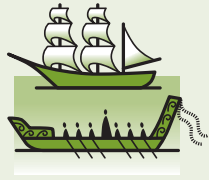


H Historical		Includes past events that might have influenced current practices, norms, stereotypes, and recent experiences and facts.
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Ans. p. 203

Activity: The issue of obesity – your turn to apply SPEEECH

- According to the Ministry of Health, obesity is a problem in New Zealand that is getting worse. Experts agree that the rise in obesity is due to a wide range of socio-cultural factors and that the solution will require a broad approach. A key component of many solutions to combat obesity is increasing participation in physical activity.
- The following facts and figures are from the New Zealand Ministry of Health website.

There has been a rise in obesity in New Zealand adults in recent decades – from 9% (males) and 11% (females) in 1977 to 27.7% and 27.8% respectively in 2008/09.

The 2006/07 New Zealand Health Survey found that one in five children aged 2 to 14 years was overweight (20.9%) and one in twelve was obese (8.3%).

The 2008/09 New Zealand Adult Nutrition Survey found that one in every three adults was overweight (37.0%) and one in four was obese (27.8%).

Results from a 2011/12 survey showed 28% of adults were classified as obese in 2011/12 – about one million adults.

Explain how New Zealanders can increase their physical activity to help prevent becoming obese. Use the SPEEECH table following to write your answers. ('P' has been done as an example.)

SPEEECH aspect	Question: How can New Zealanders increase their physical activity to help prevent becoming obese?
S Social	
P Political/Media	Sport New Zealand and the Ministry of Health need to undertake more campaigning for physical activity and health. What currently exists are 'Push Play' and '5+ a day'.
E Economic	
E Environmental	

PHYSICAL EDUCATION 2.2

Internally assessed
5 credits

Demonstrate understanding of how and why biophysical principles relate to the learning of physical skills

AS 91328

This 5-credit Achievement Standard requires you to have an understanding of biophysical principles, and of how and why these principles relate to the learning of physical skills.

What to expect in Physical Education 2.2

Biophysics is an interdisciplinary science that uses methods and concepts from physical science to study biological systems.

- You will need a clear understanding of **functional anatomy**, including knowing the names and location of major bones and muscles; what joints create what movement; how muscles work together to create movement; and agonist and antagonist muscles.
- You will need to know and apply a range of **biomechanical principles** including those relating to stability, levers, force summation, momentum, balance, projectile motion.
- You will need to know the basic skills of performance appraisal.
- You will need to understand concepts surrounding **skill acquisition**, including skill learning, types of practice, stages of learning and factors affecting learning.
- You will need a clear understanding of a range of **sport psychology** tools such as self-talk, visualisation, mental rehearsal, routines, arousal control, goal setting, confidence and concentration.

Anatomy

Unit 1 – Joints

The skeletal system supports and protects the body and provides the framework from which joints and levers allow movement.

Bones of the human body

An adult human skeleton consists of 206 bones. Bones are joined to other bones by *ligaments*, and separated from each other by *cartilage*. Bones are joined to muscles by *tendons*.

Ans. p. 205

Activity: Bones of the human body

Label the bones shown as **a.** to **j.** on the diagram, using names from the following list.

