

GCSE PE – Revision Booklet

Applied Anatomy and Physiology

Physical Factors Affecting Performance

The Structure and Function of the Muscular System

Student Book



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What the Specification Says

Learners must know the name and location of the major muscles in the body.

Learners must be able to apply their use to examples from physical activity/sport.

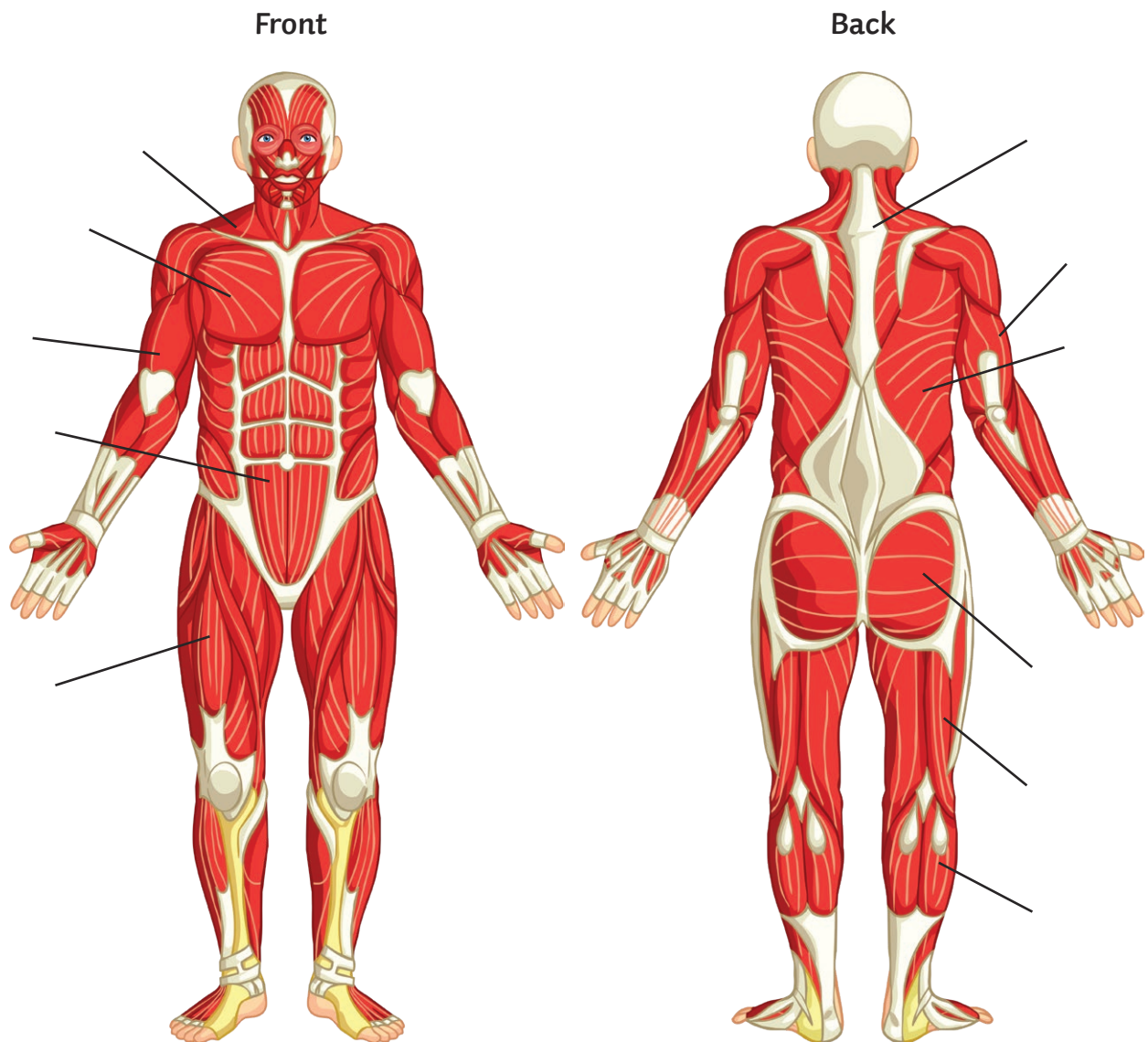
You must be able to name and locate the following muscles:

