GUIDED NOTES: LINEAR REPRESENTATIONS (MODEL NOTES)

Story

words, words, words

initial value = b

rate of change = m

Equation

$$y = mx + b$$

initial value is the y-value when $x = 0$

rate of change $= \dfrac{y_2 - y_1}{x_2 - x_1}$

$b = y$-intercept

$m = \dfrac{\text{rise}}{\text{run}}$

Table

x				
y				

y-intercept is the y-value when $x = 0$

$$\dfrac{y_2 - y_1}{x_2 - x_1} = \dfrac{\text{rise}}{\text{run}}$$

Graph
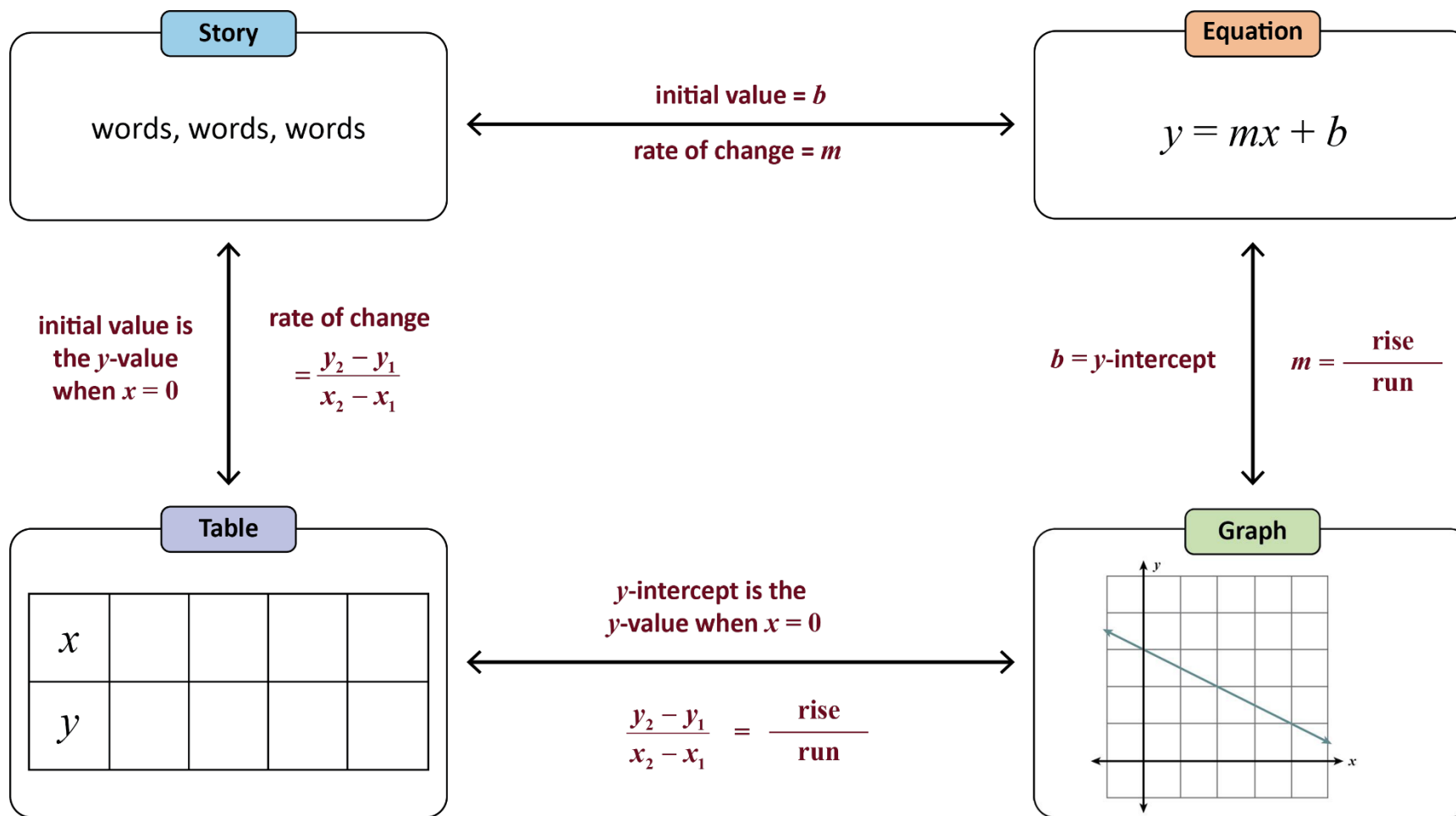
$$\text{slope} = \text{rate of change} = m = \dfrac{y_2 - y_1}{x_2 - x_1} = \dfrac{\text{rise}}{\text{run}}$$

$$y\text{-intercept} = \text{initial value} = b = y\text{-value when } x = 0$$

Example

Story

Bryna is saving her money to buy a new pair of headphones. She has $15 saved so far, and each week she plans to save another 75 cents.

Equation

$$y = 0.75x + 15$$

Table

x	0	1	2	3
y	15.00	15.75	16.50	17.25

Graph