Power Reflects?

Background

The amount of light reflected depends upon the surface from which the light is reflected. Light bounces off a surface in the same way a ball bounces off the ground. Smooth white surfaces reflect more light than dark rough ones. Different surfaces reflect light in varying degrees. White surfaces reflect light well. Dark and dull black surfaces reflect very little light. Mirrors have smooth shiny surfaces that light bounces off of in exactly the same pattern as it arrives.

Problem Statement

Will reflecting light off a mirror change the strength of the light?

Hypothesis

Formulate your hypothesis based on problem statement.

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Equipment: (Per team of two)

CASIO* EA100 Data Analyzer
Light Probe
Light Source
Mirrors (2)
Meter Sticks (2)

Procedure

1. Turn on light source and place it approximately one meter from the receiving end of the light probe.

2. Plug the light probe into the EA100 in Channel One (CH1) on the top of the EA100.

3. Turn on the EA100 by pushing the red button labeled ON/OFF..

4. Press the MODE button changing the EA100 to MULTIMETER MODE, The word "MULTIMETER" will appear in the lower left of the EA100 view screen.

5. Read the value and write it in your journal and turn off the EA100.

6. Place the mirror at 50cm. and place the other meter stick at the base of the mirror extending outward in the path of light for another 50cm.

7. Place the probe at the 50cm point.

8. Repeat steps 3, 4 & 5.
9. Change your distances for four more trials recording your data each time.
10. Compare the data for direct light readings to readings for reflecting light.
11. BE SURE TO RECORD ALL OF YOUR DATA!

Note: Directions for use of the EA100 are contained on the quick reference cards.

Results

1. What was the highest probe reading?_____
2. Was the light direct or reflected?_____
3. How far away was the probe? _____
4. If reflected, did you add the distance from the light source to the mirror?) _____
5. What other conclusions could you draw using your data?

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Conclusions

Relate your conclusions to your original hypothesis.

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