G6-G7 Basic

G7-G8 Advanced

Helping With Math

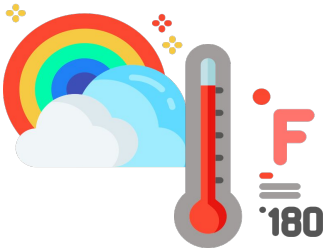
USA GRADES

Real Numbers

Suitable for students **aged 10-13**

This pack is suitable for learners aged 10-13 years old or 6th to 8th graders (USA). The content covers fact files and relevant basic and advanced activities involving real numbers.

Every year on March 23rd, World Meteorological Day commemorates the signing of the World Meteorological Organization Convention in 1950.



REAL NUMBERS

- Any numbers that can be found in the real world.
- Numbers people use everyday.
- Any number of digits on either side of the decimal point.

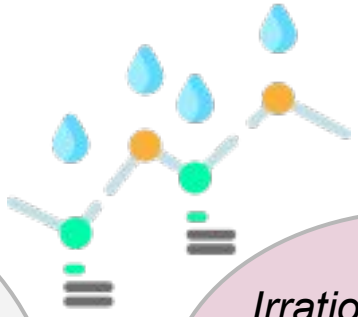
CONCEPTS

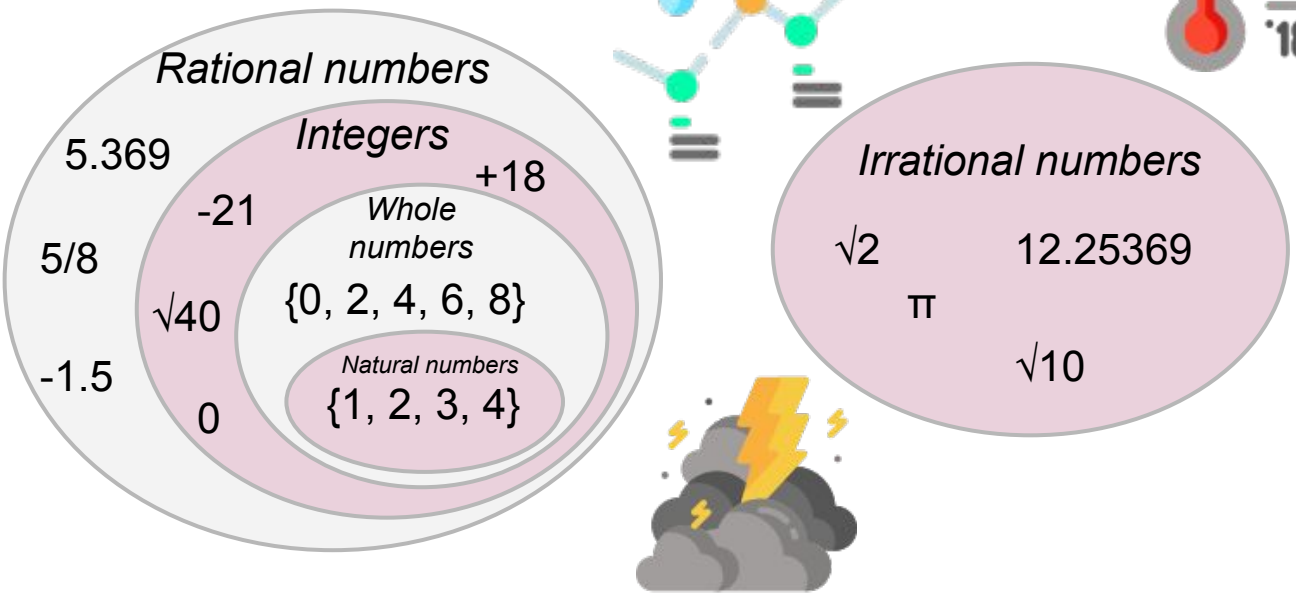
A **real number** is any number in the real world, except complex numbers and infinity.

Real Numbers	Not Real Numbers
Whole Numbers	Imaginary Numbers
Rational Numbers	Infinity Numbers
Irrational Numbers	Complex Numbers

Fun Fact: The square root of a negative real number is purely imaginary, but the square root of a purely imaginary number has to have both real and imaginary parts!

Example:





Fun Fact: Climatological is a synonym of meteorological.