clavicle

cranium

femur

fibula

humerus

metatarsal

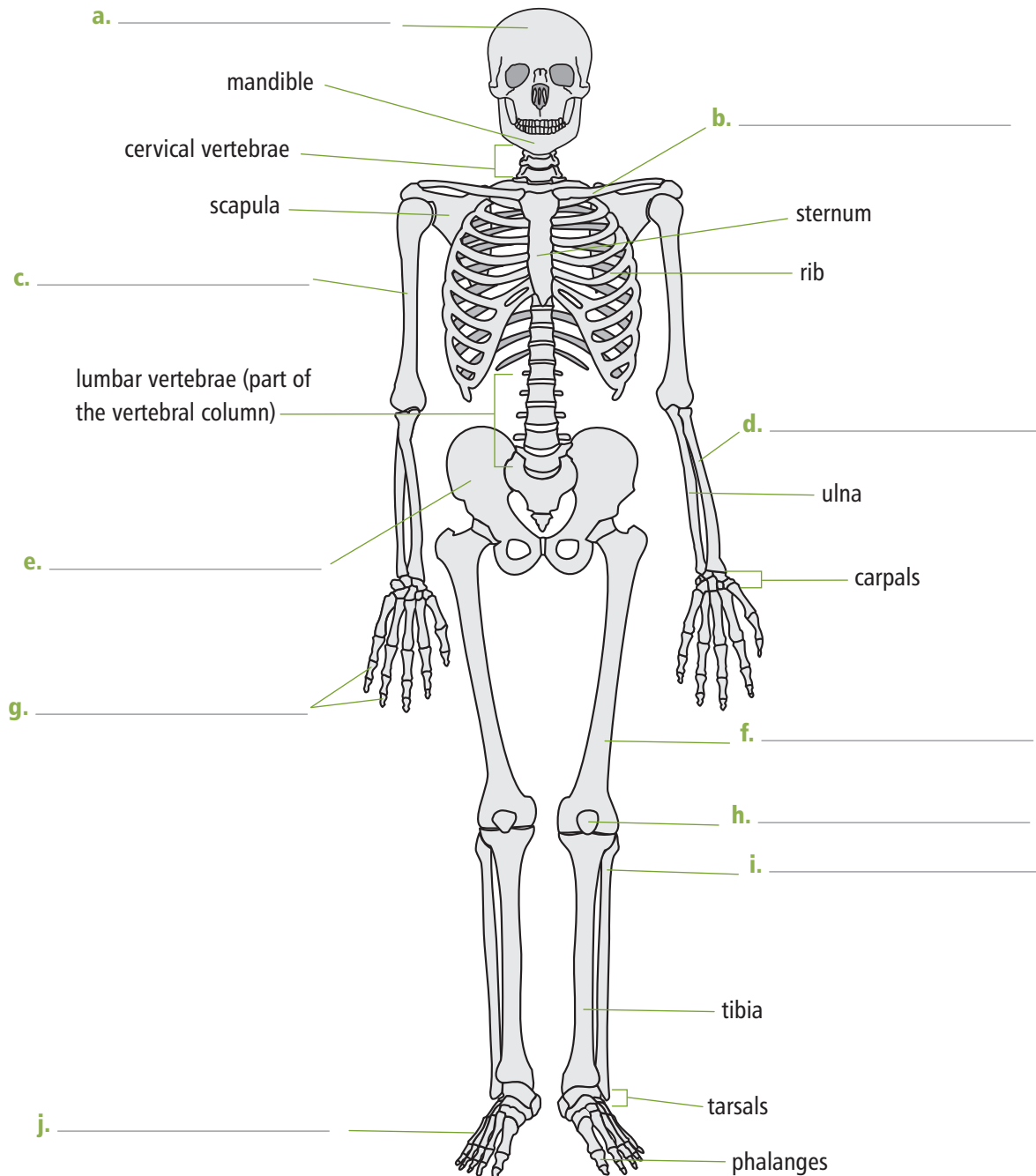
patella



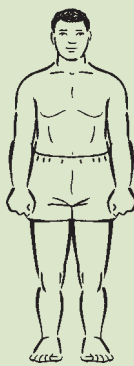
pelvis

phalanges

radius

AS 91328



Body type	Ectomorph	Mesomorph	Endomorph
			
Build	Light build with small joints, lean muscle mass and little fat	Athletic build with large muscles and bones	Body contains a large amount of fat; solid body with thick arms and legs
Suited for	Endurance activities, e.g. marathon	Sports such as soccer, hockey, touch, netball	Activities such as weightlifting, shot-put, discus

Muscular strength is the amount of external force a muscle or muscle group can exert for a short time, while **muscular power** is the ability to exert a maximal force in minimum time.

Muscular endurance is the degree to which a muscle or muscle group can contract successively and repeatedly; in effect this is the ability of muscles to keep working without the muscles becoming tired.

Usually, a short burst of energy involves muscular strength while repeated movements involve muscular endurance.

Flexibility is the range of motion a person has at a particular joint. A person's flexibility is shown by how easily they twist, bend, or stretch.

Cardiovascular endurance is the ability of the circulatory and respiratory systems to supply oxygen during sustained exercise.

Skill-related components

The skill components are important for specific sports and activities. There are six: speed, agility, balance, coordination, reaction time, and power.

Speed is the ability to perform movements repeatedly and quickly, e.g. a tennis player moving forward to hit a shot near the net.

Agility is the ability to change body positions quickly, with speed and accuracy, e.g. changing direction to kick a football while running.

Balance is being able to maintain equilibrium while stationary or moving, e.g. a gymnast walking on a beam.

Coordination is the ability to perform motor skills on demand quickly and accurately, e.g. dribbling a basketball.

Reaction time is to do with the time taken to react to what is seen, heard or felt, e.g. an athlete coming off the blocks at the start of a race.

Power is the ability to generate force quickly, normally over a short distance, e.g. throwing a shot put.



