

# MATH SKETCH NOTES

## MATH SKETCH NOTES

These 5th-grade math sketch notes (AKA doodle pages) are a powerful learning and teaching tool. They cover essential math concepts and procedures for students in a visually appealing way. You can use this resource to supplement any math curriculum, and they are perfect for previewing/pre-teaching or reviewing/reinforcing.

These sketch pages are like mini anchor charts that your students actively create and can be referred to in the future.

## WHAT'S INCLUDED:

- Blank student note page  
(two sizes: 8.5 × 11 & composition notebook size for INBs)
- Detailed answer key
- Step-by-step PowerPoint

## GUIDED NOTE-TAKING

Guiding your students through the note-taking process is so easy and requires almost zero preparation!

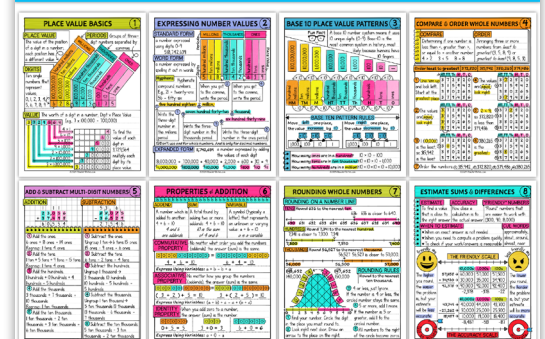
1. PowerPoint: Each sketch note page comes with a step-by-step PowerPoint that you can use to guide your students as they complete their notes.
2. Document Camera: Use a document camera to project a blank copy of the notes. Use the answer key provided to complete the note page in front of your students.

## WHY SKETCH?

Sketch notes present your students with a meaningful and engaging activity they will love. Doodle note-taking activates verbal and visual modalities to capture concepts. The whole brain is absorbed in hearing, synthesizing, and retaining ideas. This high level of engagement helps students retain the content and leaves little room for distraction.

## GET THE BUNDLE!!!

### FIFTH GRADE MATH GUIDED SKETCH NOTES



GROWING BUNDLE

# MATH SKETCH NOTES

## EXPONENTS & POWERS OF 10

9

Set 5

Indicates the **EXPONENT** number of times a number is multiplied by itself

Exponents show repeated multiplication.  $4 \times 4 \times 4 = 64$

The number that will be multiplied by itself **BASE**

**HOW TO READ**

four (base) to the power of three (exponent)

Exponents are powerful! They increase values rapidly.

$$\begin{aligned} 3^2 &= 3 \times 3 = 9 \\ 3^3 &= 3 \times 3 \times 3 = 27 \\ 3^4 &= 3 \times 3 \times 3 \times 3 = 81 \\ 3^5 &= 3 \times 3 \times 3 \times 3 \times 3 = 243 \\ 3^6 &= 3 \times 3 \times 3 \times 3 \times 3 \times 3 = 729 \end{aligned}$$

**EXPONENTS**

Standard Form

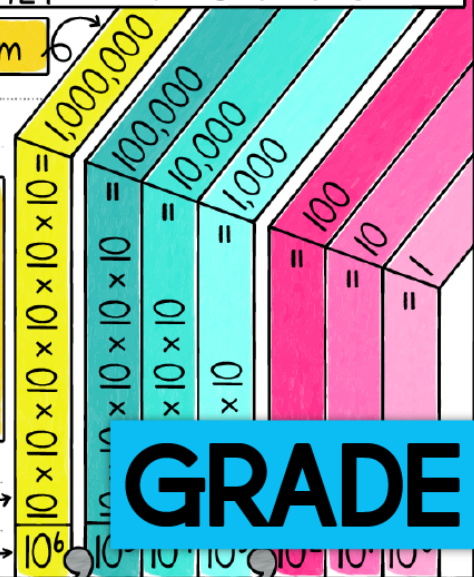
POWERS OF

**10**

Expanded Form

Powers of 10 are the products of repeatedly multiplying the factor 10.

Exponential Form



**GRADE 5**

## EXPONENTS & POWERS OF 10

9  
Set 5

Indicates the **EXPONENT**  
number of times a number  
is multiplied by itself

The number that  
will be multiplied  
by itself **BASE**

**4**<sup>**3**</sup>  
four (base) to the power of three (exponent)

Exponents show repeated  
multiplication.  $4 \times 4 \times 4$

HOW TO READ

four (base) to the power of three (exponent)

Exponents  
are powerful!

