

TAKS Objective 3
TEK A.6C
Tutorial
(Grades 9, 10, and 11)

...investigate, describe, and predict the effects of changes in “m” and “b” on the graph of $y=mx+b$.

Changing “b” means that the y-intercept is being changed.

This has no effect on the slope, which means the steepness of the line remains the same.

It means that the line is being *translated* up or down.

This can also happen when the original amount in a word problem is being changed.

Changing “ m ” means that the slope, or steepness of the line, is being changed.

This has no effect on the y -intercept, which means the graph crosses the y -axis at the same location as before.

It means that the line is either getting steeper or flatter.

This can also happen when the rate of change in a word problem is being changed.

Is the slope of a graph getting steeper or flatter?

When looking at the graph, think of the line as though it was a hill.

If the line (hill) would be easier to run up, it is getting flatter.

If the line (hill) would be harder to run up, it is getting steeper.

When answering questions that deal with slope or y-intercept changes, be sure to graph the changes so that you can visually see what is happening.