- deltoid
- trapezius
- latissimus dorsi
- pectorals
- biceps
- triceps
- abdominals
- quadriceps
- hamstrings
- gluteals
- gastrocnemius



The Major Muscles in the Human Body

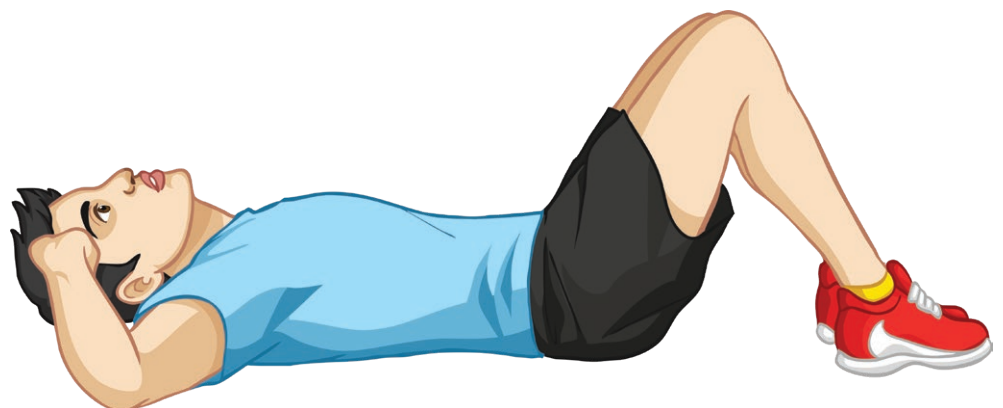
Label the diagram.



Muscles and Sporting Examples

Muscle	Movement	Sporting Example
deltoid	flexion, extension, abduction	Blocking the ball in volleyball with arms straight above the head.
trapezius	abduction of shoulder	Arm moving back as an athlete prepares to throw a discus.
latissimus dorsi	adduction	Bringing your arms into your body during a star jump.
pectorals	adduction, flexion	Tackling in rugby to hold onto an opponent.
biceps	flexion	Upward movement in a bicep curl.
triceps	extension	Downward movement in a bicep curl.
abdominals	flexion	A sit-up.
quadriceps	extension	Extension of the leg at the knee to kick a football.
hamstrings	flexion	Bending at the knee when preparing to kick a football.
gluteals	extension, abduction, rotation	Sprinter as they sprint down a 100m track.
gastrocnemius	flexion (pointing of toes)	A gymnast pointing their toes during a cartwheel.

Extension Task: Can you think of another sporting example for each muscle?



What the Specification Says

Learners must know the definitions and roles of the following:

- agonist
- antagonist
- fixator
- antagonistic muscle action

Learners must be able to apply them to examples from physical activity/sport.

The Role of Muscle in Movement

Definitions:

- **agonist:** the working muscle that produces or controls the desired joint movement. Also known as the prime mover.
- **antagonist:** the muscle that co-ordinates movement. The relaxing muscle.
- **fixator:** the muscle that works alongside the other muscles to stabilise the origin of the prime mover.
- **antagonistic muscle action:** muscles working together to produce movement involving the agonist and the antagonist.

