

### Integers Unit Study Guide

<b>Objective</b>	<b>Mastered It(check mark)</b>	<b>Need More Practice (check mark)</b>
Differentiate between an expression and an equation. (Gr 7 Review)		
Define what a variable is and identify them in an expression and an equation. (Gr 7 Review)		
Translate an expression and an equation into a word sentence.		
Translate a word sentence into an expression or an equation.		
Substitute values into an expression and use BEDMAS to solve. (Gr 7 Review)		
Use substitution to solve for missing numbers in a Table of Values.		
Graph a table of values. (Gr 7 Review)		
Turn a Graph into a Table of Values.		
Convert a Table of Values into an equation that has variables.		
Turn a linear graph into an equation.		
<b>Create a pattern, record the data using a Table of Values. Use the information to create an equation that can determine future setups with the pattern.</b>		
<b>Solve 1 and 2 step problems using Algebra Tiles.</b>		
<b>Solve 1 and 2 Step Problems Without Algebra Tiles.</b>		

# Projects

## Complete the following project

### Part A: Graphs/Equations/Table of Values (20%)

- **Create a Minecraft world where patterns are created. Then you must create an area where you chart the data using Table of Values, create a graph out of blocks that you created out of a block grid system as well as an equation that contains an  $x$  and a  $y$  variable. Then you must use substitution to predict how many items would exist in 1003 diagram (or whatever number you want). Record your virtual world using a free desktop recorder. CamStudio is a great free recorder that you can download off google. There are others as well. Post the video on YouTube.**
- **Do the exact same project above without using Minecraft. Instead create a pattern out of things in your area. It could be food, toy blocks, tooth picks, a drawing you made or anything else that can be used to create a pattern. Repeat everything else after that. Record your Video presentation and post it on YouTube. If privacy is a concern to you, you may mark the video as private so only you and I are able to watch it.**

### Part B: Algebra Tiles (10%)

- **Solve 2 different 1 step equation and 2 different 2 step equations using Algebra Tiles. Record your presentation and post it on YouTube.**

## **Grading For This Unit**

### **4 quizzes (10% each)**

- **Translating Equations into Sentences**
- **Relating Graphs, Equations and the Table of Values.**
- **Using Substitution to Solve for missing information.**
- **Solving a 1 and 2 step equation algebraically.**

### **2 Projects (30%)**

### **Unit Test (30%)**

**/28 marks**

**Math - Problem Solving : Math Project Name Goes**

Here: \_\_\_\_\_

Teacher Name: **Mr. Melhem**

Student Name: \_\_\_\_\_

CATEGORY	4	3	2	1
<b>Mathematical Concepts</b> <b>x 2</b>	Explanation shows complete understanding of the mathematical concepts used to solve the problem(s).	Explanation shows substantial understanding of the mathematical concepts used to solve the problem(s).	Explanation shows some understanding of the mathematical concepts needed to solve the problem(s).	Explanation shows very limited understanding of the underlying concepts needed to solve the problem(s) OR is not written.
<b>Mathematical Reasoning</b> <b>x 1</b>	Uses complex and refined mathematical reasoning.	Uses effective mathematical reasoning.	Some evidence of mathematical reasoning.	Little evidence of mathematical reasoning.
<b>Mathematical Errors</b> <b>x 1</b>	90-100% of the steps and solutions have no mathematical errors.	Almost all (85-89%) of the steps and solutions have no mathematical errors.	Most (75-84%) of the steps and solutions have no mathematical errors.	More than 75% of the steps and solutions have mathematical errors.
<b>Explanation</b> <b>x 2</b>	Explanation is detailed and clear.	Explanation is clear.	Explanation is a little difficult to understand, but includes critical components.	Explanation is difficult to understand and is missing several components OR was not included.
<b>Mathematical Terminology and Notation</b> <b>x 1</b>	Correct terminology and notation are always used, making it easy to understand what was done.	Correct terminology and notation are usually used, making it fairly easy to understand what was done.	Correct terminology and notation are used, but it is sometimes not easy to understand what was done.	There is little use, or a lot of inappropriate use, of terminology and notation.

**/28 marks**

**Math - Problem Solving : Math Project Name Goes**

Here: \_\_\_\_\_

Teacher Name: **Mr. Melhem**

Student Name: \_\_\_\_\_

CATEGORY	4	3	2	1
<b>Mathematical Concepts</b> <b>x 2</b>	Explanation shows complete understanding of the mathematical concepts used to solve the problem(s).	Explanation shows substantial understanding of the mathematical concepts used to solve the problem(s).	Explanation shows some understanding of the mathematical concepts needed to solve the problem(s).	Explanation shows very limited understanding of the underlying concepts needed to solve the problem(s) OR is not written.
<b>Mathematical Reasoning</b> <b>x 1</b>	Uses complex and refined mathematical reasoning.	Uses effective mathematical reasoning.	Some evidence of mathematical reasoning.	Little evidence of mathematical reasoning.
<b>Mathematical Errors</b> <b>x 1</b>	90-100% of the steps and solutions have no mathematical errors.	Almost all (85-89%) of the steps and solutions have no mathematical errors.	Most (75-84%) of the steps and solutions have no mathematical errors.	More than 75% of the steps and solutions have mathematical errors.
<b>Explanation</b> <b>x 2</b>	Explanation is detailed and clear.	Explanation is clear.	Explanation is a little difficult to understand, but includes critical components.	Explanation is difficult to understand and is missing several components OR was not included.
<b>Mathematical Terminology and Notation</b> <b>x 1</b>	Correct terminology and notation are always used, making it easy to understand what was done.	Correct terminology and notation are usually used, making it fairly easy to understand what was done.	Correct terminology and notation are used, but it is sometimes not easy to understand what was done.	There is little use, or a lot of inappropriate use, of terminology and notation.