Name _____ Date _____ Block _____

Representing the Motion of Hurricanes Katrina & Sandy

Since the advent of satellite imagery, hurricane forecasters have been able to track the location of hurricanes with great accuracy. Tracking hurricanes allow forecasters to develop forecast models for future hurricanes. Hurricane Katrina was one of the most documented hurricanes in recent time. Hurricane trackers were able to determine the location of Katrina during its tropical life.

Hurricane Katrina was the deadliest and most destructive Atlantic tropical cyclone of the 2005 Atlantic hurricane season. It was the **costliest natural disaster, as well as one of the five deadliest hurricanes, in the history of the United States**. The most significant number of deaths occurred in New Orleans, Louisiana, which flooded as the levee system catastrophically failed, in many cases, hours after the storm had moved inland. Eventually 80% of the city and large tracts of neighboring parishes became flooded, and the floodwaters lingered for weeks.

Hurricane Sandy was the deadliest and most destructive hurricane of the 2012 Atlantic hurricane season, as well as the **second-costliest hurricane in United States history**. Sandy developed from a tropical wave in the western Caribbean Sea on October 22, 2012 quickly strengthened, and was upgraded to Tropical Storm Sandy six hours later. In the United States, Hurricane Sandy affected 24 states, including the entire eastern seaboard from Florida to Maine and west across the Appalachian Mountains to Michigan and Wisconsin, with particularly severe damage in New Jersey and New York. Its storm surge hit New York City on October 29, flooding streets, tunnels and subway lines and cutting power in and around the city. Damage in the United States amounted to $65 billion.

In this activity, you will be able to use a Motion Map to represent the movement of Hurricanes Katrina & Sandy. After creating the motion maps, you will be able to create other representations of Katrina's motion.

Materials: NOAA's coordinates for Hurricane Katrina, NOAA's coordinates for Hurricane Sandy, Hurricane Tracking Map, Gulf of Mexico Tracking Map, Graph Paper, Others

Procedures:

1. Using NOAA's coordinates (latitude & longitude) for Hurricane Katrina, plot the locations of Katrina and Sandy on the Hurricane Tracking map. Hey, you're making motion maps.
    a. Use **two different colors** – one for Katrina and one for Sandy

2. Using a 5-10 sentence paragraph, analyze and compare the visual representation of Hurricane Katrina's motion vs. Hurricane Sandy's motion.
    a. Did Katrina keep a constant forward velocity? Explain!
    b. Did Sandy keep a constant forward velocity? Explain!
    c. Which hurricane had a faster velocity? Support your claim using your data and visual graph.

