# Part II

## Visual Literacy

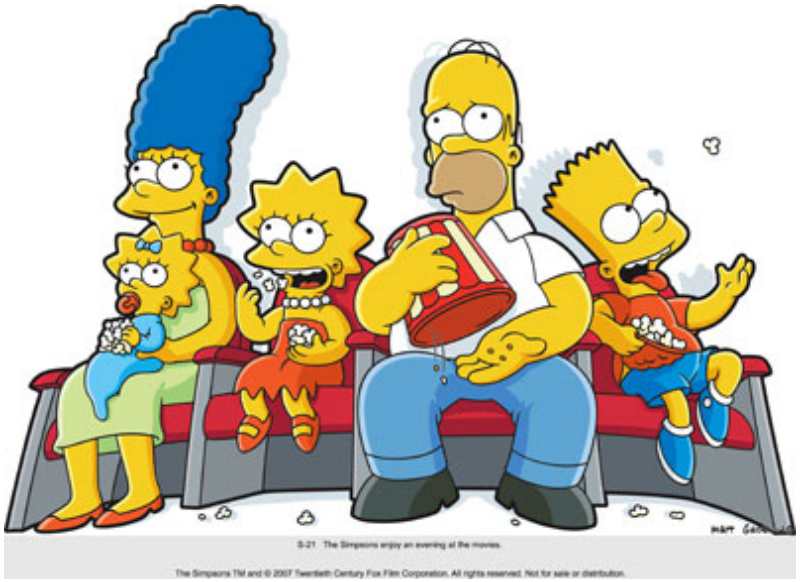
# Why is Visual Literacy Important?

- Visual communication is the language of the 21st century
- Students must learn to process words *and* pictures
- Students must learn to "read" (consume/interpret) images
- Students must learn to "write" (produce) visually rich communications

# Our Visual World

- We are bombarded every day with visual communication
- Learning to interpret this communication can mean the difference between success and failure

# The power of visual culture…



- 22% of US citizens surveyed could name ALL five family members
- Only 0.1% could name all five freedoms guaranteed under the First Amendment of the Bill of Rights

# In case you're wondering…

- Speech
- Press
- Assembly
- Petition
- Religion

# Visually Wired

- Humans are biologically wired for sight
- The eyes are the most powerful conduit to the brain

- 1,000,000 visual nerve fibers vs. 30,000 auditory nerve fibers
- 30% of brain devoted to visual processing (8% touch, 3% hearing)

# And lastly…

Humans process visuals 60,000 times faster than text!!!

# What is a struggling reader?

"A photon in a quantum superposition can, for example, pass through two narrow slits in a screen at the same time, yet we cannot walk through two doors simultaneously. In practice, researchers assume that superpositions somehow collapse into one specific state or another whenever large objects are involved. For decades, theorists unsatisfied with the vagueness of that explanation have tried to construct a more specific theory."

Mark Buchanan, "Quantum Untanglement", *New Scientist,* November 3-9, 2007

# How about this one…

"Plasmons are absorbed by the metal almost as soon as they are produced. But their tickling influence also stimulates the dye molecules in the silica shell to emit more light, which in turn generates more plasmons, which excites more light and so on. With a sufficient supply of dye, enough plasmons can exist at the same time that they start to reinforce each other. The signature of a laser-like multiplication of plasmons within the device is a dramatic increase in green laser light emitted from the nanoparticle after only a small increase in the energy supplied from the external laser."

Justin Mullins, "Light Switch: The tiniest laser…," *New Scientist,* January 23-29, 2010

# Why did we struggle?

- Little/no background knowledge
- No connection to our "reality"
- New or unfamiliar vocabulary
- Unable to visualize
- Other reasons?

# Why do some readers struggle?

- Little/no background knowledge
- No connection to our “reality”
- New or unfamiliar vocabulary
- Unable to visualize
- Other reasons?