Ans. p. 207

Activity: Health-related and skill-related components of fitness

1. Explain the relationship between 'body composition' and 'body type'.

2. Beside each of the following, write the *main* component of fitness that is required.

- a. Serving in tennis _____
- b. Lifting a 50 kg weight briefly _____
- c. Holding a yoga position _____
- d. Sprinting 100 m _____
- e. Touching your toes _____
- f. Playing netball for an hour _____
- g. Throwing a shot put _____
- h. Doing five sets of biceps curls in a row _____
- i. Figure skating on ice _____

3. Todd is a gymnast. He wants to improve by following a **speed** and **flexibility** training programme. Suggest another component of fitness Todd might need to develop and explain how it is used in gymnastics.

PHYSICAL EDUCATION 2.4

Internally assessed
4 credits

Perform a physical activity in an applied setting

This 4-credit Achievement Standard is purely a practically based standard that can be assessed through any physical activity on which your teacher decides.

In this chapter we look at the main types of physical activity your teacher might select and unpack the marking matrices so you can understand how to pass this standard.

What to expect in Physical Education 2.4

For the three levels of achievement:

- *Perform a physical activity in an applied setting* involves effectively demonstrating the elements and skills of the activity to enable full participation in the activity.
- *Perform a physical activity to a high level in an applied setting* involves consistently and effectively demonstrating the elements and skills of the activity to enable full participation in the activity.
- *Perform a physical activity to an outstanding level in an applied setting* involves the consistent, effective, and accomplished demonstration of the elements and skills of the physical activity to enable full participation in the activity.

Unit 1 – Batting and fielding games

Batting and fielding games are games where there are usually two teams. The teams take turns batting and fielding. When a team is batting, it is attempting to score as many 'runs' or points as possible before the fielding team gets all the batting team out. When a team is fielding, the team members try to stop the batting team scoring 'runs' or points and try to get the 'batters' all out.

Examples of batting and fielding games are

- softball
- baseball
- cricket
- kilikiti.

Softball

We look at softball as an example of a batting and fielding game.



Ans. p. 210

Activity: Politics and sport

As a class, discuss why political agencies choose to involve themselves and intervene in sporting events, physical activities or festivals. What are the advantages and the disadvantages of political involvement? Consider who benefits through such involvement and the implications for society from the involvement.

Economic influences

Economic influences include socio-economic status, the global economy, financial markets and trends, and trends brought on by economic security or insecurity. Ultimately economic influences are concerned with the impact money has on individuals and the society in which they live.

For all sports and physical activities, we need to consider the financial implications and to find ways of dealing with financial pressures. Sponsorship deals are commonly negotiated to relieve these pressures. For example, a major supermarket chain is a major sponsor of the Silver Ferns netball team, while a clothing manufacturer is a sponsor of schools' rugby teams.

Ans. p. 210

Activity: Economics and sport

1. State four reasons a company might want to act as a sponsor for a major team such as the Silver Ferns.

2. Explain why companies sponsor specific athletes.

3. Explain the three-way relationship between sponsors, athletes and the media.

AS 91331

Environmental influences

Environmental influences include the effects of the physical environment, for example access to services and facilities; crowding; pollution; weather; the media.

Globalisation and sport

Globalisation is the process that brings people together from around the world. Globalisation and global integration can bring about a widening, deepening and speeding up of interconnectedness in all aspects of contemporary social life.

Unit 3 – Management

Defining management

Management in all organisational activities means getting people together to accomplish desired goals and objectives. It also requires the efficient and effective use of available resources. Management comprises planning, organising, leading or directing, and controlling a group of people to reach a goal.

People are always in a management position, but they do not realise it. You are always responsible for managing yourself, which is **self-management**.



Self-management and group management

Self-management refers to methods, skills, and strategies by which people can effectively direct their own activities toward the achievement of objectives.

You can use the same principles and strategies for managing other people as for managing yourself.

Group management occurs when you are responsible for the management of a group or team of people.

Management strategies

Different strategies will help you and your group or team work towards a goal. The strategies include the following.

1. Have a clear goal or vision

The purpose of a group or a team is to work together to achieve a common goal. For this to occur, you need to ensure that you and all the members of your team understand what that goal or vision is, to be able to work towards it.

2. Have clear boundaries and guidelines

With clear boundaries and guidelines, team members know what is expected of them. They know how to behave and the work output required of them. It is helpful for team members to be aware of the expectations of the group and to know how to act.

