**WEEK 19 – Changing Linear Graphs**

**Grade:** Intermediate (9)

**Unit:** Linear relations

**Curriculum Expectations**  
**MPM 1D/MFM 1P:** describe the effects on a linear graph and make the corresponding changes to the linear equation when the conditions of the situation they represent are varied

**SEL:** make connections between math and everyday contexts to help them make informed judgements and decisions

**Activity  
1)** For this activity, you will be given a series of graphs that represents specific linear relations, and you will need to redraw the line based on a specific criteria that will then be changed **2)** First, you will analyze the graph as it is displayed with the original description and the changed descriptions   
**3)** You will then determine, based on the changed definition, if you need to make a change to the y-intercept of the line, or if you need to change the slope of the line itself. Jot this beside the definitions  
**4)** Having figured out the required changes, you will now resketch the line with the required changes to make it fit the new criteria.

**Check for Understanding**   
I understand how linear relations represent real life relationships  
I can make the required changes to linear relations based on changes to their formulas  
I understand the relevance of graphs in my everyday life

**Materials**   
Recording sheet (attached below), pencil, information sheet below or internet access, calculator

50

15

The amount of money in a chequing account after hours in a mall

1

0.5

Change: There is only $200 in the chequing account at start

Heat of water in 0C in a pot on the stove in minutes

Change: The water increases at 450 per minute

1

4

The rate of interest on a Guaranteed Investment Certificate (GIC) per 4 months

Change: The bank promises an initial lump sum interest of 1% with a 2% yearly interest rate

The height of a thrown ball in feet from the ground per second

Change: The ball falls at 5ft per second

200

Change: The phone costs $500 up front at the cost of $50 per month

The cost of a cell phone plan per month on a bring your own phone plan

Change: The cost of a cell phone plan with a discounted phone at $100 and $75 per month

The rate of the cost of a cell phone plan per month with a free phone

1

10

3

2

100