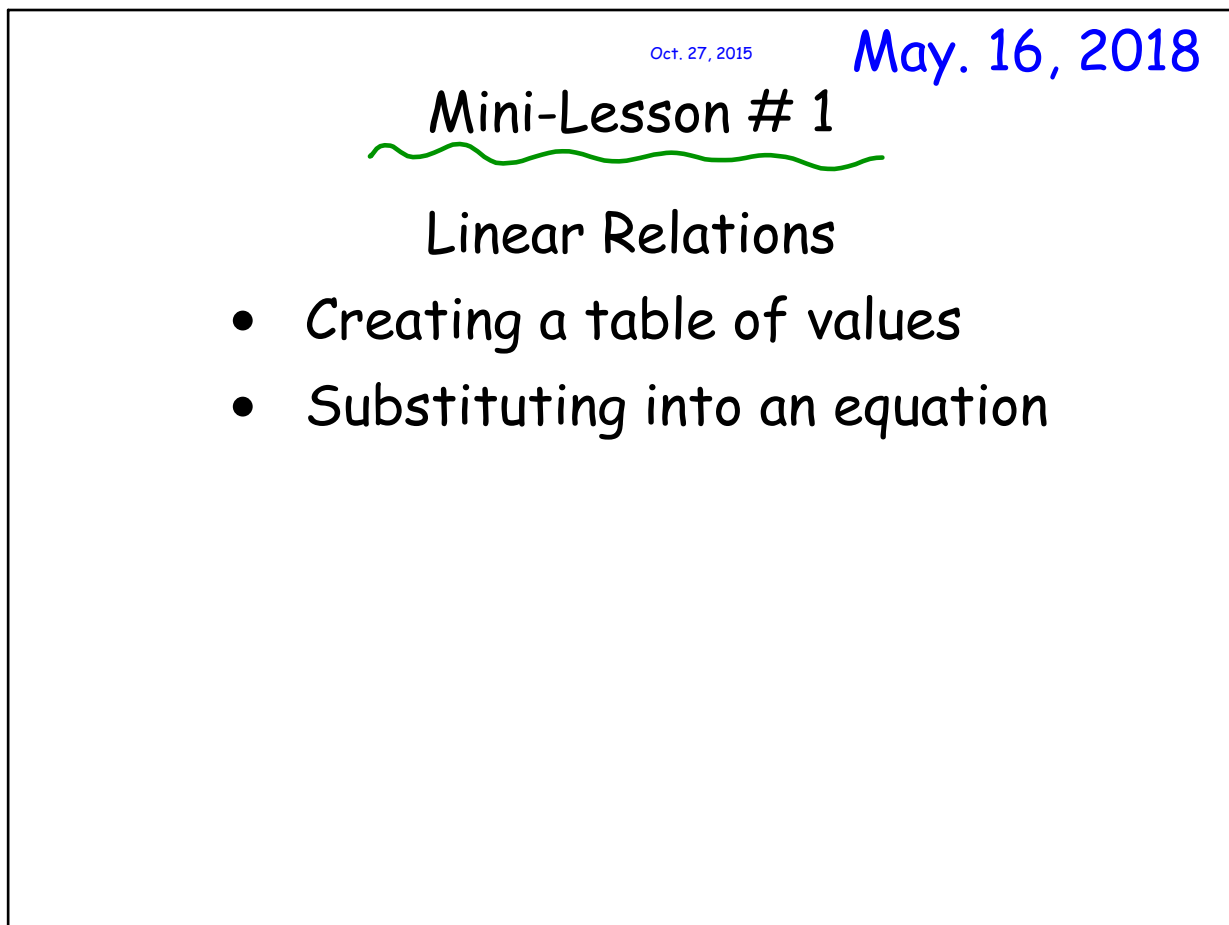
The notebook cover features a solid orange background. In the center, there is a large blue oval with a black outline. Inside the oval, the text "Unit 4" is written in black at the top, and "Linear Relations" is written in black below it. Below the oval, the text "Week # 22" is written in a green, handwritten-style font.

