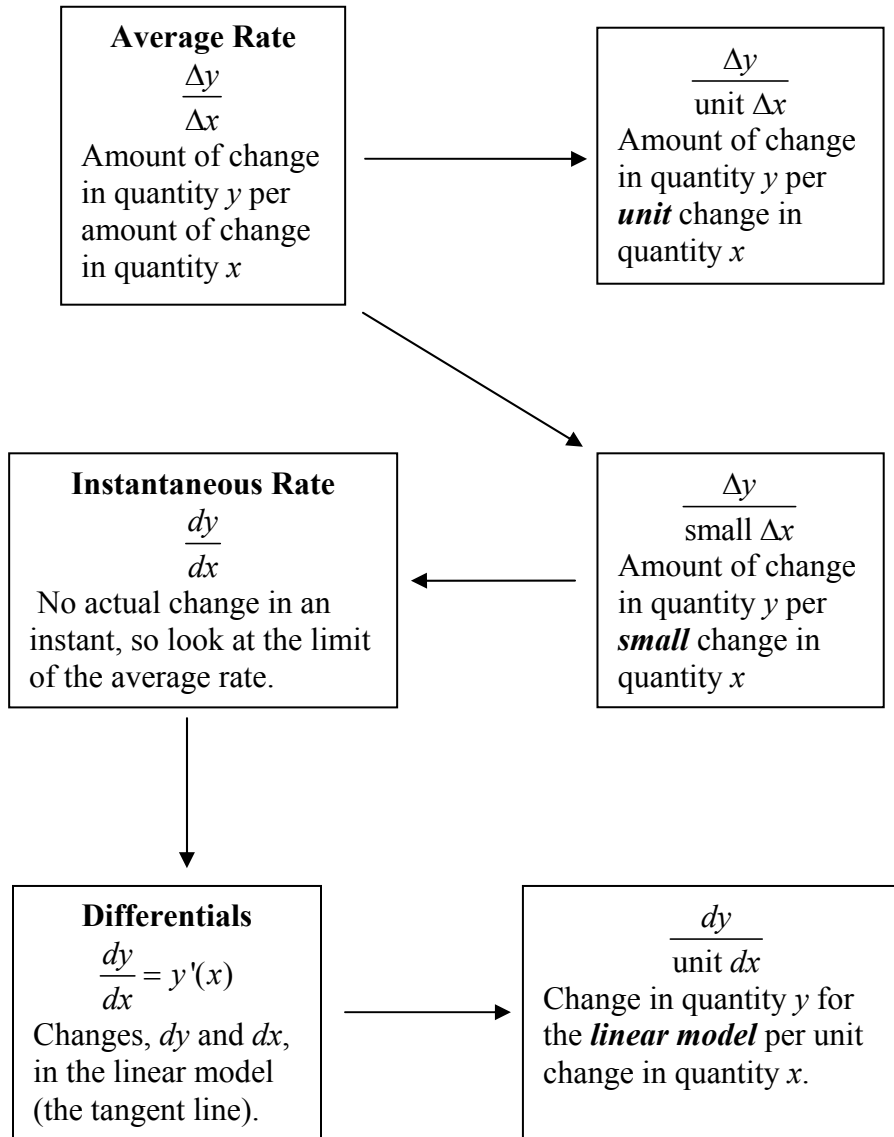


## Rate of Change Framework

### Important Special Cases



Limit Definition:

$$\lim_{\Delta x \rightarrow 0} \frac{\Delta y}{\Delta x} = \frac{dy}{dx} = y'(x) \quad \text{or} \quad \lim_{x \rightarrow x_0} \frac{y(x) - y(x_0)}{x - x_0} = \frac{dy}{dx} = y'(x)$$

Be able to work with these rates and changes algebraically, numerically, graphically, and in context. Understand the full implications of the limit definition in terms of the approximation framework.