

PHYSICS OF FUN

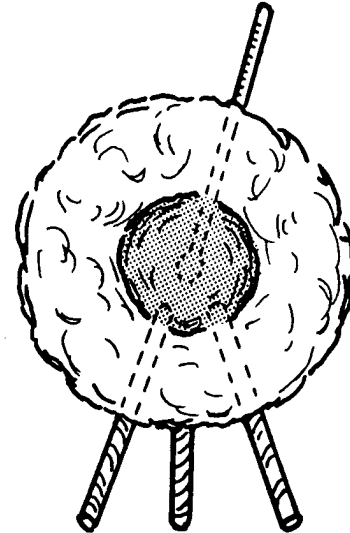
ADVENTURE SERIES



THE EFFECTS OF A BLANKET OF AIR

United States of America

Both Venus and Earth have thick atmospheres. The atmosphere of Venus is much thicker than Earth's. At the surface it is almost 90 times heavier than Earth's. In this project, you will investigate one effect of this very thick atmosphere. You need two balls of plasticine clay, two thermometers and a roll of cotton. Form the clay balls around the bulbs of the thermometers. The clay balls represent the two planets. Wrap a little cotton around one ball to represent Earth's atmosphere. Cover the Venus ball with at least 10 times as much cotton. Support both balls with three straws shaped like a tripod. Place both balls on their straw stands in a freezer for five minutes. Remove both and immediately record their temperatures. Return the balls to the freezer and repeat the procedure five minutes later. Finally, repeat the experiment after one hour. Record all of your readings on the chart below.



Time	Temperature of Cotton covered Ball	Temperature of Uncovered Ball
5 minutes in freezer		
10 minutes in freezer		
60 minutes in freezer		

How did the cotton affect the cooling rate of the clay?

Name a personal experience that illustrates this principle?

Do the two balls finally reach the same temperature?

Why?

Why don't Venus and the Earth finally reach the temperature of the surrounding space?