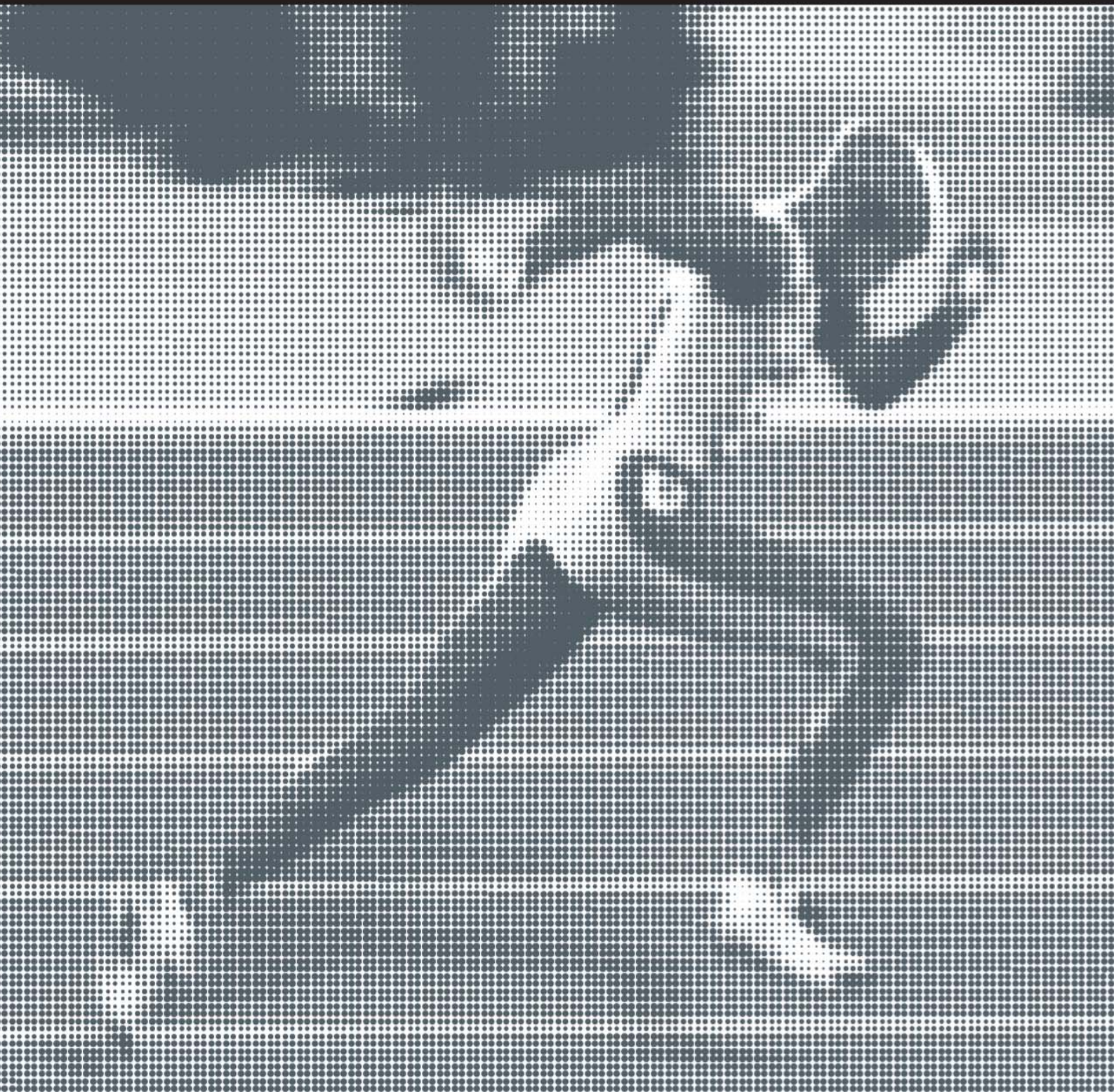


NATIONAL
SPORTS
MUSEUM

**FASTER, HIGHER,
STRONGER**
LEVEL 5 – YEAR 7/8

IS TECHNOLOGY GOOD FOR THE OLYMPIC GAMES?



Key concept

Technological advancements have changed the way athletes are able to perform and compete.

Focusing questions

1. How have advancements in technology improved athletes' performances?
2. What else may have led to better performances over time?
3. What technology exists for athletes to wear or use while competing in the Olympic Games?
4. Do all athletes competing at the Olympic Games have access to the same technology?

