SECTION 4B

Opaque, Transparent, Translucent

Student Pages

Now You See It - Now You Don't

Minute Paper: A Writing to Learn Strategy

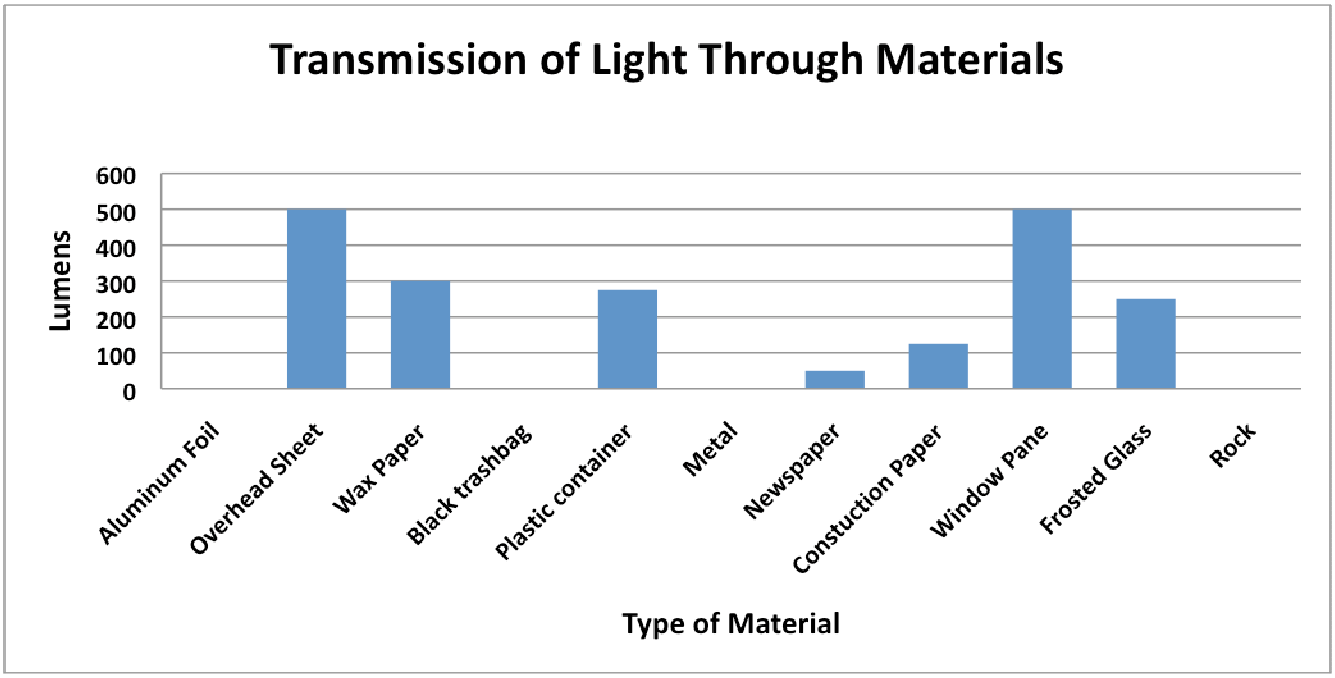
What were the <u>significant points</u> you learned from your lab experience.

What were some of your <u>unanswered questions</u>?

What were the <u>Ah-ha's (WOWS)</u> you discovered?

Write your <u>minute paper</u> here: A few sentences using the information above to explain your "Now You See It – Now You Don't" lab experience.

5th Grade Science
Open Response Practice Question



Using the above graph, explain the transmission of light through various materials.

Chart for Use with Eyes

Light

Material	All Light	Some Light	No Light	Property of Material

Chart for Use with Probe

Light

Material	LUX	Property of Material

Frayer Model

Opaque, Transparent, Translucent

Directions:

1. Students work in collaborative groups or as whole class to make a brainstorming list of as many examples of "opaque" as possible.
2. After the list is completed, students use the Frayer Model to analyze the list of examples to describe what they have in common.
3. List the examples of opaque on the Frayer Model grid.
4. List the essential characteristics which the examples have in common.
5. Draw or illustrate opaque (How the light interacts with opaque matter).
6. List the non-examples of opaque (These may be transparent and translucent matter).
7. Use the essential characteristics and examples to develop a **"student friendly"** definition of the science term "opaque".
8. Students can complete the Frayer Models for "transparent" and "translucent" for homework.

