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New Zealand Snapshots Series: Book 2 New Zealand Achievers

Ages 10+

Recognising people who have made a significant contribution to the fields of music, writing, opera, science, technology, aviation and exploration.

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About This Series

The **New Zealand Snapshots** series endeavours to provide students with glimpses of New Zealand's rich culture and history as well as identifying notable New Zealanders who have excelled in a range of fields.

There are three books in the series:

- * **New Zealand Achievers:** Recognising people who have made a significant contribution to the fields of music, writing, opera, science, technology, aviation and exploration.
- * **People Who Built Our Country:** Exploring the life and work of our nation's early settlers, pioneers, humanitarians, Māori chiefs and heroes of the time.
- * **Events That Shaped Our History:** Focusing on historic sporting events, disasters and tragedies, historical achievements by individuals, the building of significant landmarks and the origins of national holidays.

Each book contains clear sections that start with a background information page for each person/event. This page provides an introduction to the topic and lists Internet sites which serve as a springboard for further research. Following each of these information pages are activity pages to consolidate students' understanding as well as allowing them to be creative and resourceful. The series aims to whet the appetite for further learning in each of the areas.

Use and Updating of Internet References

Several web sites have been listed in this series for students to further their research. While no activity pages rely solely on an Internet site for the work to be completed, it is hoped that students are given the opportunity to view the suggested web sites.

At the time of publication, all web sites used herein were available. From time to time, web sites change or move to a new location or completely change their content and layout.

At the address below, updates to any changes to given addresses are available. Students can access the appropriate site by clicking on the book they are using and then the relevant page number.

www.readyed.com.au/urls/snapshots

(Bookmark this site for easy access later.)

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Sir Peter Blake

Yachtsman and adventurer Sir Peter Blake was one of the most famous skippers in the history of the America's Cup. However, his remarkable life was cut short when he was tragically killed at sea by pirates. At the time, Blake was part of an environmental expedition in the Amazon.

More than 30 000 people showed their respect at his memorial service in Auckland, December 2001.

Blake, along with his lucky red socks, was the man primarily responsible for winning the America's Cup twice with Team New Zealand. In 1995, New Zealand became only the second non-American team to win the trophy. Australia was the first country, securing the cup in the 1983 challenge. New Zealand, with Sir Peter Blake at the helm, went on to become the only non-American country to win the America's Cup twice, winning again in 2000 in the Hauraki Gulf.

During the 1995 America's Cup challenge, Blake wore the same red socks for each race. The only time New Zealand lost a race occurred when Blake and his lucky socks were not on board. This led to a "red socks" craze and the team sponsors had thousands of pairs of red socks manufactured, which sold out in days.

After his spectacular achievements in sport, Sir Peter pursued his passion for creating a greater awareness of environmental issues, concentrating on marine environments. He was chosen to follow the late Jacques Cousteau as captain of the marine research vessel *Calypso 2*.

Sir Peter Blake was known for his fierce determination to win and had the reputation of a solid and gifted leader.

Achievements:

- Two-time America's Cup winner;
- Led Team New Zealand to the Cup in 1995 and 2000;
- Won the Whitbread Round-the-World Race in 1989;
- Was the only man to compete in the Whitbread's first five races.

Honours:

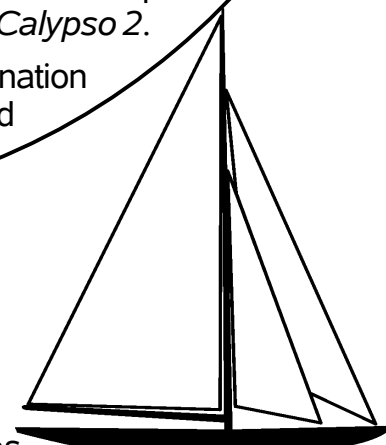
- Made a Member of the British Empire (MBE) in 1983 for services to yachting;
- Awarded an OBE in 1991;
- Knighted in 1995 by Queen Elizabeth II;
- Named New Zealand's sportsman of the year twice;
- Named yachtsman of the year four times;
- Named a Special Envoy for the United Nations Environment Programme (UNEP). He was the first New Zealander to be given this role with the United Nations.