National Sports Museum exhibition focus

Faster, Higher, Stronger

VELS dimensions addressed

Physical, Personal and Social Learning: Interpersonal Development; Personal Learning

Discipline-based Learning: English; The Humanities – History; The Arts

Interdisciplinary Learning: Communication; Thinking Processes; Design, Creativity and Technology

Overview

This unit allows students to explore the impact that advancements in technology have had on improving performances at the Olympic Games. Students also examine other aspects of change which have led to athletes becoming “faster, higher and stronger”.

While at the National Sports Museum, students examine shoes, equipment and other examples of the various technologies used during the Olympic Games, particularly exploring how these have changed over time.

Upon returning to the classroom, students complete a KWHL chart (what I *know*, what I *want* to learn, *how* I can learn more, what I have *learned*) to examine the technologies that exist for athletes to use or wear when they compete in the Olympic Games. They look at equity and access to this technology, discussing whether all nations have access to the same technology. Students are required to present a dramatic re-enactment of an Olympic moment involving technology. It could be the story of an athlete who or country which did or did not have access, or the generosity of one athlete to another in sharing their technology. The story of the barefoot marathon runner, Abebe Bikila from Ethiopia, is used to inspire students.

Pre-visit activities

Introduce the key concept: Technological advancements have changed the way athletes are able to perform and compete.

Focus skills, knowledge and understandings: Thinking Processes

Have students brainstorm special sporting equipment. Prompt them to think about running shoes, different kinds of bikes and which may be fastest, tennis rackets, special clothes and so on. Ask students to consider whether athletes need to have the latest high-tech equipment to compete and do their best or whether there are other factors that contribute to athletic excellence.

Focusing question 1: How have advancements in technology improved athletes' performances?

Focus skills, knowledge and understandings: The Humanities – History; Interpersonal Development; Thinking Processes

Materials

- Worksheet 1
- Library and internet access for research (especially the site: <http://www.olympics.org/uk>)

Conduct a class discussion to explore what changes may have occurred in the technology used in sporting venues, sports equipment and clothing since the Modern Olympic Games commenced in 1896. Discuss how such technological advancements may have impacted upon the Olympic Games. Extend the discussion by asking students whether they think the advancements are good for the Olympic Games. Ask: Do all athletes in all countries have the same access to modern, expensive equipment? Could the Olympic Games be an unfair playing ground?

Provide students with a copy of Worksheet 1 and allow them time to examine the images. Students select an event and produce a Venn diagram or other graphic organiser to examine the similarities and differences between the uniforms and equipment used in the past and in modern times.

Ask students to undertake an inquiry-based learning exercise to explain what they think it is specifically that has led to improvements in athletic performances. For example, is it that the shoes are lighter and therefore the athlete has less weight to carry around the track?

Discuss with students the most appropriate ways to present their findings to the class.

The visit to the National Sports Museum will provide students with an opportunity to view first hand the advancements in technology throughout the history of the Olympic Games, particularly advancements in clothing and footwear.

Focusing question 2: What else may have led to better performances over time?

Focus skills, knowledge and understandings: English; The Humanities – History; Interpersonal Development; Communication

Materials

- Internet and library access for research

As a class, brainstorm the following question: Other than technological advancements in equipment, what changes may have led to better performances?

Using the key ideas from the brainstorming session, allocate each group a factor that has possibly led to improved performance. Students are to work in small groups to research how their factor may have led to improved performances in Olympic Games.

Sample topics are nutrition, coaching support, sports medicine, sports science, facilities, talent identification and sponsorship (which allows many current athletes to be full-time professionals rather than part-timers needing to work to support themselves).

Each group will be required to make a brief presentation to the class outlining how their allocated research topic would have led to better performances over time at the Olympic Games.

While at the National Sports Museum's Faster, Higher, Stronger gallery, students will be able to consider various changes that have occurred throughout the history of the Olympic Games.

During the visit to the National Sports Museum

At the Faster, Higher, Stronger gallery at the National Sports Museum, ask students to identify technology used in the Olympic Games. This information will be required for Worksheet 2, which can be completed when students return to school.

Students need to compare items of sporting equipment or clothing from different Olympic Games. Athletics and swimming are two sports that are well-represented in the gallery and provide an excellent opportunity to view advancements in technology throughout the history of the Olympic Games.

Have students explore the following questions:

- Why would the full-body swimming suits used in most swimming events nowadays be better than the old-style swimming costumes?
- Why would the materials used in rowing oars make a difference to performance?

