

## AP Dragster

Grades 5+ | Students Served: 30

ELEMENTARY

MIDDLE LEVEL



### Essential Questions

How does the mass of the vehicle affect the distance and speed it 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
- Applying design processes

#### Engineering

- Designing to specifications

#### Math

- Symmetry
- Calculating velocity
- Measurement

## Sample Activity

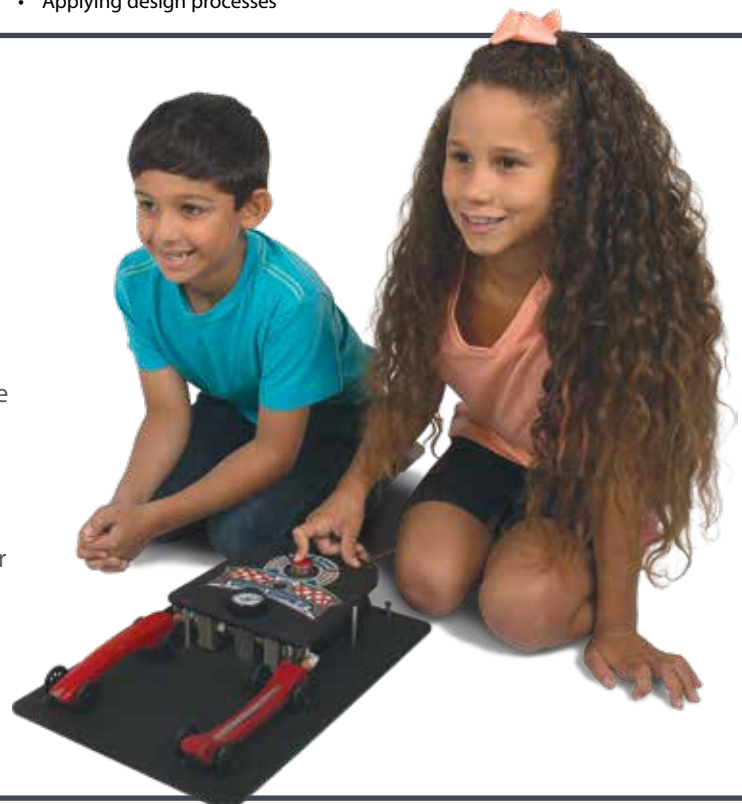
### Intro to CO<sub>2</sub>

#### Challenge

Use this kit as an intro to CO<sub>2</sub> cars to build confidence and problem-solve the best design criteria. Design a dragster using the precut sets. Test and redesign as needed to create an aerodynamic vehicle that covers the greatest distance in the least time.

#### Discussion

What tools did you use for this activity? Are there other tools that might make designing or constructing easier? What kind of modifications can be made to make the car more aerodynamic?



**WARNING:** Drilling, sawing, sanding, or machining wood products can expose you to wood dust, a substance known to the state of California to cause cancer. Avoid inhaling wood dust or use a dust mask or other safeguards for personal protection. For more information, go to [www.P65Warnings.ca.gov/wood](http://www.P65Warnings.ca.gov/wood).