Web sites:

www.blakexpeditions.com/ Blake Expeditions

www.americas-cup.co.nz/ America's Cup

www.americaone.org/news/ac-news/blake.html America One



Achievements in Science

New Zealand has produced some of the greatest scientists of the 20th century, with two of the country's scientists being awarded the Nobel Prize for Chemistry.

Ernest Rutherford

(1871 – 1937) is often referred to as the “Father of Physics”. Born in New Zealand and raised as one of 12 children, Rutherford spent much of his childhood on the family farm. While he liked the open air of farming, he was also a very good student and had a thirst for knowledge. After winning a local university scholarship, he went on to win a scholarship to study at Cambridge University in England.

Achievements and Awards

- He made three major discoveries: Elements can change their structure naturally; the nuclear model for the atom; and the splitting of the atom.
- His work in the field of physics paved the way for the atomic age.
- Awarded the Nobel Prize in Chemistry for 1908.
- He was the recipient of honorary doctorates from 21 universities around the world.

Check out: www.pbs.org/wgbh/aso/databank/entries/bpruth.html and www.rutherford.org.nz/



Beatrice Tinsley

(1941–1981) was born in England but was raised in New Zealand, attending school in New Plymouth. She was a gifted student and musician.

However, at the age of 14, Tinsley decided she wanted to be an astrophysicist.

After completing her studies at Canterbury University, Tinsley married and moved overseas to Dallas, Texas. She was unable to find a job in Texas and was forced to take up a teaching position in Austin. She completed a Ph.D. in a third of the normal time, gaining marks of 99% and 100%, which was almost unheard of. Her research involved studying the origins of the universe and whether the universe is an open or closed system.

Achievements and Awards

- Made two significant discoveries of the 20th century:
 1. *The universe is made up of billions of galaxies;*
 2. *These galaxies are slowly moving away from each other.*
- Co-authored over 100 scientific papers on the evolution of galaxies.
- In 1974, Tinsley was awarded the Annie J. Cannon Prize from the American Astronomical Society and the American Association of University Women.
- In 1986, she had a prize named in her honour, at the American Astronomical Society. This was the only major award honouring a woman scientist.

Check out: www.nzedge.com/heroes/tinsley.html



Alan MacDiarmid

(1927 –) was born in the time of the Great Depression. He was inspired to learn more about chemistry when he discovered one of his father's old chemistry textbooks.

He is known for being one of the three discoverers of conducting polymers, more commonly known as “synthetic metals”. His discoveries were based on a 1977 discovery that plastics can be used for electricity, much like metals. This idea paved the way for conductive plastics being used for anti-static substances such as in photographic film. Other types of plastics, such as semi-conductive polymers, have since been used in light-emitting diodes, solar cells and displays in mobile telephones. The discoveries made by MacDiarmid will have a great impact in the future of electronics, for example, dramatically increasing the speed and reducing the size of computers.

Achievements and Awards

- Awarded the Nobel Prize in Chemistry for 2000.
- Victoria University of Wellington awarded him an honorary doctorate in 1999 and created the Alan MacDiarmid Chair in Physical Chemistry.
- Awarded the Rutherford Medal by the Royal Society of New Zealand in 2000.
- Became a Member of the Order of New Zealand in 2002.

Check out: www.nzedge.com/heroes/macdiarmid.html

Name: _____

Profile of a Scientist

✿ Complete a profile for one of New Zealand's famous scientists below. Print out a picture of the person from a reference site on the Internet.

