

TITLE OF LESSON

Algebra 1 Unit 1 Lesson 18 – Equations with forms: $X + Y$, $2X + 2Y$, $2 * (X + Y)$
You Do Speak Math: Creation of the Individual

TIME ESTIMATE FOR THIS LESSON

One class period

ALIGNMENT WITH STANDARDS

California – Algebra 1:

6.0 Students graph a linear equation and compute the x - and y -intercepts (e.g., graph $2x + 6y = 4$). They are also able to sketch the region defined by linear inequality (e.g., they sketch the region defined by $2x + 6y < 4$).

MATERIALS

Lesson 18 Homework – Student Page

Lesson 18 Homework Key – Teacher Page

Lesson 17 Homework Key – Teacher Page

LESSON OBJECTIVES

- To introduce equations with forms: $X + Y$, $2X + 2Y$, $2 * (X + Y)$
 - To relate these forms to examples in the world
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EXPLANATION OF LESSON

We will introduce various forms of equations and seek out examples from the world that mimic these forms.

FOCUS AND MOTIVATE STUDENTS

- 1) Homework Check – Stamp/initial complete homework assignments. Pass back graded assignments and have students place in folders.
 - 2) [Agenda](#) – Have students copy the agenda you posted.
 - 3) Review – Go over **Lesson 17 Homework** pretty thoroughly, making sure students understand (see **Lesson 17 Homework Key** – Teacher Page). Collect the homework.
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ACTIVITIES – INDIVIDUAL AND GROUP

1. Homework Variables – Have the students describe their variables and write them on the board.
2. Assign Groups – Create groups or pairings of students based on similar variables. If two students have a musical variable or two students have a spatial variable, put them in the same group.
3. Discuss – Discuss the addition of two different variables. Use the example of a drum plus a guitar or any two different types of instruments.
4. Group Variables – Have each group form an equation based on the variables in their group. This may not work exactly as they have defined their own variables so you may need to assist by suggesting some variation.
5. [Brainstorm](#) – Brainstorm some additional examples. Try to elicit an example in movement that implies that each variable is a distance in a unique direction. Use this for the groundwork to graphing and geometry.

6. Notation – Expand the discussion to include 2 flutes and two drums or 2 movements in the south and 2 movements in an easterly direction. Ask how we might represent these situations. Have the students suggest notation. Assist in modifying the notation to be consistent with standard algebraic notation.
 7. Homework Review – Hand out **Homework Lesson 18**, due tomorrow. Review the instructions. Explain the rest of the homework and field all questions. Challenge students to come up with examples that do not have the form $X + Y$ but look like $X + 2Y$ or any of the forms in tomorrow's lesson.
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HOMEWORK

- 1) Find examples of the addition of dissimilar variables in your life. Come up with examples that do not have the form $X + Y$ but look like $X + 2Y$.
 - 2) Complete **Homework Lesson 18**, due tomorrow.
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GROUP ROLES

Students will be working groups based on the types of variables they choose.

DOCUMENTATION FOR PORTFOLIO

None