

NAME: _____

Post-Assessment

WHAT DID YOU LEARN ABOUT THE SCIENCE OF SPEED?

You just completed a unit about aerodynamics and its influence on an object's speed.

Share what you have learned about aerodynamics.

1 The science of aerodynamics studies:

- ☐ A How fast a car or plane can move.
- ☐ B The movement of air.
- ☐ C How objects can change the air.
- ☐ D The weight of objects.

2 What are three key aerodynamics principles?

- ☐ A Drag, distance, and downforce
- ☐ B Drafting, distance, and drag
- ☐ C Drag, downforce, and dynamics
- ☐ D Drag, downforce, and drafting

3 Drag occurs when:

- ☐ A Air pushes against an object.
- ☐ B Air enters an object.
- ☐ C Air avoids an object.
- ☐ D None of the above

4 Downforce is created when:

- ☐ A Fast-moving air moves above an object and slow-moving air moves below it.
- ☐ B Low-pressure air moves above an object and high-pressure air moves below it.
- ☐ C High-pressure air moves above an object and low-pressure air moves below it.
- ☐ D None of the above

5 True or false? Fast-moving air creates high air pressure.

- ☐ A True
- ☐ B False

6 True or false? When two cars draft, the area of low pressure behind the first car sucks the second car forward, causing it to move even faster.

- ☐ A True
- ☐ B False

7 True or false? Drafting is caused by aerodynamics adaptations to racecars.

- ☐ A True
- ☐ B False

8 The flaps on racecars that create drag:

- ☐ A Help the cars move faster.
- ☐ B Slow the cars down to better control their speed.
- ☐ C Help cars increase speed during drafting.
- ☐ D All of the above

9 Downforce is important to NASCAR racecars because:

- ☐ A It helps the cars move faster.
- ☐ B It makes it safer to speed around turns.
- ☐ C It helps cars "stick" to the track.
- ☐ D All of the above

10 In the world of NASCAR racing aerodynamics, engineers:

- ☐ A Create car adaptations that help improve the safety and speed of racecars.
- ☐ B Design helmets that help the drivers focus better when driving.
- ☐ C Invent car adaptations that make the cars heavier and safer.
- ☐ D Develop adaptations that enhance the communication between the car and the driver.