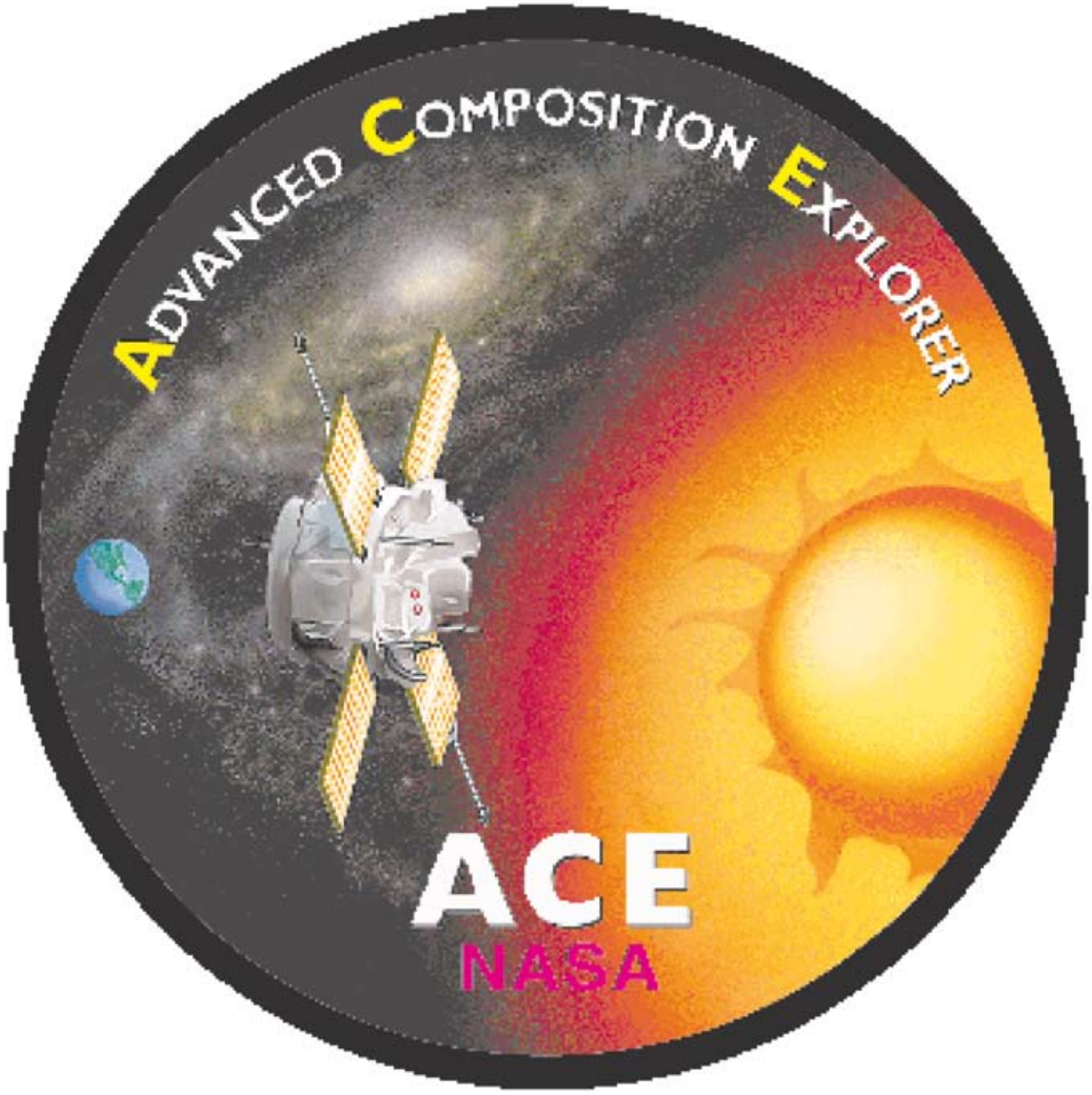

"Solar Wind" Student Worksheet

Introduction:

On April 4, 2000, the SOHO satellite captured with cameras a Coronal Mass Ejection (CME) at 1600 Universal Time (UT). Because light travels at 186,000 miles per second, the SOHO satellite detected the CME minutes after it occurred. Scientists predicted that the ACE satellite would soon measure an increase in solar winds, which would result in an aurora display on Earth. As expected, at 1600 UT on April 6, the ACE satellite recorded an increase in solar wind. Shortly thereafter, beautiful aurora displays occurred on Earth.

How fast did the solar wind travel through space?

Use the formula: Speed = Distance ÷ Time

Distance from the sun to the ACE satellite = 92,218,500 miles

1) Time it took for ACE to detect the increase in solar wind = _____ *hours*
(from 1600 on April 4, to 1600 on April 6)

2) _____ = _____ ÷ _____

Speed *(miles per hour)* | **Distance** *(from Sun to satellite)* | **Time** *(hours)*

How long after ACE detected the increase in solar wind did solar wind arrive at Earth?

Use the formula: Time = Distance ÷ Speed

Distance from the satellite to Earth = 931,500 miles

3) Speed the wind is travelling *(see question 2 above)* = _____ *miles per hour*

4) _____ = _____ ÷ _____

Time *(hours)* | **Distance** *(from satellite to Earth)* | **Speed** *(miles per hour)*