

## Grade 5

# Number of the Day

### Purpose:

- To help develop students' flexibility with numbers and operations
- To develop understanding of number composition and part-whole relationships
- To explore equivalent arithmetic expressions

### Description:

For "Number of the Day", students write equations that equal the number of days they have been in school. Students generate ways of combining numbers and operations to make that number.

### Materials:

- Chart paper
- Individual white boards or journals

Time: 15 minutes maximum

### Directions:

1. Post the chart paper.
2. Write the *Number of the Day* at the top of the chart paper.
3. Ask students to tell you everything they know about the number (e.g., 24; the number of sodas in four six packs; the number of eggs in two dozen; the number of crayons in a box of crayons; the number of classes at school; two tens and four ones; one cent less than a quarter).
4. Ask students to think of several models and equations that would represent the *Number of the Day*.
5. Ask students to represent the *Number of the Day* in at least four or more different ways.
6. Have students document these in their daily math journals.
7. Observe the students as they work and purposefully choose students to share whose representations will move the class towards further development of number and operational sense (e.g.,  $104 = 10 \times 10 + 2 \times 2$ ).

8. Strategically call on those students who represented the number in meaningful ways that you would like to highlight.
9. Write those representations on the chart paper as students dictate.
10. Finish by leading a class conversation around those representations that best connect to concepts recently learned. Be purposeful about the mathematics. Help students make mathematical connections whenever possible.

Example: The Number of the Day is “12”

$$6 + 6 = 12$$

$$53 + (-41) = 12$$

$$1/2 \times 24 = 12$$

$$12 = 22 - 10$$

$$2^2 \times 3 = 12$$

$$144 \div 12 = 12$$

$$3 \times 4 = 12$$

$$36 \div 3 = 12$$

$$4.35 + 7.65 = 12$$

$$5 + 5 + 2 = 12$$

$$100 - 80 - 8 = 12$$

$$2 \times 2 \times 3 = 12$$

$$12 = 10 + 10 - 8$$

$$6 \div 1/2 = 12$$

$$-18 + 30 = 12$$

### Constraints

When students are familiar with the structure of *Number of the Day*, connect it to the number work they are doing in particular units. Add constraints to put on the sentences to practice and reinforce different mathematical concepts. Ask students to include:

- Multiplication and division
- Both addition and subtraction
- Three numbers
- Combinations of 10
- Doubles
- Doubles plus one
- Multiples of 5 and 10
- Zero property
- Emphasize using tens
- Emphasize using hundreds
- Order Property
- Commutative Property
- Associative Property
- Distributive Property
- Write equations with answer and equal sign on the left  
( $10 = 3 + 3 + 4$ )
- Show the number as an arrays
- Include prime factorization of a number
- Include exponents in equations
- Include larger numbers up to millions in equations
- Ask students to construct number lines containing the number
- Include decimals in equations
- Include fractions, decimals, or percents in equations
- Include both positive and negative integers