

Teacher Resource Page

Grade 7 Mathematics Learning Contract: Term 1- “Intro to Algebra” Unit

Based On: *Glencoe Mathematics: Applications and Concepts, Course 2*

Essential Curriculum Indicators

- MA.700.10.30** Evaluate an algebraic expression using one unknown and no more than 2 operations (+, -, x, ÷ no remaining) using whole numbers (0-200), fractions with denominators as factors of 100, or decimals with no more than 3 places (0-100)* **Glencoe Sections: 1-4, 4-2, 4-3**
- MA.700.10.35** Evaluate numeric expressions using order of operations with no more than 4 operations (+, -, x, ÷no remainders) with or without grouping symbols (up to 2 sets of brackets, parentheses or division bar) with whole numbers (0 to 200), fractions with denominators as factors of 100 or decimals with no more than 3 places (0-100)* **Glencoe Section: 1-3**
- MA.700.60.50** Use the laws of exponents to simplify expressions by using the rules of exponents (power times power or power divided by power) with the same whole number base (0-100) and exponents (0-10)* **Resource**
- MA.700.60.55** Identify and use the properties of addition and multiplication to simplify expressions using the commutative property of addition or multiplication, associative property of addition or multiplication, or the identity property for one or zero with whole numbers (0-100)* **Glencoe Section: 1-6**

Teacher Directions for Implementing Learning Contract

- 1) Pre-assess students on indicators for the “Intro to Algebra” Unit
- 2) Identify and document students who have demonstrated “mastery” on each indicator/ section. Recommendation: Mastery = 85%.
- 3) Copy and prepare a contract for each compacted student. On learning activities chart, indicate section(s) where the student has demonstrated mastery. Reminder: Compacted students will be excused from large group instruction for these sections. During this time, students will complete the alternative learning activities as indicated in the chart.
- 4) Based on the areas of student mastery, prepare copies of enrichment materials from the *Glencoe* teacher resource kits.
- 5) Since compacted students have demonstrated mastery on specific indicators, they should be excused from the class work and homework related to teacher-directed instruction on those indicators. Instead, grades for compacted students should be based on the alternative learning activities.

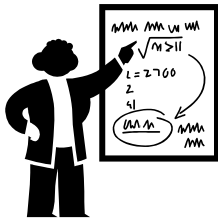
Management Tips

- Store worksheets and/or stapled packets in labeled folders for each section
- Copy on cardstock and/or laminate the worksheets that may be reused.

Students who have demonstrated mastery on:	Will need access to copies of the following *Glencoe Mathematics Resources:
_____ Order of Operations (Section 1-3)	_____ Practice: Word Problems (CRM Chp 1, pg 13) _____ Enrichment Worksheet (CRM , Chp 1, pg 15) _____ Calculator Activity (A:CSM , pg 14)
_____ Variables and Expressions (Section 1-4)	_____ Practice: Word Problems (CRM Chp 1, pg 18) _____ Enrichment Worksheet (CRM Chp 1, pg 20)
_____ Algebra: Properties (Section 1-6)	_____ Practice: Word Problems (CRM Chp 1, pg 28) _____ Enrichment Worksheet (CRM Chp 1, pg 30)
_____ Solving Addition and Subtraction Equations (Section 4-2)	_____ Practice: Word Problems (CRM Chp 4, pg 192) _____ Enrichment Worksheet (CRM Chp 4, pg 194) _____ Calculator Activity (A:CSM , pg 25)
_____ Solving Multiplication Equations (Section 4-3)	_____ Practice: Word Problems (CRM Chp 4, pg 197) _____ Enrichment Worksheet (CRM Chp 4, pg 199)

Codes for Various Glencoe Mathematics Resources

*Glencoe Mathematics Resource	Code
<i>Chapter Resource Masters</i>	CRM
<i>Applications: Calculator and Spreadsheet Masters</i>	A:CSM
<i>Applications: Real-Life Career Masters</i>	A:RLCM
<i>Reading and Writing: WebQuests, Projects, and Interdisciplinary Investigations</i>	RW:WPII



Student's Name: _____

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Due Dates:

- Teacher-required alternative activities will be due at the end of each class period.
- Student-selected enrichment investigation will be due at the end of the unit.

