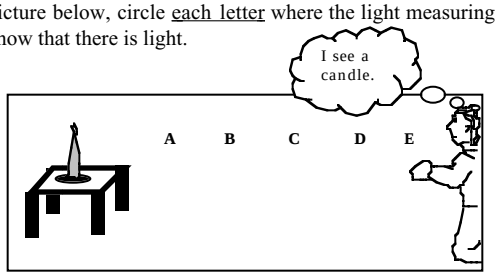
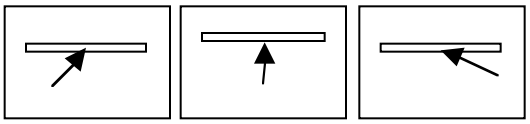
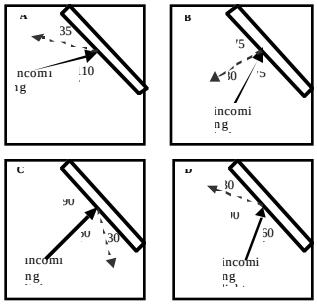
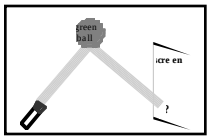
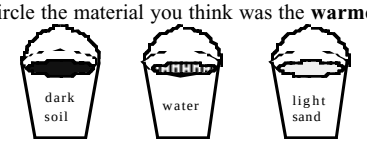
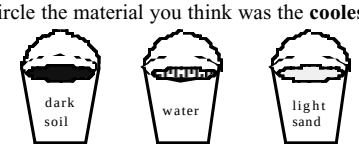
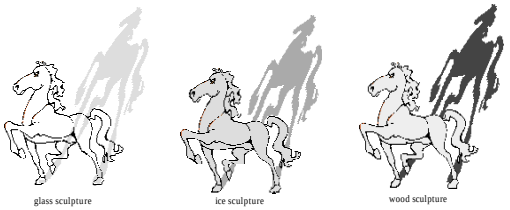
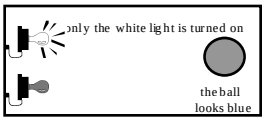
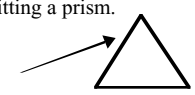
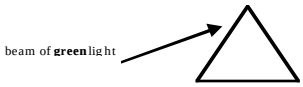
Light Assessment Bibliography

Assessment Item	Basis
1. (a) The path of light is straight. **Agree** **Disagree** (please circle your answer) (b) Describe or present evidence and draw a picture that shows your thinking about the path of light. Label what s in your drawing.	No specific article. This question was based on multiple author s findings that children often do not think the path of light is straight.
2. The picture below shows a room with no windows. The only light in the room is from the candle. **The person can see the candle from 10 feet away.** **I**f you could take a light measuring tool around the room, where do you think the tool would detect light? In the picture below, circle <u>each letter</u> where the light measuring tool would show that there is light. 	No specific article. This question was based on multiple author s findings that found children are often confused about light travelling.
3. In the drawings below, light is shown hitting a mirror. The arrows show incoming light rays.  (a) On the pictures above, show with an arrow how light reflects from each mirror. (b) State how you knew where to draw the reflected light.	No specific article.
4. The drawings below show how light from a flashlight *<u>might</u>* be reflected from a mirror. The numbers show the size of the angles formed between the mirror  (a) Circle the drawing that accurately shows light reflecting from the mirror. (b) How did you think about this problem to decide which drawing is correct?	No specific article

5. The drawing below shows a person looking at a tree on a sunny day. Think about how the light from the sun helps the person to see the tree. (a) With **lines** draw the path of light to show how the person see tree. (b) Put **arrows** on your lines to show the direction you think ligh traveling.  (c) Describe your thinking about how the person sees the tree.	Bonnie L. Shapiro, (1989), What children bring to light: giving high status to learners' views and actions in science, Science Education, 73(6), 711-733
6. Here is a flashlight shining on a green ball in a dark room. Light is reflected onto the screen. Think about what you would see on the screen.  *Rodney* thinks that he would see white light on the screen. *Joe* thinks that he would see yellow light on the screen. *Michael* thinks that he would see blue light on the screen. *Ahmed* thinks that he would see "green light" on the screen. Which child do you agree with and why?	No specific article.
7. On a sunny morning some children found three buckets outside. They filled one of the buckets with dark soil. They filled another bucket with water, and they filled the third bucket with light colored sand. After lunch, the children came back and felt the buckets. Some buckets felt hotter than others. The children decided to use a thermometer to measure the temperature of the material in each bucket. (a) Circle the material you think was the **warmest**.  (b) Circle the material you think was the **coolest**.  (c) Please tell how you decided which was the warmest and which was the coolest.	No specific article.
8. A child went to a winter art festival at a park on a cold sunny day. The child saw three sculptures. One was made out of clear glass, another was made out of ice, and the third was made out of wood. The child noticed that the sculptures all had shadows. But the	Inspired by Feher & Rice s (1988) work on children s ideas about shadows. Elsa Feher and Karen Rice, (1988), Shadows and anti-

shadows did not look the same.  The child looked at the three shadows and tried to figure out why they were different. Why do **you** think the shadows were different?	images: Children's conceptions of light and vision. II., Science Education 72(5), 637-649
9. Imagine that you are in a room with a ball and two light bulbs. One bulb is a regular bulb and shines white light. The other is a special bulb that only shines red light. When you turn on only the white lightbulb the ball looks blue:  When you turn on only the red lightbulb the ball looks black.  Why does the ball look different in the red light?	No specific article.
10. Here is a prism:  Here is a side-view of a prism  Imagine **white light** hitting a prism.  (a) On the picture above, draw what you would see <u>inside</u> the prism and on the <u>other side</u> of the prism. State the color of the light. (b) Describe what you think happens to the **white light** <u>inside</u> the prism: Now imagine **green light** hitting a prism.  (c) On the picture above, draw what you would see <u>inside</u> the prism and on the <u>other side</u> of the prism. State the color of the light. (d) Describe what you think happens to the **green light** <u>inside</u> the prism:	No specific article.

References:

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