They increase values

$$\begin{aligned} 3^2 &= 3 \times 3 = 9 \\ 3^3 &= 3 \times 3 \times 3 = 27 \\ 3^4 &= 3 \times 3 \times 3 \times 3 = 81 \\ 3^5 &= 3 \times 3 \times 3 \times 3 \times 3 = 243 \\ 3^6 &= 3 \times 3 \times 3 \times 3 \times 3 \times 3 = 729 \end{aligned}$$

EXPONENTS

## EXPONENTS & POWERS OF 10

9  
Set 6

Indicates the **EXPONENT**  
number of times a number  
is multiplied by itself

The number that  
will be multiplied  
by itself **BASE**

**4**<sup>**3**</sup>  
four (base) to the power of three (exponent)

HOW TO READ

four (base) to the power of three (exponent)

Exponents  
are powerful!

They increase values rapidly

$$\begin{aligned} 3^2 &= 3 \times 3 = 9 \\ 3^3 &= 3 \times 3 \times 3 = 27 \\ 3^4 &= 3 \times 3 \times 3 \times 3 = 81 \\ 3^5 &= 3 \times 3 \times 3 \times 3 \times 3 = 243 \end{aligned}$$

# 2 SIZES: STANDARD US 8.5 × 11 & COMPOSITION NOTEBOOK



products of repeatedly  
multiplying the factor 10.

Exponential Form

$$\begin{aligned} 10 \times 10 &= 10^2 \\ 10 \times 10 \times 10 &= 10^3 \\ 10 \times 10 \times 10 \times 10 &= 10^4 \\ 10 \times 10 \times 10 \times 10 \times 10 &= 10^5 \\ 10 \times 10 \times 10 \times 10 \times 10 \times 10 &= 10^6 \end{aligned}$$

Exponential Form

$$\begin{aligned} 10 \times 10 &= 10^2 \\ 10 \times 10 \times 10 &= 10^3 \\ 10 \times 10 \times 10 \times 10 &= 10^4 \\ 10 \times 10 \times 10 \times 10 \times 10 &= 10^5 \\ 10 \times 10 \times 10 \times 10 \times 10 \times 10 &= 10^6 \end{aligned}$$

**EXPONENTS & POWERS OF 10** 9+

Indicates the **EXPONENT** number of times a number is multiplied by itself

Exponents show repeated multiplication.  $4 \times 4 \times 4 = 64$

**HOW TO READ**

four to the power of three (exponent)

**3-STEP POINT**

**POWERS OF 10**

Powers of 10 are the products of repeatedly multiplying the factor 10.

**Expanded Form**

**Exponential Form**

**EXPONENTS**

Exponents are powerful! They increase values rapidly

|                                                                    |             |        |
|--------------------------------------------------------------------|-------------|--------|
| $10 \times 10 \times 10 \times 10 \times 10 \times 10 \times 10 =$ | $1,000,000$ | $10^6$ |
| $10 \times 10 \times 10 \times 10 \times 10 \times 10 =$           | $100,000$   | $10^5$ |
| $10 \times 10 \times 10 \times 10 \times 10 =$                     | $10,000$    | $10^4$ |
| $10 \times 10 \times 10 \times 10 =$                               | $1,000$     | $10^3$ |
| $10 \times 10 =$                                                   | $100$       | $10^2$ |
| $10 \times 1 =$                                                    | $10$        | $10^1$ |
| $1 =$                                                              | $1$         | $10^0$ |

# EXPONENTS & POWERS OF 10

9

Set 5

Indicates the number of times a number is multiplied by itself

EXPONENT

The number that will be multiplied by itself

BASE

4<sup>3</sup>

Exponents show repeated multiplication.  $4 \times 4 \times 4 = 64$

HOW TO READ

four (base) to the power of three (exponent)

Exponents are powerful! They increase values rapidly

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

$$= 9$$

$$3^3 = 3 \times 3 \times 3$$

$$= 27$$

$$3^4 = 3 \times 3 \times 3 \times 3$$

$$= 81$$

$$3^5 = 3 \times 3 \times 3 \times 3 \times 3$$

$$3^6 = 3 \times 3 \times 3 \times 3 \times 3 \times 3$$

## DETAILED ANSWER KEY

POWER

10

Powers of 10 are the products of repeatedly multiplying the factor 10.

Exponential Form

Expanded Form

|                                                        |                                              |                                    |                          |                |               |        |
|--------------------------------------------------------|----------------------------------------------|------------------------------------|--------------------------|----------------|---------------|--------|
| $10^6$                                                 | $10^5$                                       | $10^4$                             | $10^3$                   | $10^2$         | $10^1$        | $10^0$ |
| $10 \times 10 \times 10 \times 10 \times 10 \times 10$ | $10 \times 10 \times 10 \times 10 \times 10$ | $10 \times 10 \times 10 \times 10$ | $10 \times 10 \times 10$ | $10 \times 10$ | $10 \times 1$ | $1$    |
| 1,000,000                                              | 100,000                                      | 10,000                             | 1,000                    | 100            | 10            | 1      |