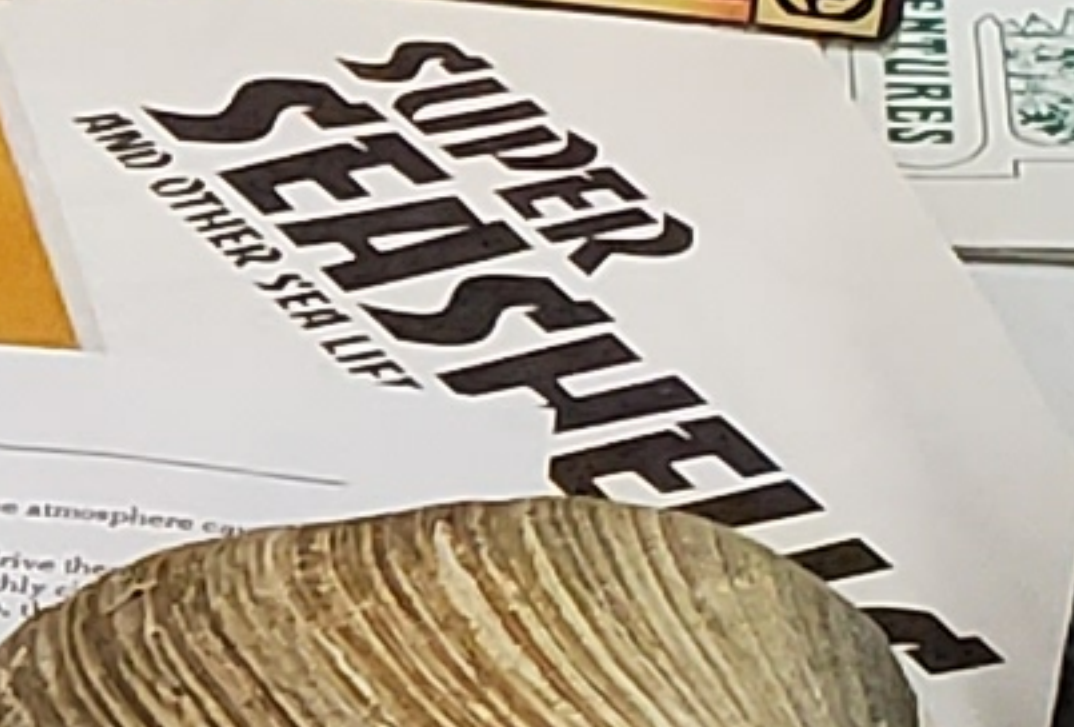


How Do Submersibles Go Down and Come Back Up?
SUCKERHOOD

GONE FISHING



Activity: Global Winds and Ocean Currents

Introduction: Wind-Driven Ocean Circulation

The lower atmospheric circulation and the upper oceanic circulation are closely linked, with the sun being the ultimate source of energy for both circulations. Unequal heating of the atmosphere produces atmospheric circulation and wind. The wind blowing over the surface of the water drives the ocean's major surface currents. These currents, along with the wind, transfer heat from tropical regions, where there is a surplus, to polar regions, where there is a deficit. The ocean in turn releases energy to the atmosphere which helps maintain the general atmospheric circulation.

The main features of the wind driven surface circulation are the gyres, which are found in all major ocean basins. Driven by the prevailing wind systems and Earth's rotation, the gyres help to redistribute heat poleward. The Gulf Stream, transport heat poleward. The gyres give rise to large rotating warm and cold water masses. Along the western margins of ocean basins, high and low pressure cells observed in the atmosphere are mirrored in the ocean. The gyres are other surface features of the ocean.

IN WHICH OCEAN IS THE SHIP SAILING?

Can you tell by seeing a small portion of the map of the world in which ocean the ship is sailing? Try your skill on the following maps. Use a globe or world map to check your answers.