Dec 5-9:43 PM

The content area has a white background with a black border. At the top right, the date "May. 16, 2018" is written in blue. To its left, the date "Oct. 27, 2015" is written in a smaller blue font. Below these dates, the text "Mini-Lesson # 1" is written in black and underlined with a green wavy line. Underneath that, "Linear Relations" is written in black. A bulleted list follows, containing two items: "Creating a table of values" and "Substituting into an equation".

Oct 30-8:55 PM

Variable - a letter or symbol that represents an unknown number.

Independent Variable - a variable whose value is not determined by the value of another variable, it determines the value of dependent variable.  
ex: time, people, age

Dependent Variable - a variable whose value is determined by the independent variable

ex: money made, distance, numbers of seats

Oct 30-8:56 PM

\$10 every time you mow the lawn

"How much you make" depends  
on "the number of times  
you mow the lawn"

Dep  
ind

Oct 31-11:12 AM

Example 1: ←

Tim pays 22 cents per minute to use his phone.

What is the independent variable? *how many minutes.*

What is the dependent variable? *How he pays (total cost)*

Lets make a table of values to describe this pattern.

| Number of <u>minutes</u> | Total <u>Cost</u> |
|--------------------------|-------------------|
| 0                        | 0                 |
| 1                        | 22                |
| 2                        | 44                |
| 3                        | 66                |
| 40                       |                   |
| · 70                     |                   |

$C = 22m$   
 $C = 22(40)$   
 $C = 880 \text{ cents}$   
 $= \text{\$}8.80$

Oct 30-8:57 PM

Example 1:

Kate is selling school t-shirts. Each t-shirt cost 10\$.

Independent Variable: ←

Dependent Variable: ←

Table of Values:

*Ind.  $C = 10s$*

*dep. Total Cost (c)*

| <i>Ind.</i><br># of<br>T-shirts<br>(s) | <i>dep.</i><br>Total<br>Cost (c) |
|--|----------------------------------|
| 0                                      | $C = 10(0) = 0$                  |
| 1                                      | $10(1) = 10$                     |
| 2                                      | 20                               |
| 3                                      | 30                               |
| 4                                      | 40                               |

$C = 10s$   
 $C =$

*total Cost*  
*# of T-shirts*

Oct 30-8:58 PM

Now lets use an equation:

if  $x = 5$  find:

a)  $x + 3$

$$(5) + 3 = 8$$

b)  $4(x)$

$$4(5) = 20$$

c)  $2(x) - 2$

$$2(5) - 2 = 8$$

Oct 30-9:00 PM

Use an equation to make a table of values:

$$y = 3 + x$$

Use an equation to make a table of values:

X is always the independent variable.

Y is always the dependent variable.

Table of values

| (IV)<br>X | (DV)<br>Y = 3 + x |
|-----------|-------------------|
| -2        | $3 + (-2) = 1$    |
| -1        | $3 + (-1) = 2$    |
| 0         | $3 + (0) = 3$     |
| 1         | $3 + (1) = 4$     |
| 2         | $3 + (2) = 5$     |

Oct 30-9:01 PM

Ex 2:  
 $y = 2x + 1$   
 ↑  
 dependent variable  
 ↘ independent variable

Table of values

| (Iv)<br>X | (Dv)<br>Y = 2x + 1 |
|-----------|--------------------|
| -2        | $2(-2) + 1 = -3$   |
| -1        | $2(-1) + 1 = -1$   |
| 0         | $2(0) + 1 = 1$     |
| 1         | $2(1) + 1 = 3$     |
| 2         | $2(4) + 1 = 5$     |

Oct 30-9:02 PM

Ex 2:  
 $y = -2x - 7$

table of values

| x  | y                         |
|----|---------------------------|
| -2 | $-2(-2) - 7 = 4 - 7 = -3$ |
| -1 | $-2(-1) - 7 = 2 - 7 = -5$ |
| 0  | $-2(0) - 7 = 0 - 7 = -7$  |
| 1  | $-2(1) - 7 = -2 - 7 = -9$ |
| 2  |                           |

↙  
↘  
↘  
↘  
↘

Oct 31-11:44 AM

End of mini lesson #1 (Day 2)

Oct 31-10:29 AM