

## Understanding Parallax

### Materials

- None required

### Procedure

1. Hold your index finger upright and place its base on your nose and its tip against your forehead. Focus your attention on an object at the front of the room. Alternately open and close each eye. What appears to happen to your finger?  
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2. Now hold your finger about 15 cm in front of your face and focus your attention on the same object that you used in step 1. Alternately open and close each eye as you did in step 1. What appears to happen?  
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How does this result differ from what you observed in step 1?  
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3. Repeat step 2 but this time hold your finger about 30 cm in front of your face. How does this result differ from what you observed in steps 1 and 2?  
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4. What do you think the result would be if you held your finger about 45 cm in front of your face? Try it.  
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### Analyses and Conclusions

Look at the diagrams on the next page. Figure A is a diagram showing stellar parallax due to the earth's revolution. Figure B shows a sketch of what a photograph would look like if the photograph was taken from position A on January 1. Based on the diagram in Figure A, sketch and label the pattern of stars from position B on July 1.

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**INVESTIGATION 20.2**

**Understanding Parallax** (continued)

**Figure A**

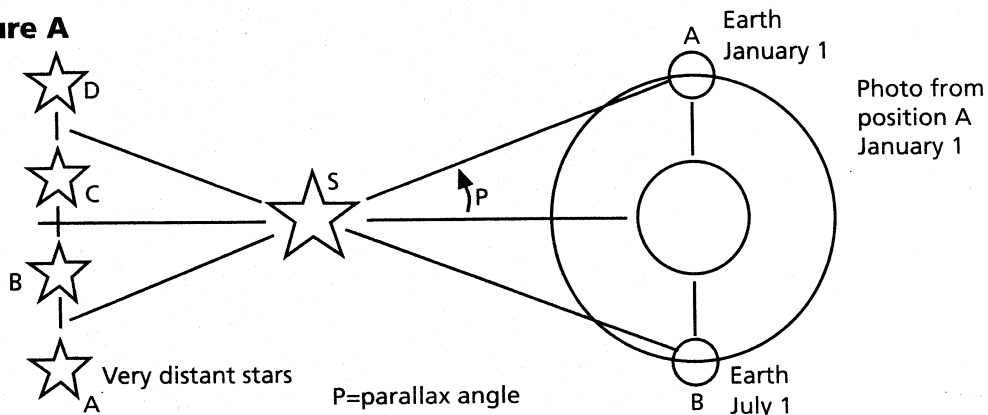


Photo from position A January 1

**Figure B**



Sketch of July 1 Photo

**Application**

Suppose two photographs of the full moon were taken at the same instant—one in Boston and one in San Francisco. Would the moon's position appear to be the same against the background of stars? Explain your answer.

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Work in pairs to create a three-dimensional model to illustrate a parallax.