You be the Judge: Color Introduction

Dr. Lawrence D. Woolf

General Atomics

SCIENCES EDUCATION FOUNDATION
GENERAL ATOMICS

You be the judge:

What are the primary colors?

Variety of sources have different approaches

- Authoritative approach
- The gray scale approach (neither black or white)
- The 2 correct answers approach
- The parenthetical approach
- The loosely speaking apprach
- The “opposite is correct” approach

Authoritative approach

Webster's New World Dictionary:

"color: the *primary* colors of paints, pigments, etc. are red, yellow, and blue, which, when mixed in various ways, produce the *secondary* colors (green, orange, purple, etc.)"

The gray scale approach (neither black or white)

Art Fundamentals Theory and Practice:

"There are three colors, however, which cannot be created from mixtures; these are the hues, red, yellow, and blue. They are called the *primary* colors.

A mixture of the three primaries should theoretically result in white; actually this mixture produces a neutral grey which may be considered a darkened form of white."

The 2 correct answers approach

The Journal of Chemical Education:

"… students should identify the three colors needed to produce all the others as red, blue, and yellow. Most artists call these the fundamental colors, The correct subtractive colors, used by printers, for example, are cyan, magenta, and yellow."

The parenthetical approach

Color Printing Manual:

"The primary process colors are: Yellow, Red (Magenta), and Blue (Cyan)."

The loosely speaking approach

Hewitts's Conceptual Physics

"For this reason, cyan, magenta, and yellow are called the subtractive primary colors. In painting or printing, the primaries are often said to be red, yellow, and blue. Here we are loosely speaking of magenta, yellow, and cyan."

The “opposite is correct” approach

Showy Science

“You have probably heard that artists make all different colors by mixing three primary colors. Red, green, and blue are the primary colors of light. When these colors are mixed, white light is produced. In this wheel experiment, these colors produced black.

Magenta, cyan, and yellow are the primary colors of pigment. When mixed together, they produce black. However, these colors produced white in this wheel experiment.”