

Student Comprehension Worksheet

Directions: Read and answer questions the online *Science News* article "[Spiraling footballs wobble at one of two specific frequencies](#)," which describes how researchers figured out why spiraling footballs sometimes drift sideways. A version of the article, "Why spiraling footballs sometimes miss the mark," appears in the September 10, 2022 issue of *Science News*.

- 1. Describe how footballs move through the air when they are thrown by football players.**
- 2. What does a wobbling football look like? What can happen to the football pass when a ball wobbles?**
- 3. What physical forces cause a football to wobble?**
- 4. How did scientists determine the rate of a football's wobble? Make sure your answer includes the speed at which the ball traveled and its spiral and wobble rates and their appropriate units of measurement.**
- 5. What did this new research find about football wobbles?**
- 6. What makes a football's wobble rate fast or slow? Explain.**
- 7. How does wobble rate contribute to footballs drifting sideways? How far off course can a football drift due to wobbling?**
- 8. What other factors can contribute to a spiraling football getting off course?**

9. How far off course can those factors cause the ball to drift? How does the amount of drift compare with that caused by wobbling?

10. Do you think this information could be helpful to football players? Explain your answer.