Indicators:

MA.700.10.30 Evaluate an algebraic expression using one unknown and no more than 2 operations using whole numbers, fractions with denominators as factors of 100, or decimals with no more than 3 places*

MA.700.10.35 Evaluate numeric expressions using order of operations with no more than 4 operations with or without grouping symbols with whole numbers, fractions with denominators as factors of 100 or decimals with no more than 3 places*

MA.700.60.50 Use the laws of exponents to simplify expressions by using the rules of exponents (power times power or power divided by power) with the same whole number base and exponents*

MA.700.60.55 Identify and use the properties of addition and multiplication to simplify expressions using the commutative property of addition or multiplication, associative property of addition or multiplication, or the identity property for one or zero with whole numbers*

Expectations:

➤ Student Work:

- Participate in whole group instruction when indicated by pre-assessment.
- Complete alternative learning activities when previous mastery has been demonstrated.
- Show work (or setup of work) for each problem.
- Use a calculator only when indicated in the directions.
- Answer all written responses in complete sentences and support with examples.
- Seek assistance from teacher, as needed, when direct instruction is not being provided.

➤ Student Behavior:

- Remain on task at all times.
- Use 6" voices at all times.



Learning Activities:

- See the chart on the back of this contract for the *required* learning activities based on the section(s) where you have demonstrated "mastery."
- Select one of the alternative activities from the approved list below the chart **after** you complete the *required* learning activities.

Assessment:

For this unit, your successful completion of the indicated alternative learning activities will replace the grades for class work and/or homework.

I, _____, have read and understand the *Contract Guidelines* for the **Term 1, "Intro to Algebra" Unit Learning Contract**. I agree to the...

- expectations of my work and behavior
- requirements of the alternative learning activities and due dates

I accept the responsibilities of working on the enrichment activities as outlined in the contract.

Student Signature: _____ Date: _____

Parent Signature: _____ Teacher Signature: _____

Return Signed Contract By: _____

Learning Activities

➤ Required by the Teacher:

Since you have demonstrated mastery on:	As an alternative activity instead of participating in whole group instruction, you should complete the following by the end of the period today:
_____ Order of Operations (Section 1-3)	<i>Choose any two. "Check off" the activities you complete.</i> _____ Sect. 1-3 Practice: Word Problems _____ Sect. 1-3 Enrichment Worksheet _____ Sect. 1-3 Calculator Activity
_____ Variables and Expressions (Section 1-4)	<i>Complete both.</i> _____ Sect. 1-4 Practice: Word Problems _____ Sect. 1-4 Enrichment Worksheet
_____ Algebra: Properties (Section 1-6)	<i>Complete both.</i> _____ Sect. 1-6 Practice: Word Problems _____ Sect. 1-6 Enrichment Worksheet
_____ Solving Addition and Subtraction Equations (Section 4-2)	<i>Choose any two. "Check off" the activities you complete.</i> _____ Sect. 4-2 Practice: Word Problems _____ Sect. 4-2 Enrichment Worksheet _____ Sect. 4-2 Calculator Activity
_____ Solving Multiplication Equations (Section 4-3)	<i>Complete both.</i> _____ Sect. 4-3 Practice: Word Problems _____ Sect. 4-3 Enrichment Worksheet

➤ Selected by the Student:

When you have completed the required alternative activities, select one of the enrichment investigations listed below. Remember, you should complete your enrichment investigation by the end of the unit. After you read through the requirements of the two projects, "check off" to indicate your choice.

_____ Chapter Projects: "Latitude vs. Temperature"

_____ Chapter Projects: "Fun Ways to be Fit"

From:

<http://gtdifferentiation.sites.fcps.org/Grade7>