

## The Science of Sports Performance

Have you ever wondered why some athletes seem to move faster, jump higher, or last longer in a game than others? The secret lies in a combination of training, nutrition, rest, and science.

**Training** helps athletes develop strength, speed, and stamina. Repeating certain movements, such as sprinting or shooting hoops, builds muscle memory. This makes the actions feel natural and more accurate during competitions.

**Nutrition** is equally important. Athletes fuel their bodies with a balanced diet. Carbohydrates provide energy, protein helps with muscle repair, and water keeps the body hydrated. Eating the right foods before and after exercise can make a big difference.

**Rest and recovery** allow the body to heal. Muscles grow and repair during rest periods - not while you're exercising. That's why sleep is so vital for athletes.

**Technology** is changing the way athletes train. Wearable trackers can monitor heart rate, step count, and even sleep quality. Slow-motion replays help coaches analyse movement and improve technique. Scientists also study how the body reacts to stress, fatigue, and pressure.

All these elements work together to help athletes perform at their best. Whether you're a professional or just playing for fun, understanding the science of sport can help you improve and stay healthy.

## P.E. Reading Comprehension – Key Stage 2 – Year 6

1. What are the four key areas that help athletes perform better?
2. What is muscle memory?
3. Why are carbohydrates important for athletes?
4. When do muscles grow and repair?
5. Why is sleep vital for athletes?
6. Name two ways technology helps improve sports performance.
7. What does a wearable tracker monitor?
8. How can slow-motion replays support athletes and coaches?
9. What do scientists study to improve athletic performance?
10. According to the text, who can benefit from understanding the science of sport?

## MARK SCHEME

1. Training, nutrition, rest, and science/technology
2. When repeated movements become natural and accurate through practice
3. They provide energy
4. During rest periods
5. Because it helps the body recover and muscles repair
6. Wearable trackers and slow-motion replays (other valid answers: scientific analysis, video feedback)
7. Heart rate, step count, and sleep quality
8. They help analyse movement and improve technique
9. How the body reacts to stress, fatigue, and pressure
10. Everyone—from professionals to people playing for fun