

FASTER, HIGHER, STRONGER
LEVEL 4 - Year 5/6



IS TECHNOLOGY GOOD FOR THE OLYMPIC GAMES?



**NATIONAL
SPORTS
MUSEUM**

LEVEL 4 - YEAR 5/6

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

Olympic Games - Faster, Higher, Stronger

CURRICULUM FOCUS

Learning Areas: The Humanities - History; The Humanities - Civics and Citizenship; English; The Arts - Drama; Technologies - Design and Technologies

Capabilities: Personal and Social Capability; Critical and Creative Thinking

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 what other aspects of change 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. It is depicted in the short film in Faster, Higher, Stronger.

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: Critical and Creative Thinking

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; Critical and Creative Thinking

Materials

- Worksheet 1
- Internet - especially the site: www.olympics.org/
- Library access

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 equipment? Could the Olympic Games be an unfair playing ground, or not?

Provide students with a copy of Worksheet 1 and allow them time to examine the images. Students select an event from the table 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 way 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

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 has led to better performances over time at the Olympic Games.

While at the National Sports Museum's Faster, Higher, Stronger exhibition, 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 exhibition 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 exhibition and provide an excellent opportunity to view advancements in technology throughout the Olympic Games history.

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; Technologies – Design and Technologies; Critical and Creative Thinking

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 exhibition 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>.

Students search for 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 – Drama; English; Critical and Creative Thinking; Humanities – Civics and Citizenship

Materials

- Access to internet and library for research

Get the students to consider the situation for Australian athletes and the story of Abebe Bikila.

Australian athletes in Beijing

In 2008 the Australian Olympic Committee travelled to Beijing with a medical team of 70 specialists. The aim was to give the Australian athletes competing in the Beijing 2008 Olympics an edge over their competitors. Instead of having to share the gymnasium with all other athletes competing in the Beijing 2008 Olympics in the lead-up to their events, Australian athletes had access to a custom-designed recovery centre. The recovery centre had 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? How fair is it 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? Should the money be spent on other things such as schools or hospitals or was 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 this link: <http://www.olympic.org/abebe-bikila>

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?
- Would the latest technology in running shoes have made a 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. Instances may be found at www.olympics.org

Students are to present a short dramatic performance of their story. Alternatively, groups may choose to produce a dramatic performance of a moment that might 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: Critical and Creative Thinking

Conclude the work by returning to the key concept. Discuss subjects such as fairness and access to advancements in technology, sports science, sports medicine, good nutrition, facilities, talent identification, sponsorship and athlete funding. Do the students think it is fair that some athletes have access to more advanced clothing and equipment than others? Is advanced technology and coaching a major advantage or not? If so, then why do poorer nations bother trying to compete at the Olympic Games? All of the advancements are legal, are they good for the Olympic Games?

INDICATORS OF STUDENT ACHIEVEMENT AND ASSESSMENT STRATEGIES

The activities in these materials address the following:

English: Reading and viewing; Writing; Speaking and listening

Students compare and analyse information from different texts and use evidence from a text to explain their responses to it. (VCELY346) (VCELY347)

Students show how specific details can be used to support a point of view. They create detailed texts, elaborating on key ideas for a range of purposes and audiences. (VCELY366) (VCELY367)

The Arts: Drama

Students use the elements of drama to shape character, voice and movement in improvisation, play-building and performances and scripted drama for audiences. (VCADRP031) (VCADRE029)

The Humanities: History

Students compare the different experiences and perspectives of people in the past. They explain the significance of an individual and group.

