

EQUATE-A-GRAM

OBJECTIVES

- Recognize composite numbers and fractions*
- Practice building numerical equations using four operations (+, -, x, ÷)
- Mastering operations and early algebra skills*
- Working with fractions and whole numbers*

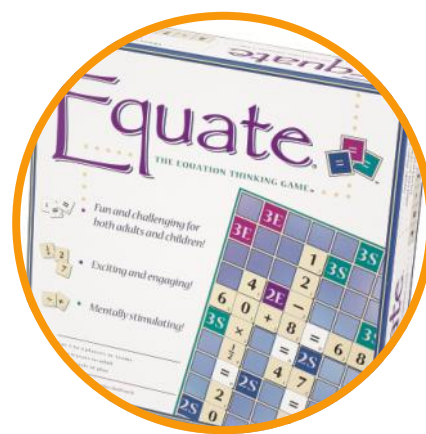
*Indicates STEM and/or Common Core objectives

GRADES

3-7

ESTIMATED TIME

45-60 minutes
Adapt as needed



MATERIALS NEEDED

- Equate Tiles
- Paper/pens if you want students to write down examples and scoring

SETTING THE STAGE

Define the following terms:

- Equation/Numerical Equation: A mathematical sentence that includes an equal symbol along with numbers and operations.
- Numerical Expression: A mathematical sentence that includes numbers and/or operations. Numerical expressions do not contain an equal symbol.
- Composite Number: A number that is divisible by numbers other than itself and 1.
 - Fraction: A part of a whole.
- True: When a numerical equation is correct on both sides of the equal symbol.
(Give an example of a true equation: $5+4 = 9$)
- False: When a numerical equation is incorrect on one side of the equal symbol, both sides are not actually equal. (Give an example of a false equation: $4+5 = 10$)

EQUATE-A-GRAM

PROCEDURE

Organize students in groups of 2-4.

Each group of students receives a set of Equate tiles.

Set a timer for 25 minutes (or other length of time as you see fit).

Students work together in their groups to arrange tiles in a “crossword” type puzzle using equations. All equations must be true and run vertical or horizontal. Teams may only create one puzzles using their tiles.

Students may have numerical expresses in the puzzle but any tiles that are touching must represent a vertical or horizontal expression or equations.

When time is up, groups leave their puzzles and all groups shift one group space left. Groups then check the puzzles to ensure accuracy. If a group finds something inaccurate, the group that created the inaccurate puzzle, loses 8 points per incorrect equation.

Teams earn 1 point for each tile used, excluding equal symbols.

The team with the most points wins the challenge.

FOLLOW UP

- What was your strategy to build your puzzle?
- How many numerical expressions do you have?
- How many numerical equations do you have?
 - How many fractions are in your puzzle?
- How many composite numbers are in your puzzle?