Activity: Predicting the Patterns and Characteristics of Surface Ocean Currents

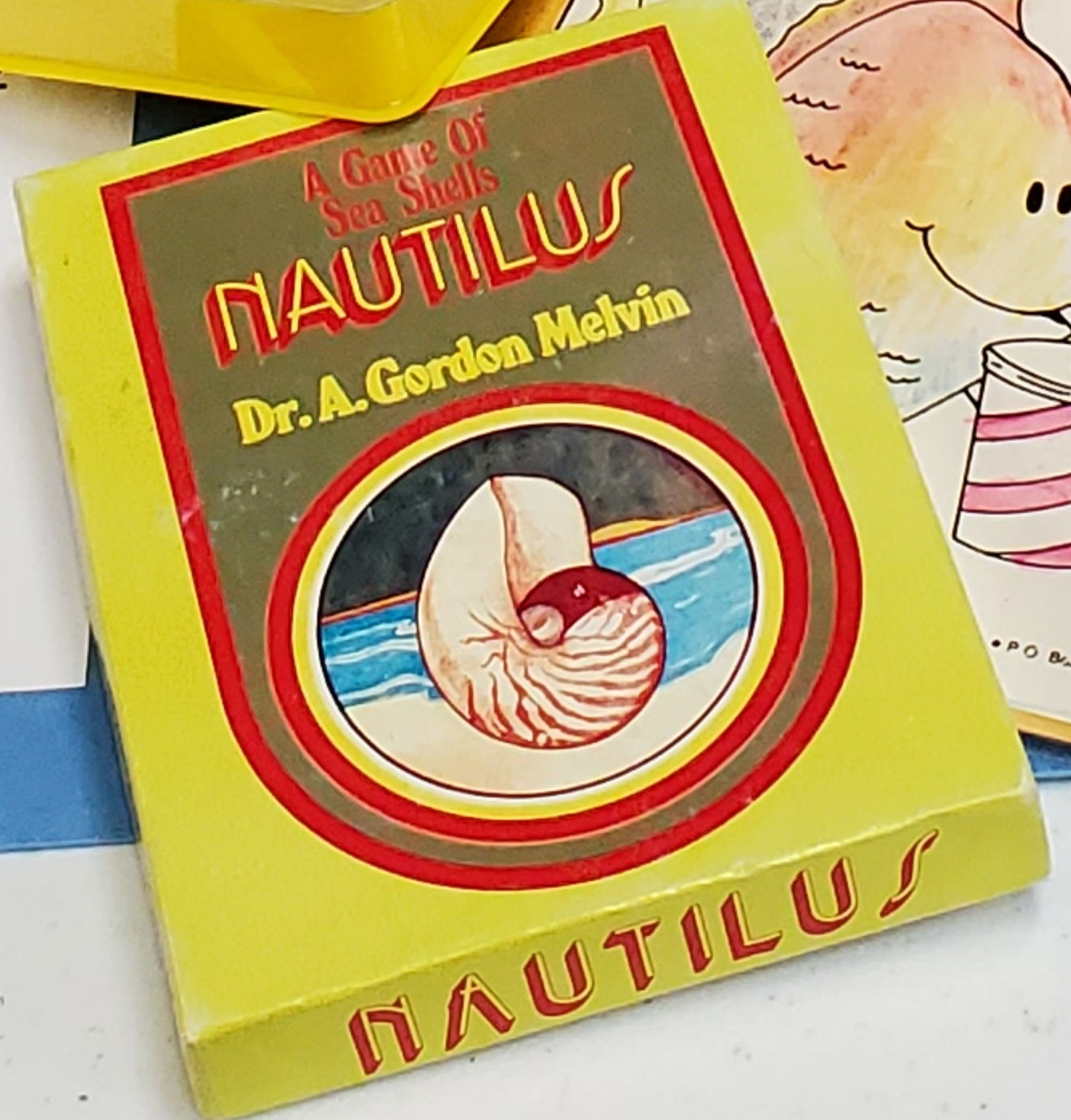
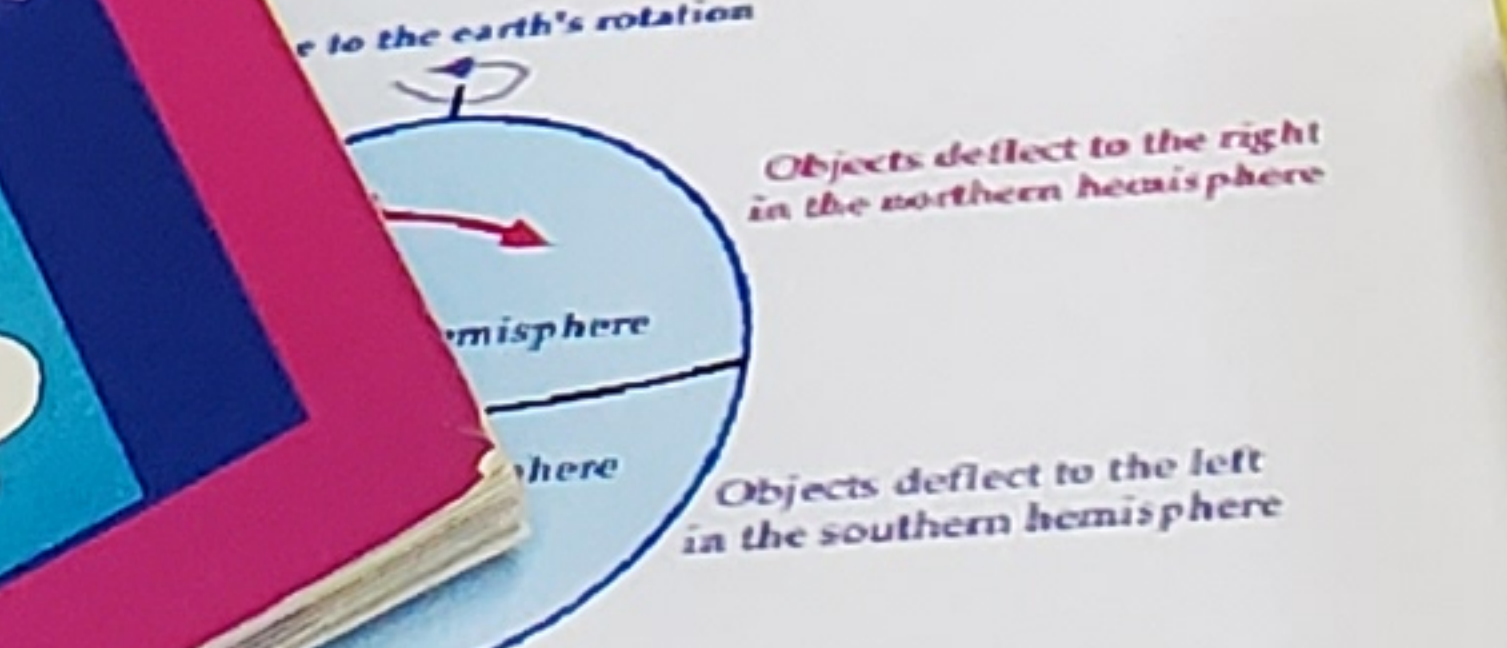
Introduction
When viewed from space, the surface currents of the major ocean basins can be seen to follow the prevailing wind systems that drive them. Constrained by continental boundaries and deflected by the Earth's rotation, these surface currents flow in large, roughly circular patterns called gyres. The gyres play an important role in redistributing heat from the low to the high latitudes, thus influencing ocean temperature, weather, and climate. The following activity investigates gyres by first looking at single surface currents and then building a global perspective of ocean gyre circulation.

