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Activities

Making Waves

Name: _____ Date: _____

Some waves are small and gentle. Others are huge and ferocious. What does their size depend on? You'll make your own waves as you find out in this Planet Diary activity.

Directions

- Go to the Wave Machine from PBS Savage Seas. Read the description of how the wave machine works.
- Click *Wind Speed* and read the explanation. Answer question 1 in the Workspace.
- Set wind speed to 10 knots. *Fetch* settings appear. Read the explanation, then answer question 2.
- Set fetch to 75 nautical mile. This time, *Wind Duration* settings appear. Read the explanation, then answer question 3.
- Set wind duration to 10 hours and observe. Nice wave, captain! Notice the wave's size, then read the explanation, Now it's your turn. Vary wind speed, duration, and fetch to make a wave between 10 and 20 feet. Success? Record the settings that worked in question 4.
- It's easy to make a big wave if you crank up wind speed. What's the lowest (minimum) wind speed for a 10–20 foot wave? Experiment with the settings to find out, then answer question 5.
- Ready to really get the ocean rocking and rolling? Your next challenge is to make the biggest wave possible. Record your settings for the last question.

Workspace

1. How is wind speed measured in the Beaufort Wind Scale?

2. What does fetch measure?

3. What does wind duration measure?

4. Settings for 10–20 foot wave:
   a. Wind speed _____
   b. Fetch _____
   c. Duration _____
   d. Wave height _____

5. What's the minimum speed needed to make a 10–20 foot wave?

6. Settings for biggest wave:
   a. Wind speed _____
   b. Fetch _____
   c. Duration _____
   d. Wave height _____

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