Post-visit activities

Focusing question 3: What technology exists for athletes to wear or use when competing in the Olympic Games?

Focus skills, knowledge and understandings: The Humanities – History; Personal Learning; Thinking Processes; Communication; Design, Creativity and Technology

Materials

- Access to internet and library for research
- Worksheet 2

Leading on from the questions students explored while at the National Sports Museum, conduct a class brainstorm to explore the focusing question. The brainstorm should cover equipment used, uniform and shoes worn and surfaces/facilities.

Students can then complete Worksheet 2 to allow them to further explore what technology exists for athletes to wear or use while competing in the Olympic Games. They will record what they know as a result of visiting the Faster, Higher, Stronger gallery at the National Sports Museum, and further research should also be undertaken.

Students then select an item of technology that is available for athletes to wear or use while competing in the Olympic Games. They are to research the development of the chosen item from 1896 (or as far back as possible) to the current day. Students produce a poster with a continuum showing the development of their item. It must include materials used and information on shape and design.

Some information is available at: <http://www.olympics.org/uk>. Students search the sport in which their chosen equipment is used and then follow links to the history section of the sport.

Students can then do a brief presentation of their poster to the class. Once all presentations have been completed, students may add any new information to their KWHL chart.

Focusing question 4: Do all athletes competing at the Olympic Games have access to the same technology?

Focus skills, knowledge and understandings: The Arts; English; Interpersonal Development; Personal Learning; Thinking Processes

Materials

- Access to internet and library for research

Have students consider the following: the situation for Australian athletes competing in Beijing, and the story of Abebe Bikila.

Australian athletes in Beijing

The Australian Olympic Committee is sending a medical team of 70 specialists to Beijing. The aim is to give the Australian athletes participating in the Beijing 2008 Olympics an edge over their competitors. Instead of having to share the gymnasium with all other athletes in the lead-up to their events, Australian athletes will have access to their own custom-designed recovery centre. The recovery centre will have ice baths, a massage centre, a swimming pool and a full gymnasium.

Conduct a class discussion asking questions such as: Would all countries offer their athletes access to a recovery centre? Do you believe that the concept of a recovery centre is good for the Olympic Games? Is it fair that Australian athletes have access to their own recovery centre? How do you feel about Australia spending so much money to try to help our athletes win medals at the Olympic Games? Would the money be better spent on schools or hospitals or is the money spent worth it? Why?

Abebe Bikila

In the lead-up to the marathon event at the Rome 1960 Olympic Games, 28-year-old Abebe Bikila's running shoes were giving him trouble. He often ran in bare feet in his homeland of Ethiopia, and he decided to do so in the race. Amazingly, he won the marathon by 200m, becoming Africa's first Gold medallist. He also became the first man to win the marathon twice in a row when he won the 42-kilometre event at the Tokyo Olympic Games in 1964 (this time wearing shoes and socks).

To view further information on Abebe Bikila's story, follow the link below:
http://www.olympic.org/uk/athletes/profiles/bio_uk.asp?PAR_I_ID=18263.

To view video footage on the Abebe Bikila story, follow the link below:
http://www.olympic.org/uk/utilities/multimedia/videos_uk.asp?entIdProv=147&entId=953&direct=0&LinkName=ABEBE+BIKILA&preference=medpl1.

After viewing the video footage, students work independently to explore the following questions in response to the Abebe Bikila story:

- How does this story make you feel?
- A marathon is 42 kilometres long – how was it possible for Abebe to run so far without shoes? Would everybody be capable of doing this? Why or why not?
- What would it have meant to Abebe and the people from his country, Ethiopia, when he won the marathon at the Rome and Tokyo Olympic Games?
- Do you feel that the latest technology in running shoes would have made a big difference to Abebe's time in the marathon?

In small groups, allow students time to research similar stories from the Olympic Games where athletes or countries had or did not have access to advanced technology or equipment. The examples are many and varied.

Students are to present a short dramatic performance of their story. Alternatively, groups may choose to produce a dramatic performance of a moment that may occur at a future Olympic Games. The performance must have links to technology at the Olympic Games. They may have a narrator to tell the story while it is being re-enacted.

Revisit the key concept: Technological advancements have changed the way athletes are able to perform and compete.

Focus skills, knowledge and understandings: Thinking Processes

Conclude by returning to the key concept. Discuss aspects such as fairness and access to advancements in technology, sports science, sports medicine, good nutrition, facilities, talent identification, sponsorship and athlete funding. Is it fair that some athletes have access to more advanced clothing and equipment than others? Is advanced technology and coaching a major advantage? If so, why do poorer nations bother trying to compete at the Olympic Games? All of the advancements are legal, but are they good for the Olympic Games?