Students develop texts, particularly narratives and descriptions of continuity and change. In developing these texts and organising and presenting their information, students create an explanation about a past event, person or group using sources of evidence and historical terms and concepts. (VCHHC084)

The Humanities: Civics and Citizenship

Students analyse contemporary issues and use evidence to support a point of view about civics and citizenship issues. (VCCCC015)

Technologies: Design and Technologies

Students describe how design and technologies contribute to meeting present and future needs. Students explain how the features of technologies impact on designed solutions. (VCDSTS033)

Critical and Creative Thinking

Students apply questioning as a tool to focus or expand thinking. (VCCCTQ021)

Students explain and apply basic techniques to construct valid arguments and test the strength of arguments. (VCCCTR027)

Students represent thinking processes using visual models and language. They practice and apply learning strategies, including constructing analogies, visualising ideas, summarising and paraphrasing information. (VCCCTM029) (VCCCTM030)

ADDITIONAL RESOURCES

<http://www.olympics.org>

<http://www.olympics.com.au>

WORKSHEET 1: Technology over time - Australian Olympians' uniforms and equipment

Name: _____

TASK

1. Compare the historical and modern photos of the three different Olympic events.
Examine the technology in the uniforms and/or equipment
2. Choose any Olympic 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 times
3. Complete a research activity to investigate which changes have led to better performances in your chosen event. Explain.

HISTORICAL

MODERN

EVENT: MEN'S ROWING - COXLESS PAIR



Henry "Bobby" Pearce 1928, MCC Collection



James Tomkins and Drew Ginn 2004, Courtesy of the Herald Sun

EVENT: CYCLING - 1 KM TIME TRIAL



Edgar "Dunc" Gray 1932, MCC Collection



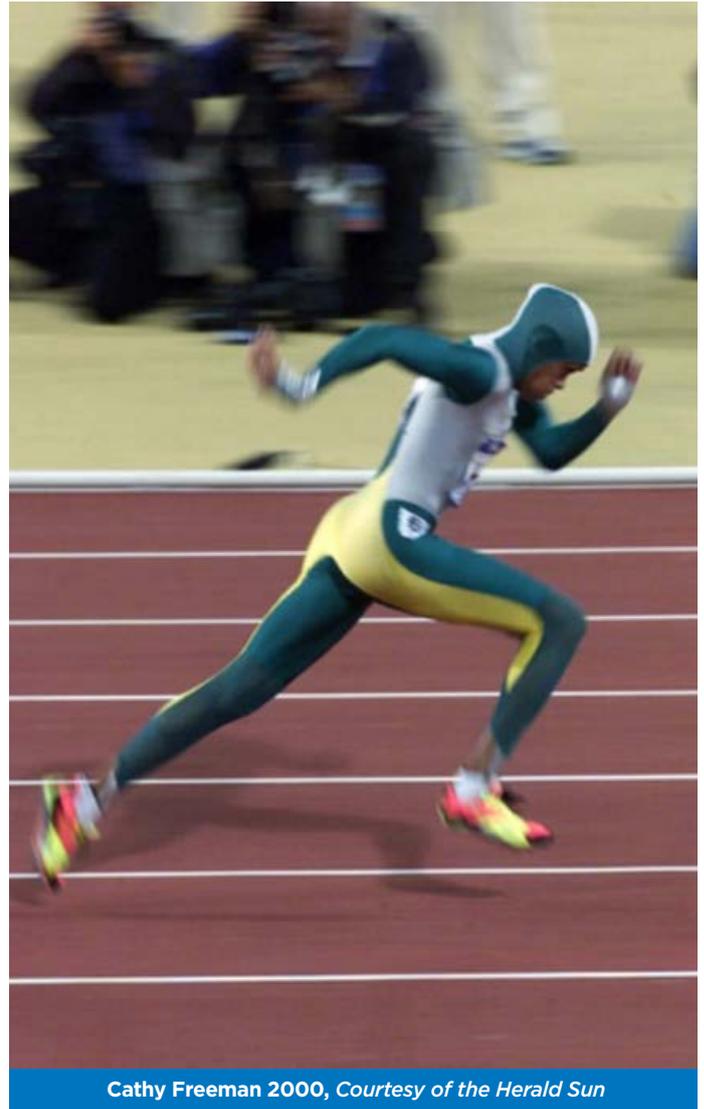
Kathy Watt 1996, Courtesy of Sport the Library

HISTORICAL

EVENT: WOMEN'S 400M - ATHLETICS



MODERN



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 <i>What I know</i>	W <i>What I want to learn</i>	H <i>How I can learn more</i>	L <i>What I have learned</i>

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.