Understanding by Design

Name: *Jordan Jucutan*   **Grade Level:** *9th Grade*

School: *Marianas High School*   **Week:** *1-6*

Stage 1: Identify Desired Results

ESTABLISHED GOALS

Standard(s) and Benchmark(s): Math
 	
 Expressions and Equations 8.EE
 1.) **Analyze and solve linear equations and pair of simultaneous linear equations.**
    a.) Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms, until an equivalent equation of the form x=a, a=a, or a = b results (where a and b are different numbers).
    b.) Solve linear equations with rational number coefficients, including equations whose solution requires expanding expressions using the distributive property and collecting like terms.
 	
 Technology Standards and Benchmarks:
 	
 Standard 5: Students demonstrate the use of technology in problem solving and decision making skills.
 • 5.6–8.2 Use appropriate tools and technology resources to accomplish a variety of tasks and solve problems.
 	
 Standard 6: Students demonstrate knowledge of social, ethical, and human issues.
 • 6.6–8.1 Discuss the importance of following legal and ethical guidelines when using information and technology, and the consequences of misuse
 	
 Physical Education Standards and Benchmarks:
 	
 Standard 5: Students demonstrate responsible personal and social behavior in physically active settings.
 • 7–8.5.1 Work with others to achieve group goals in competitive and cooperative activities.
 • 7–8.5.3 Demonstrate fair play (e.g., responsible and safe play, respect for individuals, property, and equipment)
 • 7–8.6.1 Demonstrate respect for difference (e.g., gender; ethnicity; disability; differences among people in physical activities from a variety of national, cultural, and ethnic origins)

Content Objective(s):   **I will demonstrate understanding by:**   • **Explaining linear equations in one variable with one solution, infinitely many solutions, or no solutions.**   • **Explaining linear equations with rational number coefficients.**   • **Recognize expanding expressions using the distributive property and collecting like terms.**   • **Demonstrating examples in the board by interactions.**
Language Objective(s)   • **Students will solve equations and justify their answers by being familiar with the basic operations.**   • **I will discuss how to solve equations so students can justify their answers.**

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• **I will elaborate showing examples on the board.**

WHAT UNDERSTANDINGS ARE DESIRED?

Big Idea(s)-Students will understand that…

- Linear equations in one variable with one solution, infinitely many solutions, or no solutions.
- Linear equations with rational number coefficients.

What essential questions will be considered?

- If a box containing a book weighs 3 pounds and the box alone weighs 1 pound, how much does the book weight?
- Did you ever have to divide a large group of items, like marbles, among several people?
- What method did you use to divide?
- If the cost for using the bus is always $60, what happens to the cost per person as the number of students on the trip increases?

WHAT KEY KNOWLEDGE AND SKILLS WILL STUDENTS ACQUIRE AS A RESULT OF THIS UNIT?

Students will know…	*Students will be able to…*
- The distributive property - Simplifying variable expressions - Variables and equations - Solving equations using addition or subtraction - Solving equation using multiplication or division. - Solving two step equations - Solving equations having like terms and parentheses - Solving equations with variables on both sides. - Solving inequalities using addition or subtraction - Solving inequalities using multiplication or division.	Students will be able to... - Understand distributive, expressions, and equations. - Create distributive, expressions, and equations. - Participate with interactive games (ex. Jeopardy)

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Stage 2: Determine Acceptable Evidence

WHAT EVIDENCE WILL SHOW THAT STUDENTS UNDERSTAND?
Performance Task(s) (summary in GRASPS form-See Reference): • I will explain and elaborate the distributive properties, expression, and equation. • I will create scenarios that students will do during their role play. • I will demonstrate how to create an example of distributive properties, expression, and equations.
Student Self-Assessment and Reflection: • **Students will do group discussions.** • **Students will be able to create questions and solve the problems which will act as a review for students.**
Other Evidence(s), quizzes, tests, prompts, observations, dialogues, work sample. • Reflections • Quizzes • Careful observations • Work samples
Student Self-Assessment and Reflection: • Student will write a reflection on what they learn. With an exit card.

Note: See Facet of Understanding Reference

Stage 3: Plan Learning Experiences and Instruction

Activity Bank (See Reference on WHERETO Elements for guided questions to plan activities): List all activities for the week(s)- class work, projects, homework, learning tasks, assessments, etc.

Outline the learning plan (teaching & learning activities). This plan should be aligned clearly with the desired results (i.e., geared towards having students meet the objectives, answer the essential questions, and be able to complete the assessment activities). There are many formats that you can use for this part of the lesson plan (e.g. Hunter Elements of Lesson Design), but the plan should include all of the following components:
 	
Week 1
 	
  1.) Introduction of Course
  2.) The Distributive Property
  3.) Simplifying Variable Expressions
 	
Week 2
 	
  1.) Variables and Equations
  2.) Solving equations using addition and subtraction
 	
Week 3
 	
  1.) Solving equations using multiplication or division
  2.) Review and Test
 	
Week 4

1.) Solving two step equations
2.) Solving equations having like terms and parentheses

Week 5

1.) Solving equations with variables on both sides.
2.) Solving inequalities using addition or subtraction

Week 6

1.) Solving inequalities using multiplication or division
2.) Solving multi step inequalities

RESPONSE TO INTERVENTION (RtI)

Tier I Activities:
- List of activities which are at the common core or standards and benchmark levels.
- Learner data progress is collected at three periods during the year.

Tier II Activities:
- List of activities which are at the strategic level.
- Learners do not respond to core curriculum – "at-risk" for failure
- Supplemental instruction provided.
- Learner data progress is frequent during the year (example: every 2 weeks).

Tier III Activities:
- List of activities which are at the strategic level.
- Learners do not respond to core curriculum – "at-risk" for failure
- Supplemental instruction provided.
- Learner data progress is frequent during the year (example: every 2 weeks).

SWD AND ELL NEEDS- STEP WISE PROCESS	
Student(s) w/ Disabilities	*ELL Student(s)*
What barriers are keeping the students from accessing instruction, participating in activities, demonstrating learning, etc?	
Student 1:	*Student 1:*
What supports will reduce identified barriers?	
Student 1:	*Student 1:*
How will the support assist the students in accessing instruction, participating in activities, demonstrating learning, etc?	

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Student 1:	Student 1:

4. TARGET SPECIFIC IEP OBJECTIVES AND FOUNDATIONAL SKILLS THAT CAN BE ADDRESSED DURING THE UNIT (SPED). List key words from IEP objectives and/or foundational skills and indicate which IEP objectives and foundational skills can be addressed within each instructional activity.

IEP objectives & foundational skills (write key words)	Found in Individual Education Plan
Unit instructional activities (write the number of the activity or key words)	