

NAME \_\_\_\_\_

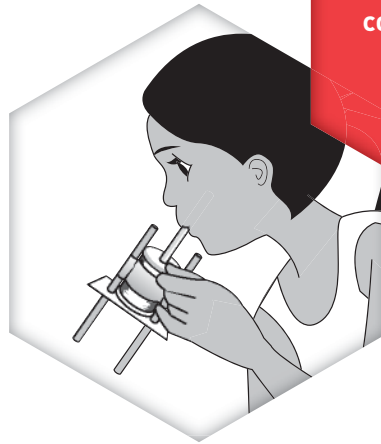
# UNDER PRESSURE

## How do NASCAR racecars stay on the track?

Racecars are designed to force air to flow faster underneath them than over the top. The low pressure below the car sucks it down toward the track. At the same time, high air pressure pushes down on the car from above. Try this experiment to demonstrate how air pressure shifts can cause an object to stick to a surface.

### PROCEDURE:

- 1 Thread the index card on the straws and hold it against the bottom of the spool.
- 2 Blow strongly through the straw and let go of the card. How long can you keep the card suspended?

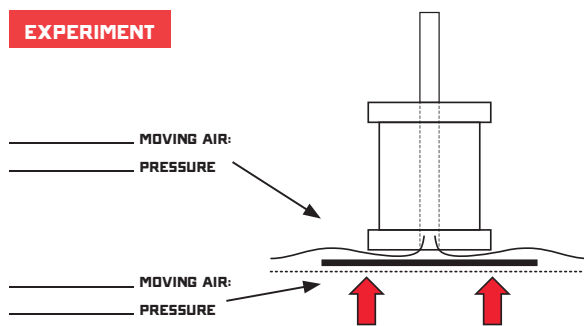


**GATHER  
YOUR MATERIALS:**  
completed pressure-test  
spool with index card

### CONCLUSIONS:

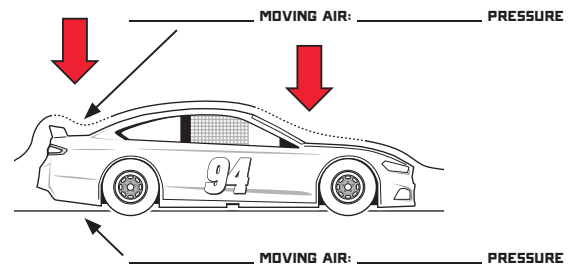
**Lift or downforce?** Fill in the blanks below to explain how fast- and slow-moving air create low and high air pressure, which lead to lift or downforce on an object.

#### EXPERIMENT



The \_\_\_\_\_ air pressure above the card was caused by \_\_\_\_\_ moving air. The \_\_\_\_\_ air pressure below the card was caused by \_\_\_\_\_ moving air. The combination of \_\_\_\_\_ air pressure above and \_\_\_\_\_ air pressure below creates \_\_\_\_\_.

#### RACECAR



The \_\_\_\_\_ air pressure pushing downward above the front and back of the car is caused by \_\_\_\_\_ moving air. The \_\_\_\_\_ air pressure below the car is caused by \_\_\_\_\_ moving air. The combination of \_\_\_\_\_ air pressure above and \_\_\_\_\_ air pressure below creates \_\_\_\_\_.