Answer #228

The answer is (b): the water stream will pull the spoon into itself to the left, as seen in a video by clicking your mouse on the photograph below.



This is a demonstration of how a fluid stream sticks to a convex surface along which it flows, rather than to move in a straight line, called the Coanda effect after Henri Coanda, an early airplane designer and air flight experimentalist. Another view of the water flowing around the bottom of the spoon is shown <u>here</u>, to demonstrate that it is the water flowing *over* the convex surface, not hitting the *concave* surface, that is responsible for the force.

The Coanda effect is one reason for lift in airplanes: air flowing over the convex upper surface of the wing is shed in downward vortexes from the rear edge of the wing, with the reaction force providing some (upward) lift to the wing.

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For questions and comments regarding the *Question of the Week* contact <u>Dr. Richard E. Berg</u> by e-mail or using phone number or regular mail address given on the <u>Lecture-Demonstration Home Page</u>.