

Playing with Words

Critical Thinking and Problem Solving



Introduction

Critical thinking and scientific reasoning are used everyday to solve life's puzzles. By engaging students in describing how they arrived at an answer to a word puzzle, they are able to see and share their thought processes.

Concepts

- Critical thinking
- Scientific reasoning
- Observation skills

Materials

Word puzzles on poster board, overheads or presentation software

Safety Precautions

This activity is considered safe.

Procedure

1. Show each word puzzle and allow students adequate time to think and solve each one.
2. Discuss the strategy used to decipher the word puzzle.

Disposal

The materials may be reused.

Discussion

The focus of this activity is to have students construct knowledge and meaning based upon their current knowledge base. After one student explains the method used to solve a problem, the remaining puzzles using the same technique become clear for all of the students. This is similar to what happens in chemistry class. Once the student figures out how to use a particular strategy, that strategy becomes one of a number of tools that the students can use throughout the course.

Connecting to the National Standards

This laboratory activity relates to the following National Science Education Standards (1996):

Unifying Concepts and Processes: Grades K–12

- Systems, order, and organization
- Evidence, models, and explanation

Content Standards: Grades 5–8

- Content Standard A: Science as Inquiry
- Content Standard G: History and Nature of Science, nature of science

Content Standards: Grades 9–12

- Content Standard A: Science as Inquiry
- Content Standard G: History and Nature of Science, nature of scientific knowledge

Flinn Scientific—Teaching Chemistry™ eLearning Video Series

A video of the *Playing with Words* activity, presented by Mike Roadruck, is available in *Critical Thinking and Problem Solving* and in *Problem-Solving Teaching Strategies*, part of the Flinn Scientific—Teaching Chemistry eLearning Video Series.

Slide 1



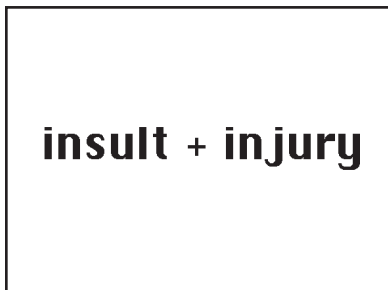
Head over heels in love

Slide 2



Singing in the rain

Slide 3



Adding insult to injury

Slide 4



Scrambled eggs

Slide 5



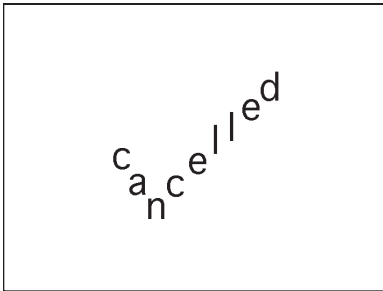
The good, the bad, and the ugly

Slide 6



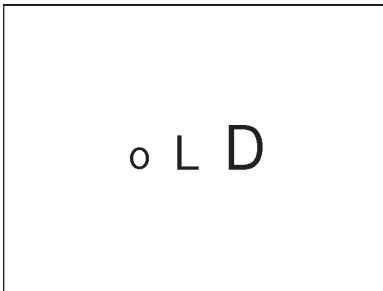
A step backwards

Slide 7



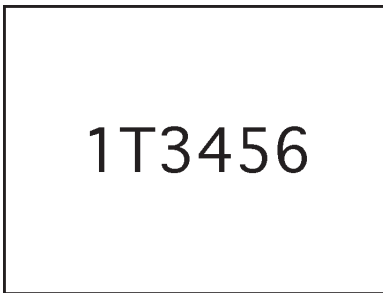
Cancelled check

Slide 8



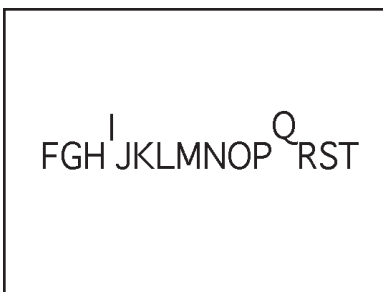
Growing old

Slide 9



T for two

Slide 10



High IQ

Slide 11

PLASMA
H₂O

Blood is thicker than water

Slide 12

TIMING TIM ING

Split second timing

Slide 13

night fly

Fly by night

Slide 14

1 3 5 7 9 11
vs.
U

The odds are against you

Slide 15

esroh riding

Horse back riding

Slide 16



Jay walking

Slide 17



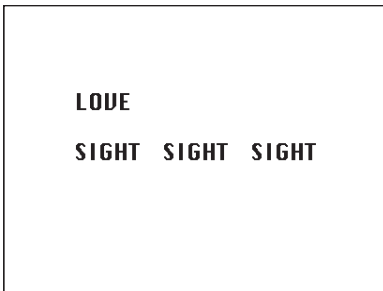
Bridge over troubled water

Slide 18



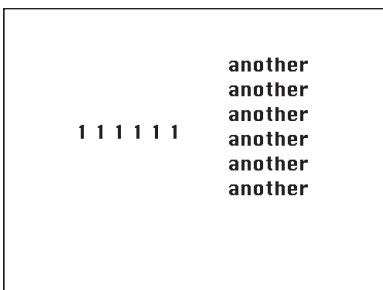
Down hill skiing

Slide 19



Love at first sight

Slide 20



Six of one, half a dozen of another

Slide 21

chemaistry

An A in chemistry