TABLE OF ACTIVITIES

IMAGINARY MOON AND SUN

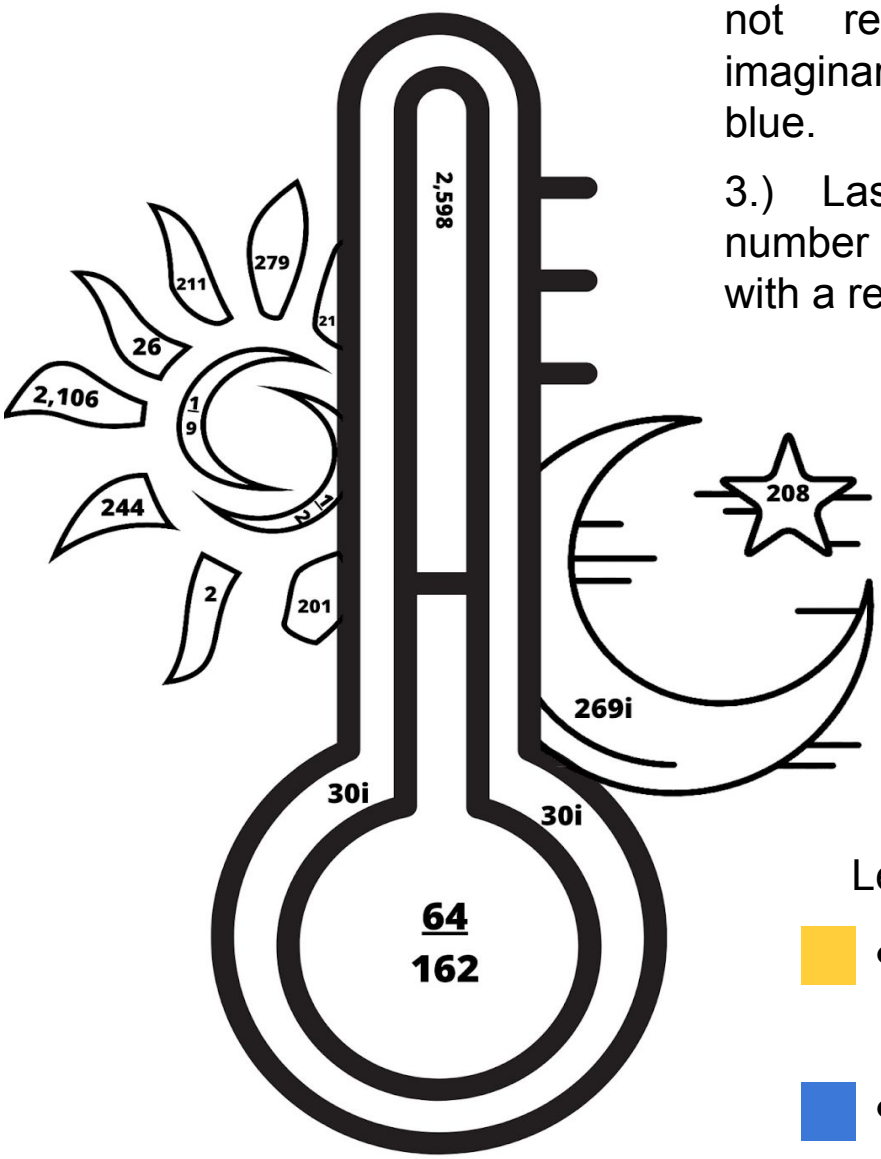
G6-G7 Basic

Appreciate the beauty of the moon and sun. Color the image according to the instructions given.

1.) Shade the real numbers that start with 2 with yellow color.

2.) While the values that are not real, specifically the imaginary numbers, color them blue.

3.) Lastly, color the real number in the fraction form, with a red shade.



Legends:

- Real numbers with 2 as the first value
- Imaginary numbers
- Fractions

HAPPY WORLD METEOROLOGICAL DAY!

G6-G7 Basic

Celebrate this awesome day! Compare the real numbers. Complete the sentences by writing greater than, less than, or equal.

1. Negative fifty-one is _____ twenty-eight.

2. Negative twenty-five is _____ negative fifty.

3. Thirty-two is _____ ninety-six.

4. Negative one hundred one is _____ negative sixty-five.

5. Negative seventy-seven is _____ negative ninety-seven.

6. Eighty-eight is _____ negative eighty-eight.

ATMOSPHERIC SCIENCE

G6-G7 Basic

Atmospheric Science is the study of weather analysis and predictability, climate and global change. Help Albert, an atmospheric scientist to arrange these values from greatest to least.

1. -54, -89, 42, 23, -58

2. 24, -85, 66, -13, -5

3. 30, -15, 75, -60, 105

4. -21, 63, -84, 168, -42

CLIMATOLOGY

G6-G7
Basic

Climatology is the study of climate and how it changes over time. Temperature readings use the concept of negative numbers. Complete the tasks below about negative numbers.

1. Provide and arrange 3 real numbers starting from negative twenty. The real numbers you can use should be even numbers.

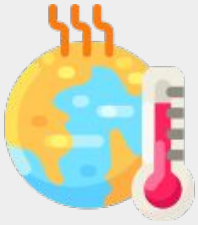
2. Provide and arrange 3 real numbers starting from negative twenty-one. The real numbers you can use should be odd numbers.

3. Provide and arrange 3 real numbers starting from negative thirty-five. The real numbers you can use should be divisible by 5.

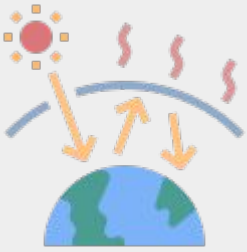
FIGHT CLIMATE CHANGE

G6-G7 Basic

Climate change is a serious atmospheric problem. Promote awareness of climate change by rewriting the numerical real numbers in a words.



