

## The Real Number System

**WebQuest Description:** An exploration of the Real Number System

**Grade Level:** 9-12

**Curriculum:** Math

**Keywords:** real number, real number system, real numbers, irrational, irrational numbers, rational, rational numbers, integer, integers, whole, whole numbers, natural, natural numbers

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### Introduction

This is a WebQuest that will allow you to explore the Real Number System. You will define the different sets contained within the set of all real numbers, research the interrelationships that exist within the Real Number System, identify the kinds of numbers each set contains, and determine how to classify a variety of real numbers. Proceed to the Task tab

### Tasks

In your exploration of the Real Number System, you have several assignments to complete: Use the internet to define real number system vocabulary words Use the internet to research the real number system Use your definitions, research, and the photo gallery to write a journal entry Take the real number system quiz Proceed to the Process tab

### Process

To embark on your exploration of the Real Number System you should use the tabs to the left to guide. You should have already viewed the TITLE, INTRODUCTION, and TASK pages Finish reading this (PROCESS) page View the EVALUATION page tab next and anytime you need to consult the Rubric Start your actual exploration of the Real Number System with the VOCABULARY assignment tab Next move on to the RESEARCH assignment tab Then go to the JOURNAL assignment tab Finally go to the QUIZ tab When you have completed all 4 assignments, go to the CONCLUSION page tab Optionally, you may want to try the Hangman Game, but do not spend all your time there since you receive no points for playing hangman Proceed to the Evaluation tab

### Evaluation

There are 4 assignments and each one will be evaluated equally meaning each assignment is worth 25 points and the combination of these equals 100 possible points. Please return to this page often to check that your work meets the rubric requirements.

Category and Score	Beginning	Average	Above Average	Excellent	Score
Vocabulary	There are words that are missing definitions, or the majority of the definitions are incorrect, or there are missing illustrations and/or examples, or the majority of illustrations and/or examples are not relevant.	All vocabulary words have definitions and about half are correct. Each has an illustration and/or several examples and about half are relevant.	All vocabulary words have definitions and the majority are correct. Each has an illustration and/or several examples and the majority are relevant.	All vocabulary words have definitions that are correct and each has a relevant illustration and/or several examples.	25
Research	The student has obviously NOT viewed all 9 required items or most items are not rated. More than half of the written work is not thoughtful, not detailed, or not related to the study of the Real Number System.	The student has obviously viewed all 9 required items. Items are rated. About half of the written work is thoughtful, detailed, and relates to the study of the Real Number System.	The student has obviously viewed all 9 required items. Items are rated. The majority of the written work is thoughtful, detailed, and relates to the study of the Real Number System.	The student has obviously viewed all 9 required items. Items are rated. All written work is thoughtful, detailed, and relates to the study of the Real Number System.	25

Category and Score	Beginning	Average	Above Average	Excellent	Score
Journal	Journal is created with little or no thought. Or it addresses only 0-3 parts of the journal prompt. Or it makes no reference to the definitions, research, or images in the photo gallery.	Journal is created with some thought. It addresses 4 parts of the journal prompt. It refers to the definitions, research, and/or images in the photo gallery.	Journal is created thoughtfully. It addresses 5 parts of the journal prompt. It refers to the definitions, research, and images in the photo gallery.	Journal is created thoughtfully. It addresses all 6 parts of the journal prompt. It refers to the definitions, research, and images in the photo gallery.	25
Quiz	14 or less questions are answered correctly. (11 or more missed)	15-19 questions are answered correctly. (6-10 missed)	20-24 questions are answered correctly. (1-5 missed)	All 25 questions are answered correctly. (0 missed)	25
				Total Score	100

## Conclusion

You have now finished the four Real Number System assignments! This means you have: Compiled a Real Number System dictionary of comprehensive definitions with illustrations and examples. Researched the interrelationships that exist within the Real Number System including learning how to identify the kinds of numbers each set contains and figuring out a way to help you determine how to classify real numbers. Written a journal entry that serves to analyze the interrelationships that exist within the Real Number System using your definitions, research, and the photo gallery. Taken the Real Number System quiz, Take one last look at the rubric and ask yourself if your work is complete and does it meet the requirements. If you answered yes, then you must now submit all of your work to your teacher for evaluation. GOOD LUCK! By the way, if you found this area of study interesting, you may enjoy exploring further the field of Number Theory. See the links below to get started.

## Teacher Page

This WebQuest was created to inspire students to explore the Real Number System. I use it as a recovery assignment to replace poor test or project grades. It meets the following South Carolina Elementary Algebra Standards: EA-1.1  
 Communicate a knowledge of algebraic relationships by using mathematical terminology appropriately. EA-1.6  
 Understand how algebraic relationships can be represented in concrete models, pictorial models, and diagrams. EA-2.1  
 Exemplify elements of the real number system (including integers, rational numbers, and irrational numbers).

### Standards

### Credits

### Other