



Breakout Box Hurricane Activity

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Target Grade: 6th Grade Science

Time Required: 35 minutes

Standards:

SPI 0607.8.4 Interpret meteorological data to make predictions about the weather.
SPI 0607.8.3 Describe how temperature differences in the ocean account for currents.
SPI 0607.8.1 Analyze data to identify events associated with heat convection in the atmosphere.

Central focus:

This activity on hurricanes uses a Breakout Box from breakoutedu.com. Students will find the answers to the activity through researching on the Internet. Students should be grouped into 5-7 students per box set.

Materials:

Large Box	5 digit word lock
Locking Pencil Box	Keyed lock
Pouch that can be zipped and attach a lock	Mobile devices
Directional lock	YouTube video
3-Digit number lock	Google Forms
4-Digit lock number	QR Codes

Prior Planning

- Create Google Forms with questions and answers
- Create two QR codes that links to the corresponding Google form
- Put together folder with QR code #1, the Hurricane Map, and an URGENT NOTE
- Put the key to the keyed lock into the small zipped pouch
- Attach the 3 digit lock to the small zipped pouch
- Place locked pouch inside the locking pencil box
- Place the key to the pencil box in an envelope by the warm side of the sink
- Attach a directional lock, the 4 digit lock, 5 digit word lock, and a keyed to the large box



Instruction:

Students open an “urgent” folder containing a note, QR Code # 1, and the Hurricane Weather Map.

URGENT NOTE: Hurricane Maurice is predicted to hit the coast of Florida and Alabama in the next couple of days. We need our hurricane emergency supplies. They have been locked in this box and we cannot find the key. Please help us complete a series of tasks so we can locate the key and open the box.

Task 1

- 1) Show students the following riddle: *Damage is great and may even be called dire; it could be with wind, water or fire. What do we do with hurricane names of such fate, when the damage is considered to be very great?* (**Answer: Retire**)
- 2) Watch short YouTube video that discusses retiring hurricane names.

Task 2

- 3) Students use QR code #1 to go to Google Form #1 and then use the Internet to find the answers to the questions. (**Password: Retire Answer: Able, Alice, & Bob**)
- 4) At the end of Google form # 1, students receive this clue: *Warm water helps fuel a hurricane. Where can I find warm water? BTW: The hurricane is now heading NNW at 35mph.*

Task 3

- 5) Based on the clue, if they go to the classroom sink (warm side), they will find an envelope with a key in it that will open the locked pencil box. Inside the pencil box is a UV Flashlight, QR Code #2 that links to Google Form #2, and a small zipped pouch that has a 3-digit lock attached.

Task 4

- 6) The NNW in the clue from Task 2 will open a directional lock: Up, Up, Left on the large box.
- 7) The students use the UV light to look at the original Hurricane Map. The map has been marked with invisible ink highlighting the Longitude and Latitude of 31° N and 87° W. These two coordinates will open a 4-digit lock on the large box.



Task 5

- 8) Students use QR code #2 to go to Google Form #2 and then use the Internet to find the answers to the questions. (Answers: Typhoon, Coriolis, & Roxcy Bolton)
- 9) At the end of Google form #2, students receive this clue: *Names are important, but which one?*
- 10) Students try the names of the hurricanes from Task 2 to try and open the five-letter lock on the large box. (Answer: Alice)

Task 6

(At this point the only locks remaining are the three-digit lock on the small zipped pouch and a keyed lock on the large box)

- 11) Students need to find a three-digit number from the Hurricane map to open the three-digit lock on the small zipped bag. The three-digits that open the lock are in the message at the bottom of the original Hurricane map. *Hurricane Maurice is expected to make landfall at 7:35am as a Category 3 Hurricane. Sustained winds are expected to be 125mph.* (Answer: 735 or 125)

Task 7

- 12) Once that zipped pouch is open, they will find the key to the keyed lock on the large box.
- 13) Students open the large box and make sure they have all the emergency supplies they need in a hurricane. Examples- food, candle, flashlight, batteries, water, etc.

Closure

At the end of the Breakout Box activity explain some of the things they learned and provide more information about Hurricanes and preparing for extreme weather.

This activity has the potential to be used as a motivating strategy for weather topics including the global water movement via heat transfer and salinity, weather conditions, severe storm formation, analysis of weather data, and prediction of probable weather.



Google Form # 1

Hurricanes

Complete this Google Form to find the first key.

* Required

Password *

Retire

Hurricanes

* Required

Untitled Section

First name ever used for an Atlantic hurricane. (Not a human name) *

Able

Hurricanes

* Required

Question 2

First official human (female) name for a hurricane. *

Alice

Hurricanes

* Required

Question 3

First official male name used for a hurricane. *

Bob

Hurricanes

Warm water helps fuel a hurricane. Where can I find warm water? BTW: The hurricane is now heading NNW at 35mph.



Google Form #2

Hurricanes (Cont'd)

* Required

What do you call a tropical cyclone that begins in the south Pacific Ocean? *

Typhoon

Hurricanes (Cont'd)

* Required

Question 2

What effect causes hurricanes to begin spinning? *

Coriolis

Hurricanes (Cont'd)

* Required

Question 3

What woman was instrumental in getting names of men used for hurricanes instead of just women? *

Roxcy Bolton

Hurricanes (Cont'd)

Names can be helpful, but which one?



Hurricane Map

