
Water Vapor/Weather

Background:

Solving word problems is a skill necessary for all students. Understanding what the question is asking is often difficult. Learning what certain clue words mean will increase student comprehension of questions. GRACE scientists will use measurements from the twin satellites to improve the accuracy of many scientific measurements related to climate change.

Objectives:

Following the lesson, students will be able to,

- Solve word problems by using the CUB strategy.
- Decipher which clue words are used for addition and which are used in subtraction.
- Read word problems and identify the clue words.

Standards:

Science: science as inquiry; physical science

Math: problem solving; number & number relationships;
computation

Vocabulary:

mnemonic extricate

Materials:

Weather Problems Worksheet
Clue Word Worksheets
CUB Strategy Worksheet

Procedure:

1. Introduce the lesson by telling the students that you are giving them a strategy to help them with word problems. A strategy is a plan that is followed. Using a strategy makes solving everyday problems easier.

Students must understand the definition of strategy before continuing and that strategy is used when playing many games.

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2. Continue the lesson by telling the class that the strategy they are learning is called the CUB strategy. The CUB strategy helps students to extricate or identify the most important information from the problem.

A *mnemonic* is a short rhyme, phrase, or other mental technique for making information easier to memorize. To help with our weather problems, we will use the mnemonic **CUB** which stands for:

- C** – Circle the Clue Words – Clue words will be discussed later.
- U** – Underline the question
- B** – Box your numbers

Clue words help identify whether we should be adding, subtracting, multiplying or dividing. This lesson will only focus on addition and subtraction.

Addition Clue Words

All together (altogether)	Total	In All	Sum
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Subtraction Clue Words

Difference	Left over (left)	Fewer	Many More
Less than	Change (\$)	Much More	

You may want to begin by having students simply follow CUB strategy, rather than solving the entire problem. Learning the strategy is the most important lesson.

Extensions:

- Complete a math puzzle at: <http://octopus.gma.org/Tidings/drop/index.html>
- Develop another mnemonic to help with your math homework.

References / Resources:

- <http://encarta.msn.com/find/Concise.asp?ti=0592D000>
 - http://www.mathgoodies.com/lessons/toc_vol7.shtm
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Clue Words



In all

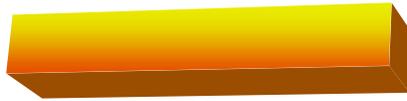
Altogether

Total

Sum

All together

Clue Words



Difference

Many more

Fewer

Left over (Left)

Much more

Change (\$)

C-U-B Strategy

Circle the Clue Word

Underline the Question

Box the Numbers

Answer Sheet

WEATHER PROBLEMS

Directions: Use the C-U-B strategy to solve the following problems.

1. The yearly snowfall in Washington DC is 51 centimeters. In Caribou, Maine, they receive 229 centimeters of snow. How much more snow falls in Washington DC than in Caribou, Maine? 178cm
2. 13 inches of rainfall fell last year. 18 inches fell this year. What is the total number of inches of rainfall over the past two years? 31 inches
3. The temperature in New York City is 41 degrees. In San Francisco it is 69 degrees. What is the difference in temperature between New York and San Francisco? 28 degrees
4. Last Friday the temperature was 78 degrees. Today, due to a polar air mass, the temperature is now 11 degrees. How many more degrees were measured on Friday? 67 degrees
5. There were 175 tornadoes reported last year. The year before there were 157 . How many tornadoes in all were there during the past two years? 332 tornadoes
6. A hurricane has wind speeds as low as 75 miles per hour (mph). If the wind is blowing 87 mph, how many fewer mph until it is no longer a hurricane? 12 mph
7. There were 215 lightning strikes reported last year. Ten years ago there were 314 . How many more lightning strikes were there ten years ago than last year? 99 lightning strikes