3. Have a plan and be prepared

It is not always possible to have a plan and be prepared, but in most cases you can. Having a plan and being prepared is good for your team members as it shows them the task is under control and there is guidance and support if needed. Having a plan and being prepared is very important if you are working with people who are inexperienced or who need a lot of guidance.

4. Understand people's strengths and weakness.

It is important as a leader and a manager that you know your and your team members' strengths and weaknesses so you can assign tasks to the right people and, if required, you can train or teach team members how to do different tasks.

5. Support and encourage your team members

Your team members need to be supported and encouraged in their tasks. Support could be by helping them, giving advice, or listening to and supporting their ideas. Encouragement is important. People need to feel they are valued members of the team. Encouragement could come in the form of praise, rewards or giving more responsibility.

Activity: Management

Ans. p. 212

Management scenario – Evan

Evan is a Year 12 Physical Education student who is responsible for taking a group of Year 9 students for a game of touch rugby.



Explain how Evan could use the five management strategies for leading and managing his group of Year 9 students in a game of touch rugby.

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

ANSWERS

Achievement Standard 91327 (Physical Education 2.1)

Personal knowledge and opinions (page 4)

- Student's own answers
- The following answers are examples only. Check other answers with your teacher.

White hat (facts and information)	What age group is to be considered? How many people do I need to think about? Does a person's gender make a difference to how physically active they can be?
Yellow hat (values and benefits)	How does being physically active improve people's health? Does physical activity benefit society as a whole? Is being wealthy linked to being physically active?

The issue of obesity – your turn to apply SPEEECH (page 6)

S Social	Family and friends can encourage physical activity and support each other, e.g. go on walks together.
E Economic	There should be more government funding for sport, and affordable buildings and facilities to which everyone has access.
E Environmental	Bad weather can discourage participation. Building more indoor facilities might help people get involved. More education so people know what indoor activities are available when they cannot exercise outside, and what activities are free.
E Ethical	There should be equal access for all to facilities.
C Cultural	Certain ethnic groups are at greater risk of obesity due to their cultural habits – educating these groups might decrease the risk of their becoming obese.
H Historical	Due to changing lifestyles (e.g. uptake of technologies), people do not exercise as much as they did; with time constraints and the easy availability of takeaway foods people cook less and eat less nutritious food, which has a negative impact on New Zealanders' health. New Zealanders need to recognise the benefits of being healthy and fit, so they can live longer, healthier and better lives. More education concerning time management and organising one's day could help.

Types of physical activity (page 10)

- The order from *least structured* to *most structured* is a – h – d – b – g – f – e – c – i.
- and 3. Student's own answers

Physical activity patterns in New Zealand (page 12)

- 48.2%
 - 12.7%
- Male: 52.3% Female: 44.4%
 - 7.9%
- 43.6%
- 65+ age group.
 - Muscles, bones and joints have become weaker because they have got older or are not used. People may be injured, have poor health, and/or be disabled. Older people may be retired and not using their bodies as much as they did before retirement. Their age may have affected their participation, and, because they are older, their outlook towards physical activity might have changed.
- An example answer is: Increase support of social leagues for this age group, ensure multiple formats and options are available to meet the needs of all young people, including competitive sport, social sport, informal play, and outdoor recreation.
- Possible answer: The 65+ group most needs to become more active because older people are more likely than younger people to suffer from injury and disease. Physical activity helps keep muscles, joints and bones strong, which helps prevent injury and disease.
- Possible answer: There are many benefits, such as building muscles/joints/bones, releasing stress, good for socialisation, will help prevent future injury or disease.

Well-being (page 15)

- Physical – might have a positive effect, because the person might want a better lifestyle, and look at ways to take care of themselves so they are more physically healthy. Mental and emotional – happy and confident because finding a purpose will lead them to live a happier and less stressful life. Social – they might come to understand the importance of building and maintaining relationships with friends and family, which might have been lost. Reconnecting or connecting will make them feel happier while enjoying life with others.
- Mental and emotional – they feel happy and confident because they can do things without extra body weight holding them back. Social – more confident, find it easier to have a social life and to go out. The person will feel more accepted by others. Spiritual – they have achieved their goal, which brings self-esteem and changes their way of life.
- Physical – person feels unhealthy and feels they do not have a required body shape so might not want to take part in physical activity. Social – might not have support from family and friends and as a result feel helpless. Spiritual – meaning of life for the person might have changed, either positively or negatively.
- Physical – person has developed better skills from being challenged by others. Mental and emotional – they feel happy because they have built or maintained relationships with others in the sport. Spiritual – the person values friendships they make with others in the team and they gain a sense of belonging.

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