

AP Bottle Racer

Grades 3+ | Students Served: 30

ELEMENTARY

MIDDLE LEVEL

HIGH SCHOOL



Essential Questions

How does friction affect the distance and speed the vehicle can travel?

How is air harnessed and used for propulsion?

How can compressed air be used to move other larger objects?

Career Connections:

- Race Car Driver
- Mechanic
- Test Car Driver
- Classic Car Restorer

STEM Connections

Science

- Air power
- Force and motion
- Aerodynamic drag
- Acceleration

Technology

- Using tools for measurement
- Troubleshooting

Engineering

- Applying design processes

Math

- Symmetry
- Calculating velocity
- Measurement

Sample Activity

Art and Science in a Bottle

Challenge

Use a variety of art materials to create the most aesthetically pleasing bottle racer. Students can swirl paint inside the bottle, stuff the inside of the bottle with glitter, attach paper or other items to the outside . . . let them create however they desire. Let the focus be on the art. Then, after the designs are complete, race the bottles!

Discussion

How did your focus on art affect the speed of your car? If your focus had been on the science of making the car faster, how would you have decorated your car differently?