3. Develop a graphic representation of only Katrina's motion. Please use graph paper.

4. Turn in motion map of Katrina and the graphical representation attached to this paper.

Storm Track Coordinates: Katrina

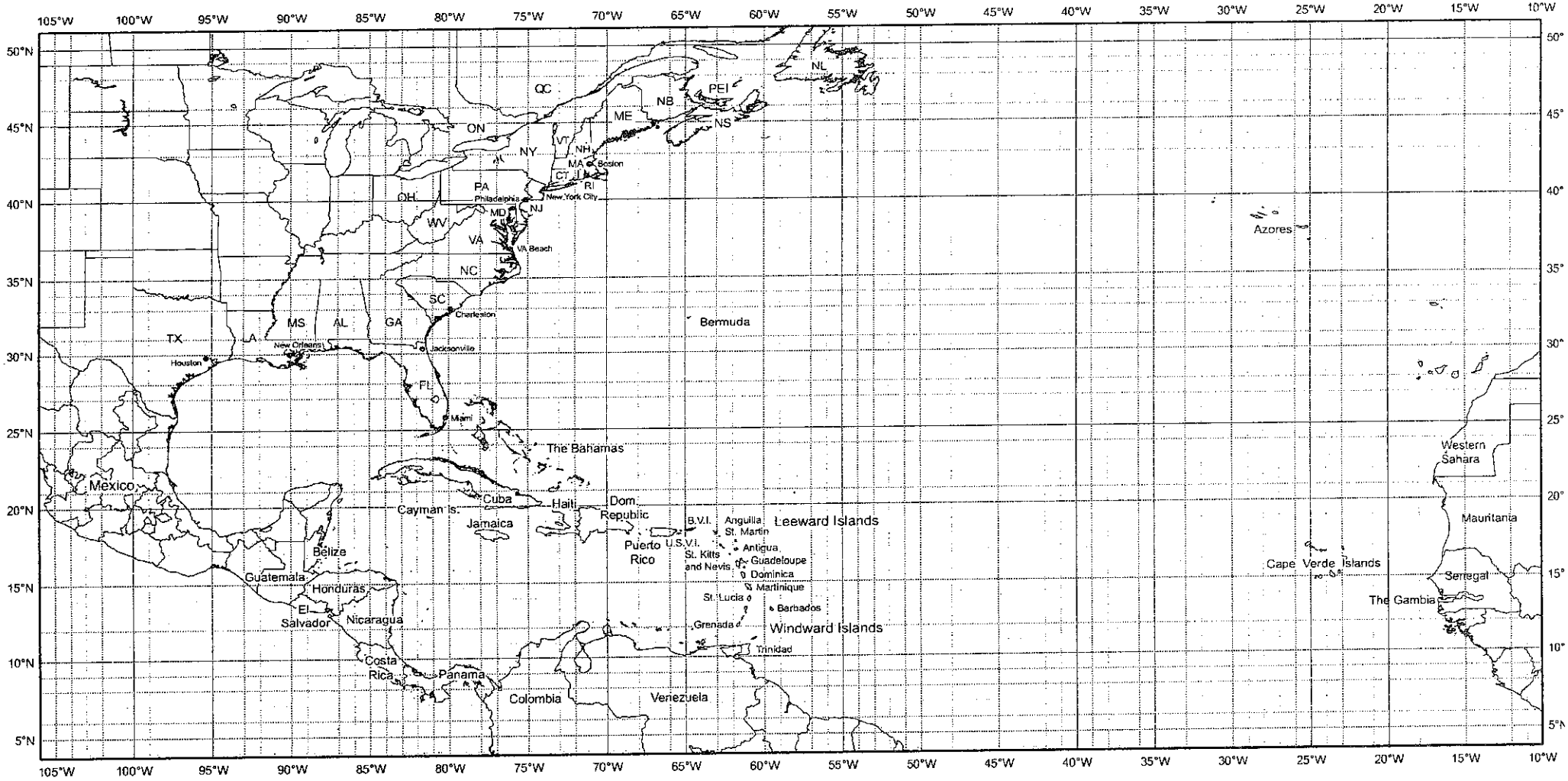
DATE	TIME	LAT	LON	WIND (MPH)	PRESSURE	STORM TYPE
08/24/2005	00 GMT	23.4	75.7	35	1007	Tropical Depression
08/24/2005	12 GMT	24.5	76.5	40	1006	Tropical Storm
08/25/2005	00 GMT	26.0	77.7	50	1000	Tropical Storm
08/25/2005	12 GMT	26.2	79.0	65	994	Tropical Storm
08/26/2005	00 GMT	25.9	80.3	80	983	Category 1 Hurricane
08/26/2005	12 GMT	25.1	82.0	85	979	Category 1 Hurricane
08/27/2005	00 GMT	24.6	83.3	105	959	Category 2 Hurricane
08/27/2005	12 GMT	24.4	84.7	115	942	Major Hurricane
08/28/2005	00 GMT	24.8	85.9	115	941	Major Hurricane
08/28/2005	12 GMT	25.7	87.7	165	909	Major Hurricane
08/29/2005	00 GMT	27.2	89.2	160	905	Major Hurricane
08/29/2005	12 GMT	29.5	89.6	125	923	Major Hurricane
08/30/2005	00 GMT	32.6	89.1	60	961	Tropical Storm
08/30/2005	12 GMT	35.6	88.0	35	985	Tropical Depression
08/31/2005	00 GMT	38.6	85.3	35	994	Extratropical Storm

Storm Track Coordinates: Sandy

DATE	TIME	LAT	LON	WIND (MPH)	PRESSURE	STORM TYPE
OCT/22/2012	1500 GMT	13.5	-78.0	30	1003	Tropical Depression
OCT/23/2012	0300 GMT	12.7	-78.6	45	998	Tropical Storm
OCT/23/2012	1500 GMT	13.8	-77.8	50	993	Tropical Storm
OCT/24/2012	0300 GMT	15.2	-77.2	60	989	Tropical Storm
OCT/24/2012	1500 GMT	17.1	-76.7	80	973	Category 1 Hurricane
OCT/25/2012	0300 GMT	19.4	-76.3	90	954	Category 1 Hurricane
OCT/25/2012	1500 GMT	22.4	-75.5	105	964	Category 2 Hurricane
OCT/26/2012	0300 GMT	25.3	-76.1	90	968	Category 1 Hurricane
OCT/26/2012	1500 GMT	26.7	-76.9	80	970	Category 1 Hurricane
OCT/27/2012	0300 GMT	27.7	-77.1	75	969	Category 1 Hurricane
OCT/27/2012	1500 GMT	29.0	-76.0	75	958	Category 1 Hurricane
OCT/28/2012	0300 GMT	30.9	-74.3	75	960	Category 1 Hurricane
OCT/28/2012	1500 GMT	32.5	-72.6	75	951	Category 1 Hurricane
OCT/29/2012	0300 GMT	34.5	-70.5	75	950	Category 1 Hurricane
OCT/29/2012	1500 GMT	37.5	-71.5	90	943	Category 1 Hurricane
OCT/30/2012	0300 GMT	39.8	-75.4	75	952	Post-Tropical Cyclone

Atlantic Basin Hurricane Tracking Chart

National Hurricane Center, Miami, Florida



Analysis Paragraph

Graphical Representation (REMEMBER TO LABEL)