning Target:**
What is a vector graphic and the tools to create vector media

**Let's Get Started:**
Watch Video:  [Day 1 Multimedia Getting Started with Vectr](#)

What is a Vector?

# A vector is:

- A Formula for Creating Data
- Made Popular by Pierre Bezier
- Vectors are mathematical
- Vectors create graphics represented by points
- Vectors are scalable - not lose details or quality when resized.
- This makes them excellent for use in Graphics in all types of products and media we see everyday.
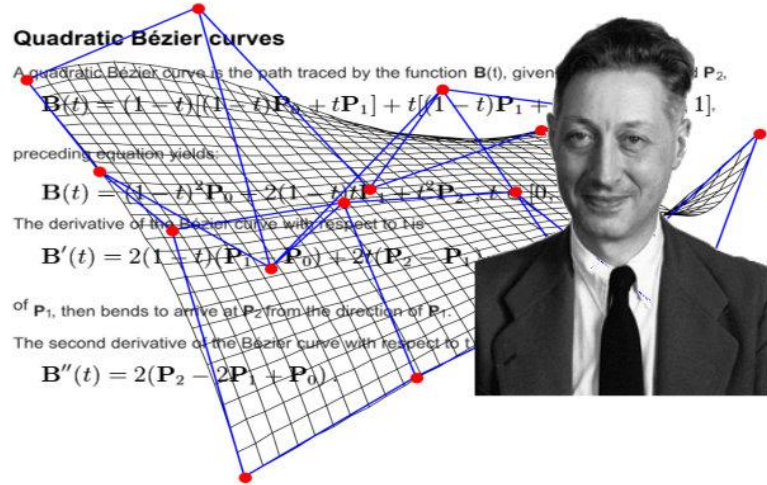


**Quadratic Bézier curves**

A quadratic Bézier curve is the path traced by the function B(t), given P_0, P_1, and P_2,

$$B(t) = (1-t)[(1-t)\mathbf{P}_0 + t\mathbf{P}_1] + t[(1-t)\mathbf{P}_1 + t\mathbf{P}_2], \quad 0 \le t \le 1.$$

preceding equation yields

$$B(t) = (1-t)^2\mathbf{P}_0 + 2(1-t)t\mathbf{P}_1 + t^2\mathbf{P}_2, \quad 0 \le t \le 1.$$

The derivative of the Bézier curve with respect to t is

$$B'(t) = 2(1-t)(\mathbf{P}_1 - \mathbf{P}_0) + 2t(\mathbf{P}_2 - \mathbf{P}_1).$$

of $\mathbf{P}_1$, then bends to arrive at P2 from the direction of $\mathbf{P}_1$.

The second derivative of the Bézier curve with respect to t

$$B''(t) = 2(\mathbf{P}_2 - 2\mathbf{P}_1 + \mathbf{P}_0).$$

An Engineer who popularized the use of Vectors in the formation of a curve to represent 3D body forms on computers for Renault Car Company

Find out more [here](here)
&
[here](here)

# Let's Get Started with Vector Graphics

Open Your Browser> Go To vectr.com
As you follow the Tutorial see if you can Identify the tools on the
Glossary & Tools Sheet

When done… go to the next slide

# Practice:

Explore the tools shown in the video.
Did you find something that I have not shown yet?
Did you create anything with your shapes?

**Note: you do not need to save your work.  See you for the next Lesson: Gradients, Paths & Images.**