HCHS ![MCj03581850000[1]]() Swim with the Manatees

AP Env. Science Field Trip Feb. 5 – Feb. 6

Relation to Standards

**SEV1. Students will investigate the flow of energy and cycling of matter within an ecosystem and relate these phenomena to human society.**

b. Relate energy changes to food chains, food webs, and to trophic levels in a generalized ecosystem, recognizing that entropy is a primary factor in the loss of usable food energy during movement up the trophic levels.

c. Relate food production and quality of nutrition to population growth and the trophic levels

d. Relate the cycling of matter and the flow of energy to the Laws of Conservation of matter and energy. Identify the role and importance of decomposers in the recycling process.

**SEV2. Students will demonstrate an understanding that the Earth is one interconnected system.**

a. Describe how the abiotic components (water, air, and energy) affect the biosphere.

b. Recognize and give examples of the hierarchy of the biological entities of the biosphere (organisms, populations, communities, ecosystems, and biosphere).

c. Characterize the components that define a Biome. Abiotic Factors – to include precipitation, temperature and soils.

Biotic Factors – plant and animal adaptations that create success in that biome.

d. Characterize the components that define fresh-water and marine systems.

Abiotic Factors – to include light, dissolved oxygen, phosphorus, nitrogen, pH and substrate.

Biotic Factors – plant and animal adaptations characteristic to that system.

**SEV3. Students will describe stability and change in ecosystems.**

d. Explain how biotic and abiotic factors influence populations.

e. Describe interactions between individuals (*i.e.* mutualism, commensalisms, parasitism, predation, and competition).

See back page for agenda! Let your parents keep this.

Agenda

The students will explore the following about the West Indian Manatee during ap environmental science class: impact the environment has on manatees, how people can help to protect the manatee population, habits of the manatee

**Procedure**

Tuesday, February 5

3:30 pm Leave HCHS in charter bus (TransSouth Charter Bus)

6:00 pm Eat supper along the way (need money for this)

9:30 pm Arrive in Crystal River

Note: Staying at the Holiday Inn Express. Phone number for the hotel is 352-341-3515. 4 students per room. Only same gender students are allowed in each room. There is no outside access from the actual hotel room. Entry and exit from the hotel is through the lobby only. There will be 3 chaperones for this trip. Cell phone parents can call in case of emergency is (478) 397-6239.

Wednesday, February 6

5:30 am Breakfast provided by the hotel (included in price)

6:00 am Manatee Tour starts. Wet suits, masks, and snorkels will be provided.

10:00 am Come back to hotel to shower

11:30 am Leave to return to HCHS. We will stop for lunch on the way home. (need money for this)

Website for the manatee tours: <http://www.birdsunderwater.com/manatee_tours/index.html>

**Cost Breakdown**

Manatee Tour &

Equipment $65.00

Charter Bus $50.00(subj. to change)

Room (includes breakfast) $40.00

Total $155.00

1st payment due January 25: $100.00

2nd payment due February 4: $55.00

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