Materials
A set of Current Cards, Global Ocean Basin Chart, and Global Current Chart.

Objectives
Predict the direction of surface currents.

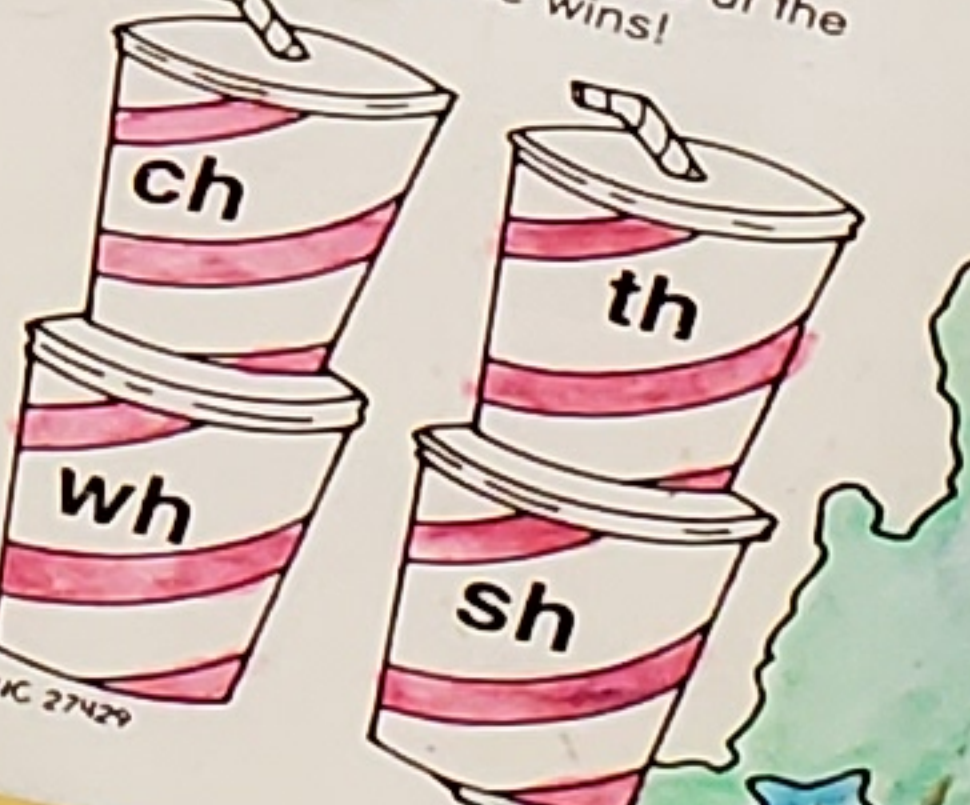
Surface currents

Coriolis effect



Seaweed Soda

Directions for 2-4 players:
1. In turn, draw a card from the pile. Use it to make a word.
2. Use a dictionary to check.
3. If correct, keep the card. If incorrect, discard the card.
4. Player with most cards at the end of the game wins!



VITOR Float?

There (became more the water to die...)

EXPLORATION

• See how many pebbles you can add before the can floats over.
• Take a ball of modeling clay and make it float. Add and try to make it float by molding it into a shape that you are an explorer visiting the world of the MONTE OR. What would you like to look for? What would you like to find? (Check the encyclopedia.)

