

Good Sport?

You need

- ★ swim times and graphs (see copymasters)
- ★ a classmate

TECHNOLOGY

Technology plays an important role in many sports. However, the use of performance-enhancing clothing or equipment has often been controversial.

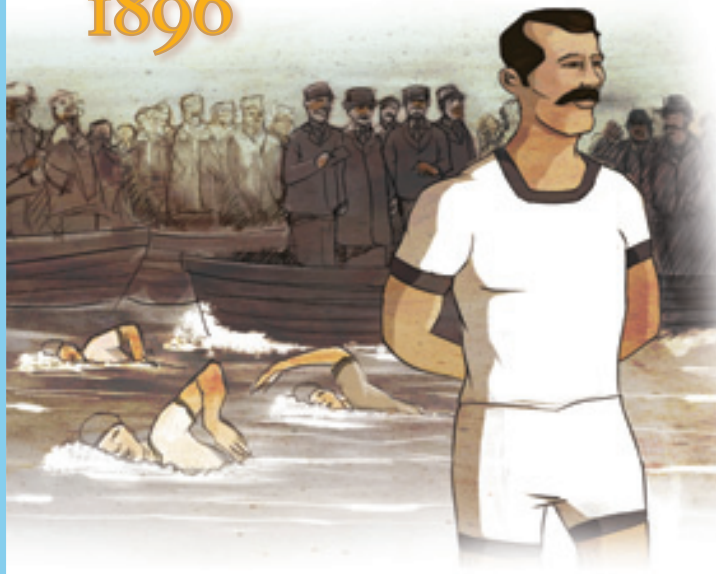
Activity One

Competitive swimmers use technology to improve their technique. Technology also influences swimsuit design.

- The woollen swimsuit on the left is from the 1896 Olympics. The polyurethane swimsuit on the right is from 2008.

Discuss with a classmate the performance properties of each swimsuit and how these properties may have affected speed.

1896



2008



- The table below shows developments in men's Olympic swimsuits:

1896	1924	1956	1972	1992	2000	2004	2008
Wool one-piece	Silk one-piece	Nylon one-piece	Nylon elastic brief	Lycra brief	Lycra "sharkskin" bodysuit	Neoprene bodysuit	Polyurethane compression bodysuit

Look at your copy of the graphs of the men's 100 metre (m) and 1 500 m race times. Discuss with a classmate how Olympic swimming times have changed over the years and whether there is evidence that swimsuit design helps swimmers perform better.

3. In 2008, a new polyurethane bodysuit was released. It was very smooth to reduce drag and it compressed the swimmer's body into a streamlined shape.
 - a. Look at your copy of the records for women's swim times. What do you notice about when the records were set?
 - b. Investigate the records for men's swim times to see whether a similar pattern exists.
4. In 2010, performance-enhancing non-textile swimsuits were banned from international swimming competitions. Discuss with a classmate why some people wanted this decision.



Activity Two

The javelin throw is a track and field event. It's easier to measure the length of a throw if the front tip sticks into the ground. To increase the likelihood of this happening, the javelin used for competitions was redesigned. But competitors could not throw the new javelins so far.

1. From the graph, which year do you think the new javelins were introduced for men's events? Record your reasons.
2. The women's javelin was redesigned in 1999. What impact does the graph suggest that this has had?

