10 Seconds Flat

Grade Level: High School

Student Objectives

- Utilize data to calculate and anticipate outcomes
- Understand the role of math in NASCAR through a real-world activity
- Understand the role of a crew chief and race engineer

Materials List

- Pencil
- Ruler or tape measure
- Download make the call worksheet (PDF)
- Download 2020 and 2019 Las Vegas Stats Data (PDF)

Lesson Plan and Procedures

1. Gather supplies and materials, including downloads. Review the documents, questions and NASCAR background information as needed
2. Complete the questions on the corresponding worksheet.
3. Send your answers to education@nascarhall.com and a member of the education team will review and respond. Good luck!

High School NASCAR Background Information

A crew chief's role is to serve as the head coach for a NASCAR team. The crew chief is responsible for managing people, performances, executing games plans and ensuring the team is positioned for the best outcome in each race. To execute a strategy, a crew chief will compile data from every aspect – including everything from when the race track was last resurfaced or adjusted, past performance at the track, what car chassis was used and so on. The crew chief uses the data to create a strategy for the same track and similar conditions. During the actual race event, data becomes even more important and strategies need to change at any given moment. The crew chief will work with race engineers who will calculate, on the spot, variations such as tire performance (how long is the tire lasting, what are the condition of tires as they come off the car, what is the weather conditions), what are other cars doing (strategic decisions) and even the performance of the pit crew. Feedback from the driver also impacts the discussion. Drivers can let crew chiefs and engineers know about the handling and performance of the car. Using all the data collected and comparing to previous races, a crew chief can adjust their plan to continue and position their car and driver in the best possible position to place and/or win a race.

The data provided in this activity reflects actual data information from NASCAR as well as scenarios that can be run using the data provided. Real-life analysis of information is critical to decision-making either at a racetrack or in a business.