Indicators of student achievement and assessment strategies

The activities in these materials address the following dimensions of VELS:

English: Reading; Writing; Speaking and listening

Students read and view imaginative, informative and persuasive texts that explore ideas and information related to challenging topics, themes and issues.

Students produce, in print and electronic forms, texts for a variety of purposes, including speculating, hypothesising, persuading and reflecting.

Students identify main issues in a topic and provide supporting detail and evidence for opinions.

The Arts: Creating and making

Students experiment with, select and use appropriate skills, techniques, processes, media, materials, equipment and technologies across a range of arts forms and styles.

The Humanities – History: Historical knowledge and understanding; Historical reasoning and interpretation

Students analyse change and continuity over time and compare key aspects of past and present societies; for example, aspects of daily life, social and political ideas and structures, and cultural values and beliefs.

Students frame key research questions, plan their investigations, and report on their findings. Students use a variety of forms to present their understanding.

Interpersonal Development: Working in teams

Students accept responsibility as a team member and support other members to share information, explore the ideas of others, and work co-operatively to achieve a shared purpose within a realistic timeframe. They reflect on individual and team outcomes and act to improve their own and the team's performance.

Personal Learning: The individual learner

Students evaluate monitor and describe their progress as learners, identifying their strengths and weaknesses and taking actions to address their weaknesses.

Design, Creativity and Technology: Analysing and evaluating

Evaluate the potential impact on the environment of the intended use of materials to make the product.

Thinking Processes: Reasoning, processing and inquiry

When identifying and synthesising relevant information, students use a range of appropriate strategies of reasoning and analysis to evaluate evidence and consider their own and others' points of view.

Communication: Presenting

Students develop their skills in organising ideas and information logically and clearly to suit their purpose and needs of their audience.

Source: Adapted from Victorian Essential Learning Standards, VCAA 2005 <http://vels.vcaa.vic.edu.au>

Additional resources

- Official website of the Olympic movement: <http://www.olympics.org/uk>
- Australian Olympic Committee: <http://www.olympics.com.au>

Tour of the MCG

During your visit to the National Sports Museum at the Melbourne Cricket Ground, we also suggest that you take an MCG Tour. Our bookings staff will help schedule this. It is an excellent opportunity to make special use of the reduced price combination package.

Worksheet 1: Technology over time – Australian Olympians' uniforms and equipment

Name: _____

Task

1. Compare the historical and modern photos for the four different Olympic events. Examine the technology in the uniforms and/or equipment.
2. Choose an event and create a Venn diagram or a table to compare the similarities and differences between the Australian Olympic uniforms and/or equipment from the historical and modern time.
3. Complete a research activity to look at which changes have led to better performances in your chosen event. Explain.

Historical

Event: Men's rowing – coxless pair

Henry "Bobby" Pearce 1928

MCC Collection



Modern

James Tomkins and Drew Ginn 2004

Courtesy of the Herald Sun



Event: Cycling – 1 km time trial

Edgar "Dunc" Gray 1932

MCC Collection



Kathy Watt 1996

Courtesy of Sport the Library



Historical

Event: Men's 100m Freestyle

Frank Beaurepaire c1908

MCC Collection



Event: Women's 400m - Athletics

Shirley Strickland 1956

Courtesy of the Herald Sun



Modern

Grant Hackett 2005

Courtesy of Getty Images



Catherine Freeman 2000

Courtesy of the Herald Sun



FASTER, HIGHER, STRONGER WORKSHEET 1

FASTER, HIGHER, STRONGER WORKSHEET 1

Worksheet 2: Technology used in the Olympic Games

Name: _____

Fill in the KWHL chart below to explore the technology that exists for athletes to wear or use while competing in the Olympic Games. The technology could be from a range of different Olympic sports.

- **K** stands for what you already **KNOW** about the subject. In the K column, write everything you know about the technology used in the Olympic Games.
- **W** stands for what you **WANT** to learn. What technology would you like to learn more about?
- **H** stands for working out **HOW** you can learn more about the topic. How will you research the topic?
- **L** stands for what you **LEARN** as you do your research.

What technology exists for athletes to wear or use while competing in the Olympic Games?

K What I know	W What I want to learn	H How I can learn more	L What I have learned

Select an item of technology which is used by athletes in the Olympic Games and research how it has changed since it was first used. Present your information on a poster to present to the class.