Note: Students can read a non-fiction text such as textbook and verify or add additional information to their grid. Refer to www.howstuffworks.com/light.html to lead group discussion if addition text is needed.

Frayer Model

Essential Characteristics (These define this concept)	**Drawing or illustration** (Demonstrates comprehension of the concept)
EXAMPLES	**NON- EXAMPLES**

opaque

Frayer Model

Essential Characteristics (These define this concept)	**Drawing or illustration** (Demonstrates comprehension of the concept)
EXAMPLES	**NON- EXAMPLES**

transparent

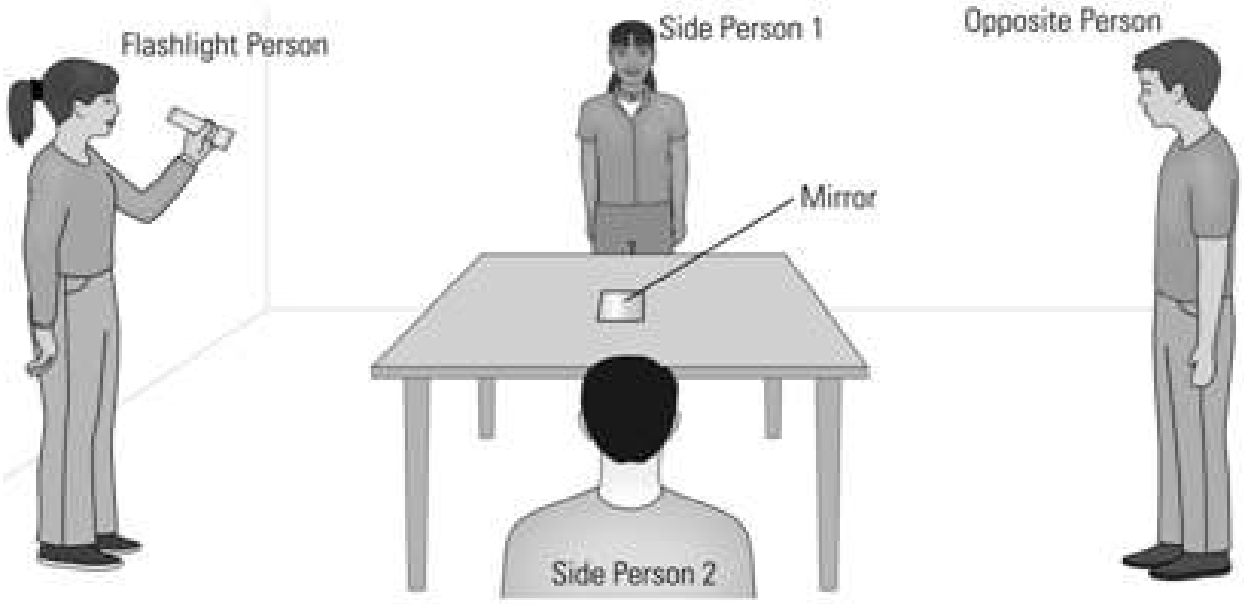
Frayer Model

Essential Characteristics (These define this concept)	**Drawing or illustration** (Demonstrates comprehension of the concept)
EXAMPLES	**NON- EXAMPLES**

translucent

Understanding Children's Ideas about Light

Predict what each person will see when the room is dark and the light from the flashlight is directed at the center of the table.



Picture used with permission from PSET: Understanding Student Ideas About Light

WHO WILL SEE THE LIGHT?

Directions: Teachers will use these questions to assess their students' ideas about light as the teacher observes the students conducting the experiment.

1. What idea did the student have about who would see the light when the person with the flashlight shines the light into the mirror?

2. What do you think the student based his prediction on?

3. What evidence do you have to support this?(use quotes from transcript)

4. During the activity what idea or ideas did the 4th grade students construct about the behavior of light?

5. What evidence do you have to support this? (use quotes from transcript)

At 6:47:17 Josh stated "Well we discovered, we thought, we found out that the-we started thinking at the end that the mirror could only reflect the light one way."

6. Do you think that the students came up with this idea or do you think that the interviewer played a large role in telling this idea to the students?

7. What evidence can you give to support your answer?

REFLECTION LOG

LESSON TITLE:

PRE-LESSON

Write two or three questions you hope will be answered.

Write the open-ended question/questions given to you by your instructor.

POST-LESSON

1) What new knowledge did you gain today?

2) List three things from today's lesson that will be most helpful to you?

3) Check your pre-lesson questions. Write the answer those questions that were answered. Ask the other questions during class discussion.