# Behaviors of Struggling Readers

(K. Beers, 2003)

- Has few or no strategies for recognizing unknown words
- Does not know how to use the context as a clue to help with word recognition or word meaning
- Does not visualize the text
- Does not reread to clarify meaning
- Reads to finish rather than to understand
- Cannot keep events of text in correct order
- Has trouble comparing and contrasting events, settings, and characters

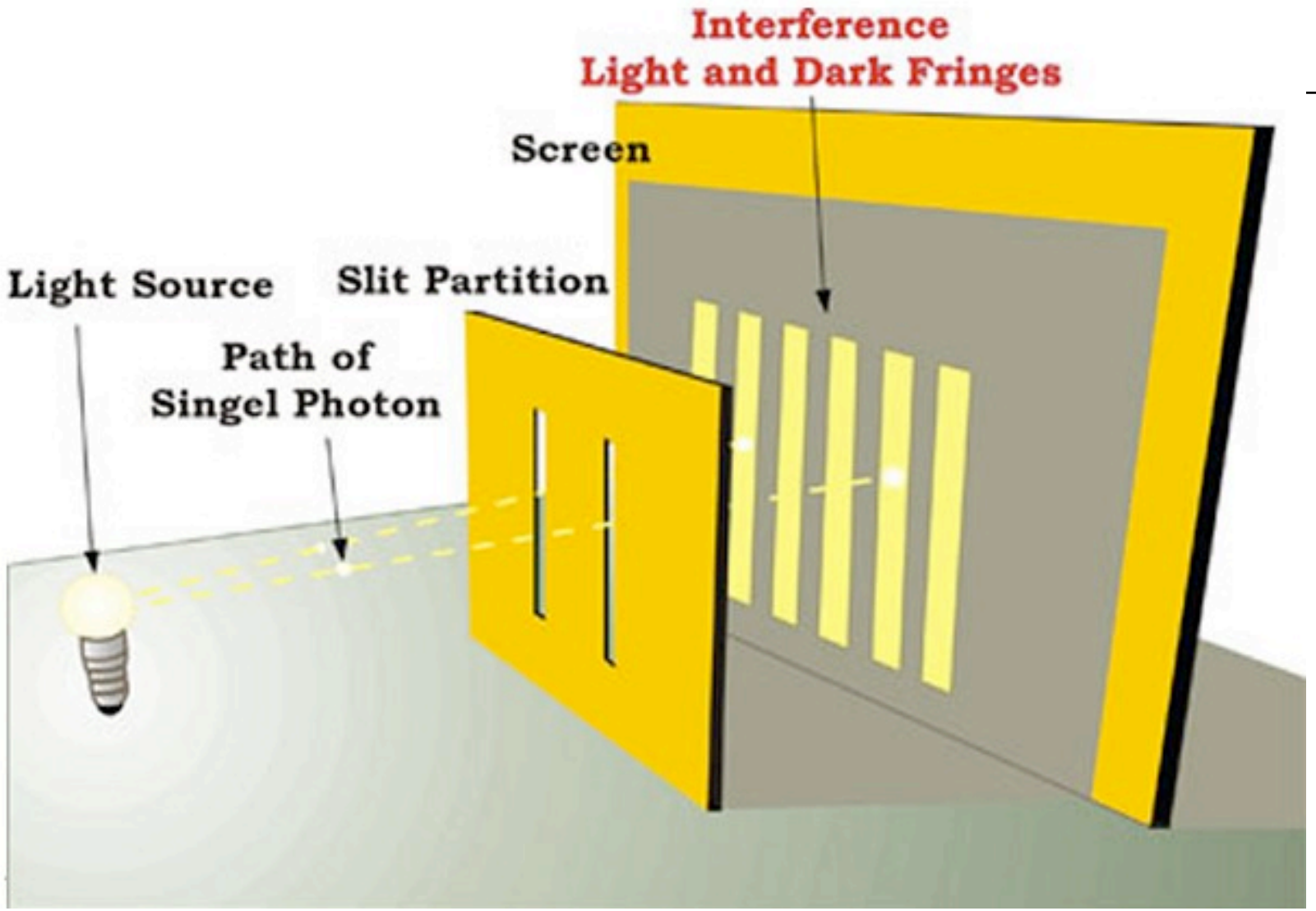
# Behaviors (continued)

- Cannot answer literal-level questions about the text
- Does not easily make inferences, draw conclusions, or make generalizations from texts
- Cannot state the main idea of a text
- Does not recognize how point of view impacts a text
- Cannot identify literary elements in a text or discuss how those elements affect the text
- Does not connect events in the text to other texts or to events in personal experience

Beers, K. When Kids Can't Read: What Teachers Can Do. 2003.

# Core Literature: What's the Problem?

- Shakespeare is as foreign to some of our students as Quantum Physics is for most of us
- Subject matter is often too removed from students immediate lives (can't make the leap)
- Completely unfamiliar with words and grammatical structures present in some core lit.
- **Unable to visualize**


Interference
Light and Dark Fringes
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