

# **Types of Muscle Fibres**

## **Answer Key**

1. Athletes with a higher proportion of slow tonic fibres (red muscle) tend to excel at endurance sports like marathon running. These fibres store oxygen in myoglobin and have many mitochondria. They are well supplied with blood vessels, carry on aerobic respiration readily, and are resistant to fatigue. Athletes with a higher proportion of fast-twitch fibres (white muscle) excel at sports requiring strength and speed, like sprinting and weight lifting. Fast-twitch fibres receive most of their energy through anaerobic respiration. ATP is split readily, creating fast bursts of energy. White muscle fibres are recruited at high levels of intensity, and they fatigue easily.
2. The flight muscles of chickens are composed largely of fast-twitch fibres, so they are adapted for strength and speed in short flights to safety. Flight muscles of wild migratory birds are composed of slow-twitch fibres, adapting them for prolonged flight without fatigue.