

Unit 2 Test Review

Objectives:

The student will be able to:

- Recognize various forms of communication as data exchange
- Describe the implications of data exchange on social interactions
- Consider privacy of data that they create
- Explain the difference between data used for making a case and data that informs a discovery
- Describe good research questions
- Name and explain the steps in the problem-solving process
- Solve a problem by applying the problem-solving process
- Explain what the word algorithm means
- Name and explain the steps in the problem-solving process
- Solve a problem by applying the problem-solving process
- Express a solution using standard design tools
- Determine if a given solution successfully solves a stated problem
- Solve a problem by applying the problem-solving process
- Express a solution using standard design tools
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- Count forward and backward in binary
- Explain why binary numbers are important in computer science
- Use binary digits to encode and decode messages
- Describe the linear search algorithm
- Describe the binary search algorithm
- Explain conditions under which each search might be appropriate
- Define sorted and unsorted lists
- Describe various sorting algorithms
- Compare various sorting algorithms

- Apply the four step process to solving a problem.

Understanding the problem:

What data or information is known?

What is unknown?

What are the conditions?

Plan the solution: Show your plan for solving this problem.

Carry out the plan: Using your plan, show your work and your solution.

Review and discuss your solution: Reflect on your solution.

- Know the definitions of all these terms.

Aggregate

Advocate – by collecting data

Discovery – by collecting data

Algorithm

Iteration

Dilation

Rotation

Reflection

Binary Numbers

Decimal Numbers

Linear Search Algorithm

Binary Search Algorithm

Selection Sort

Quick Sort

Insertion Sort

Bubble Sort

Merge Sort

Recursion

- Be able to convert from Binary to Decimal and Decimal to Binary.

Notebook:

- How You Give off Data
- School Lunch Problem – Problem Solving Notes
- Candy Bar Problem – Problem Solving Notes
- Handshakes and Fenceposts
- Cornrow Curves notes and definitions
- Binary Number System Notes
- Sorting the Cans – Definitions of Different Types of Sorts

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