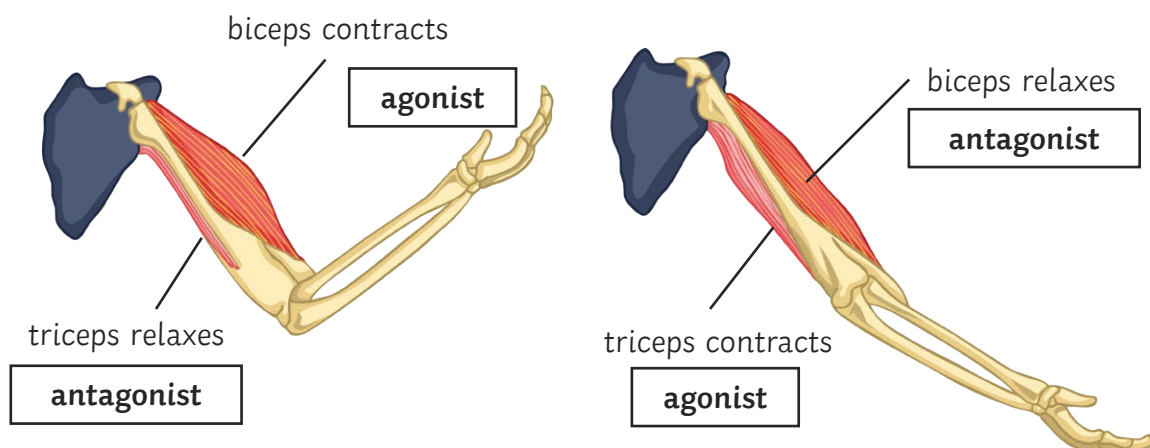
Top Tip!

The working muscle is the agonist. Remember this by thinking that it is in **agony** due to working hard!

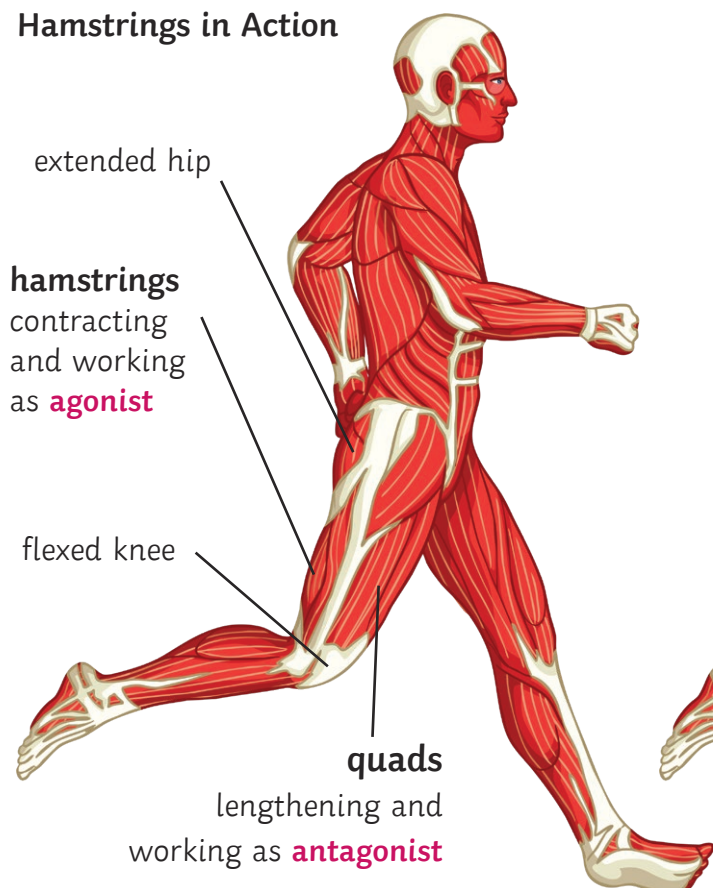


Antagonistic Pairs

Movement	Agonist	Antagonist
Flexion at the elbow	bicep	tricep
Extension at the elbow	tricep	bicep
Flexion at the knee	hamstring	quadricep
Extension at the knee	quadricep	hamstring



Hamstrings in Action



Quads in Action

