

## **Sand ripple marks in a washbowl** **How asymmetrical ripple marks form in sand**

***From Godfrey Nolan,  
Geological Survey of Canada, Calgary.***

I tried this in my kitchen at home. It is definitely important to wash the sand before conducting the activity. It might be better (but more expensive) to use aquarium sands that are already clean. I found the activity worked differently in different containers. I got the best results using containers in which the base was perpendicular to the sides. The two examples that worked best were a plastic cake box and a container for a food processor that already has a central column, so no additional containers were needed. The activity worked less well in more typical bowls where the sides are curved and inclined with the respect to the flat base. I found that some different effects could be achieved by placed containers with different cross-sectional shapes in the centre. For example, I used a mug with octagonal cross-section and an oval cylinder. It is fun to try and explain the results and perhaps would make a good extension of the activity.

***From Peng Tian Yin, Department of Earth  
Sciences, National Taiwan Normal University***

I think one direction circular current is not easy to realize in the natural phenomenon. In Taiwan, we can take a familiar example. During the north-east monsoon in north Taiwan, asymmetrical ripple marks can be formed by winds in sand dunes. The wind is fast enough to form undulations, then to move sand grains up the shallow backs of ripple marks and deposit them on the steeper fronts, and to give clues to the wind direction .

***From Peter of the Earthlearningidea Team, UK***

This activity can also be carried out in a small portable container for demonstrations out of doors, as shown in the photos below. An empty CD container with a small tube fixed in the centre is used.

