

Mr. Willoughby
General Physics
Baseball dissection

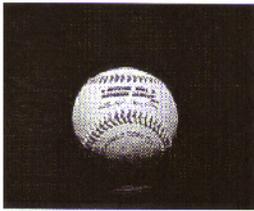
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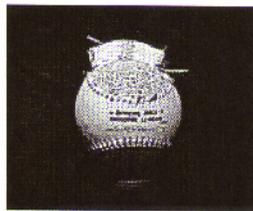
Materials: 11-step dissection procedure page, paper and pencil

Procedure: Review and read the handout and answer the questions.

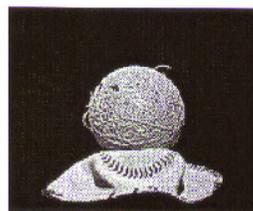
1. What surprised you about a baseball's construction?
2. What materials are used in the construction of a baseball?
3. Explain what makes a baseball live.
4. Describe how each layer effects the baseball's performance.
5. What could you do differently to aid the pitcher?
6. What could you do differently to aid the batter?



1. The official National League Baseball.



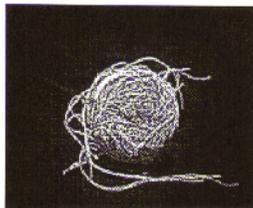
2. The dissection begins...



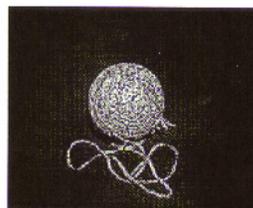
3. The leather cover is peeled back to reveal a layer of twine.



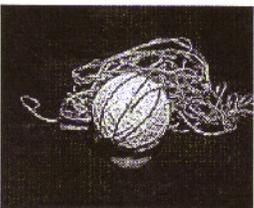
4. This first layer of thin twine is peeled away. This thin layer creates a smoother surface on which to place the leather cover.



5. With most of the first layer of twine gone, the darker, heavier yarn underneath is revealed. Many cheaper baseballs have only a solid mass of cork/rubber amalgam under the first layer of yarn, but with a pro ball, the yarn has only just begun!



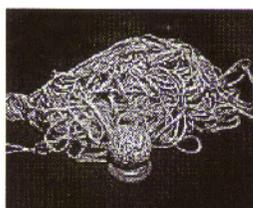
6. Unraveling the dark wool yarn begins. The bits of red thread you see are the anchor points for the heavy red stitching used on the baseball's leather cover.



7. The dark yarn gives way to a layer of white yarn. Winding these layers of yarn tighter or looser can affect the elasticity of the baseball. A tighter

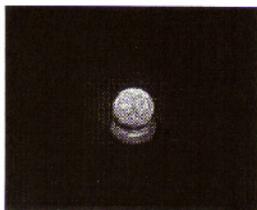


8. Back to dark yarn again. A cat would love this process -- countless yards of yarn!

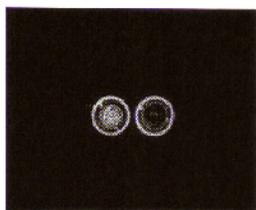


9. The baseball shrinks as the pile of dark yarn grows. This last layer of dark yarn makes up most of the baseball's size and mass.

wrap results in a livelier ball.



10. We're down to a thin layer of red rubber, and the ball is about the size of a Superball. Drop this ball, and you'll discover that it is quite bouncy! The outer layers of yarn clearly serve to moderate the elasticity of the rubber ball.



11. One last cut, and the tiny cork core is revealed. Notice that the red rubber layer gives way to a layer of black rubber as well. The cork core is about the size of a small grape.