



Magnetosphere Data Collection

Date: _____

Time: _____

Initial: _____

Directions: The following questions will help you analyze the data to determine the answer to the big question, "***Has there been a measurable disturbance in the Earth's magnetic field?***" You can answer each of the questions on the back of this paper or on a separate Magnetosphere Answer Sheet.

Refer to the Kp index (Estimated Planetary K Index):

- a) What three days does this graph cover?
- b) What were the highest K index levels for each of these days?
- c) Are there any Kp values of 5 or higher?
- d) Are there any Kp values of 7 or higher?

Refer to the (Optional) Kp Auroral Map:

- e) What is the longitude, latitude, and corrected geomagnetic latitude for your area?
- f) What would the Kp level have to be for us to see aurora in our area?
- g) Are there any areas in the world that might see auroral activity, based on this data, in the next few hours? Where?

Refer to the Magnetosphere Graph:

- h) What is the current level of geomagnetic storm activity?
- i) When did the geomagnetic storm arrive at the ACE satellite?
- j) From the Magnetosphere Graph, what is the estimated time that the storm will arrive at Earth?

Comprehension Question: Based on the data you have analyzed from these instruments, answer the question, "***Has there been a measurable disturbance in Earth's magnetic field?***" Be sure to cite specific data in your response!