



Blow a Cyclone - Teacher's Notes

Wind is one of the most destructive elements of a cyclone. Winds as fast as 300km/hr have been recorded in very intense cyclones with cyclone Yasi in February 2011 recording gusts of 285km/hr.

The following activity demonstrating how cyclones form is adapted from Lisa Magloff's article on the following website

<https://sciencing.com/school-projects-cyclones-7904786.html>

Materials

- Rectangular tray (student desk tray or aluminium BBQ tray)
- Flexible straw
- Water
- Ruler
- Tape



Method

1. Bend the straw so it makes an L-shape.
2. Tape the straw in the middle of one of the short sides of the rectangular tray, approximately 1.5cm from the base of the tray. The shorter part of the straw is facing up and the longer part is parallel with the long sides of the tray.
3. Pour water into the tray to a level just below the long part of the straw.
4. For hygiene reasons, only one student should be allowed to blow into the straw. This student should blow gently into the straw at first to create a wave whilst other students can use the ruler to measure the height of the wave.



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5. The same student should then blow a little harder to create a larger wave which is measured. The student should continue to blow incrementally harder until they are blowing as hard as they can!
6. The experiment is then repeated with more or less water in the tray (ensuring the straw is not submerged) which represents deeper and shallower water in the ocean.

What is happening?

As students blow increasingly harder through the straw, they are modelling higher wind speeds blowing across the ocean. As the speed of the wind increases, the height of the waves will also increase. Students will also discover that high winds blowing across shallow water will create larger waves.

By blowing across the surface of the water, students are creating a low pressure cell at the surface. When this occurs in warm tropical waters, a cyclone may form (according to the Bureau of Meteorology, sea-surface temperature needs to be above 26.5).

This video has some more detail about how cyclones form:

<https://youtu.be/xXsOFNwlXXo>

Please note, this is an American video so it talks about hurricanes (same as cyclones - they just form in a different area) and it also talks about temperatures in the Fahrenheit scale.