1,) 1 , 365



2,) 436 . 87

3,) 2 , 069

4,) 1 , 788

5,) 2 , 222 . 22

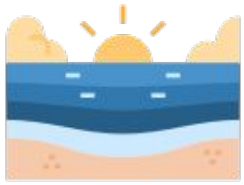
ARE THEY REAL?

G7-G8 Advanced

Real numbers are used in science most especially in describing data about weather, climate, etc. Read and answer the questions below about real numbers. Encircle the letter of the correct answer.

1.) It is a set of numbers that are found in the real world. It can be any number in a number line, as well as negative, fraction, and decimal numbers.

a.) Natural numbers
b.) Integers
c.) Whole numbers
d.) Real numbers



2.) What makes a real number not a real number ?

I. Negative Numbers
II. Fraction
III. Imaginary Numbers
IV. None of the above

a.) I and III
b.) III
c.) IV
d.) I, II, and III

3.) Which of the following set of numbers are real numbers?

a.) -3 365, 1 / 689, 634i
b.) $\sqrt{123}$, ∞, 1456
c.) $\sqrt{156}$, -972, 1 / 613
d.) $\sqrt{-63}$, 378i, -789

IMAGINING REAL NUMBERS

G7-G8 Advanced

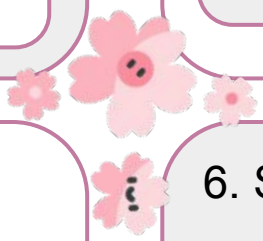
Aside from real numbers, imaginary numbers are also significant in science. Identify each number if the number given is considered as real numbers. Write YES if it is a real number and NO if not. Explain your answer.

1. 34 + 2i

2. 8644 + - 7952 = **692**

3. 587 + √-56

4. | 884 + 8i |



5. Infinity (∞)

6. Set of natural numbers

METEOROLOGICAL MYSTERY

G7-G8 Advanced

Crack the coded synonym about World Meteorological Day. Arrange the following real numbers in increasing order. Write the letter that corresponds to each real number to form the mystery word.

L
2,801.01

L
-1,282.90

O
0.9999

A
1,999.99

L
3.14

T
$-\frac{1}{3}$

C
-1,903.99

C
1,986

G
389.01

M
-13.10

O
$\frac{90}{9}$

I
-567.001

A
$-\frac{600}{60}$

I
736.97

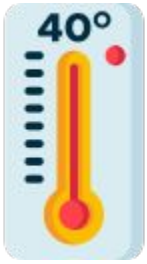
____, ____, ____, ____, ____, ____, ____, ____, ____, ____, ____, ____, ____, ____

TEMPERATURE PROBLEMS

G7-G8 Advanced

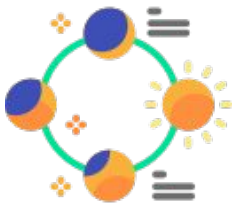
Solve the following problems related to temperature. Use your understanding of real numbers to answer each item.

1. The North, South, East, and West town's temperature, in Celsius, are combined and recorded in three days as follows: -25, 40, and -36. Solve for the daily differences.



2. George and Callie noticed that yesterday's temperature was 40 degrees celsius. He said that the temperature twelve weeks ago was - 6 degrees cooler than yesterday's record. What was the temperature twelve weeks ago? How many days are there in twelve weeks?

Bonus question: How many months have 28 days?



_____

METEOROLOGICAL DAY REFLECTION

G7-G8 Advanced

This World Meteorological Day, answer these questions in not less than 3 sentences each.

What is the relevance of real numbers with regards to Meteorological Day?

How can you use and apply real numbers in real life scenarios? Cite 2-4 examples and explain.

ANSWER GUIDE

Activity 1

Yellow: 2, 21, 26, 201, 208, 211, 244, 279, 2,106, 2,598
Blue: 30i, 269i
Red: ½, 1/9, 64/162

Activity 2

1. Less than
2. Greater than
3. Less than
4. Less than
5. Greater than
6. Greater than

Activity 3

1. 42,23,-54,-58,-89
2. 66,24,-5,-13,-85
3. 105,75,30,-15,-60
4. 168,63,-21,-42,-84

Activity 4

1. Negative twenty, negative eighteen, negative sixteen
2. Negative twenty-one, negative negative eighteen, negative fifteen
3. Negative thirty-five, negative thirty, negative twenty-five

Activity 5

1. One thousand three hundred sixty-five
2. Four hundred thirty-six and eighty-seven hundredths
3. Two thousand sixty-nine
4. One thousand seven hundred eighty-eight
5. Two thousand two hundred twenty-two and twenty-two hundredths

ANSWER GUIDE

Activity 6

1. D
2. B
3. A

Activity 7

1. No
2. Yes
3. No
4. No
5. No

Activity 8

-1,903.99, -1,282.90, -567.001, -13.10, -600/60, -⅓, 0.9999, 3.14, 90/9, 389.00, 736.97, 1,986, 1,999.99, 2,801.01
Word: CLIMATOLOGICAL

Activity 9

1. -65, -76
2. 34 degrees; 84 days

Activity 10

Answers may vary.

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