Name: _____	Paste a picture of the scientist in this box.
Date of birth: _____	
Place of birth: _____ _____	
Describe the field of science with which this person was associated. _____ _____	
Outline of main discoveries: _____ _____ _____ _____	
What impact have these discoveries had? _____ _____ _____ _____	
Awards: _____ _____ _____	
Significant details about this person's life: _____ _____ _____ _____	
Why do you think this person decided to become a scientist? _____ _____ _____	

Sample

New Zealand Inventors

Ernest Godward

(1869 – 1936) Godward examined common household items, working out how he could improve their design. As a result, he improved the standard eggbeater, which would greatly reduce the time needed to whip up eggs for a sponge cake. Godward had his idea patented. Other inventions soon followed, including a new type of hair curler, a burglar-proof window and a hedge trimmer made from bicycle parts, among other things.

In 1901, Godward invented a new style of hairpin, known as the Spiral Hairpin. This unique pin was curled and managed to stay in people's hair. His idea was patented and he sold the rights for £20 000, which in those days was the equivalent of about \$1 000 000!

By 1908, the automobile was hitting the streets and Godward had his own motorcycle business in Invercargill. He soon developed a 'petrol economiser' that produced a perfect petrol gas. The "Godward economiser" proved

to be far more efficient than any other engine at the time. This remarkable invention led to international success and he spent much of his time travelling to promote this new engine. Godward invented 72 models of the economiser. He was always regarded as an over achiever, being successful in almost anything he tried his hand at. He died on board a ship, shortly after winning a skipping competition. Godward proved to be a success to the end.



Sir William Hamilton

(1899–1978) Sir William was a Canterbury farmer and engineer. In the early 1950s, Hamilton developed jet boats, experimenting with water jet propulsion. He marketed his inventions and his designs were used around the world. The advantage of such boats was that they were able to travel in shallow waters, as they did not need propellers. In 1974, he was knighted for his efforts.



Colin Murdoch

(1929–) Colin Murdoch was born in Timaru. He was known as an inventor, veterinarian and scientist. His best-known inventions included the disposable syringe and the tranquillizer dart gun. The syringe came about through his work as a veterinarian, saving the lives of thousands of animals. Murdoch overcame dyslexia to achieve great things in the field of science and research. He went on to invent many other items, and owns the patents to 40 other inventions.

Awards

- He received honours at the World Inventors Fair in Brussels, 1976 for his child-proof bottle cap design. He won three gold medals and one bronze medal at this event.
- Received awards from the New Zealand Design Council for his Paxarms rifles, pistols and automatic syringe projectiles and was made a member of the New Zealand Order of Merit in 2000.

Check out:

canterbury.fare.co.nz/new-zealand/invention/inventors.htm ▼

Famous New Zealand Inventions

- William Atack invented the idea of using the common dog whistle to gain attention in a rugby match, thus inventing the referee's whistle in 1884.
- Hallmark Industries developed the Woolrest Sleeper using New Zealand's indigenous material (wool) to make a genuine sheepskin rug for mattresses.
- RJ Dickie, a postal worker in Wellington, invented a stamp vending machine in 1905. He worked with draughtsman JH Brown and engineer W Andrews to develop and patent his idea.
- Fisher & Paykel developed several new innovations in white goods, such as the ECM motor, an electronic motor with programmable software, and the two-door dishwasher.
- AJ Hackett, a speed skier, saw an idea in Vanuatu and tried it out in New Zealand. His thrill-seeking idea became known as Bungy jumping.
- In 1994, John Britten and his team developed the fastest four-stroke superbike in the world.
- In 1991, Terry Roycroft invented an "amphibious" vehicle – the Sealander, which was able to travel on land and be driven in the water.
- David Dell, who suffered bad back pain and was forced to use a walking stick, invented the Unifoot. This device improved the walking stick and made it possible for the stick to adjust to the contours of the ground. He received a thank you letter from the Queen Mother, a user of the Unifoot.
- In 1948, Hec and John Ramsey came up with an idea for a wooden toy bee pulled along by a string. Their invention became known as the Buzzy Bee and has become a Kiwi icon. Even Prince William has one!

Inventors and their Inventions 1



Using the clues below, complete the crossword puzzle on page 29.

Across

3. This common household item was improved by Ernest Godward.
5. _____ and Paykel are known for their innovative white goods.
8. New Zealand inventors are famous for their unique _____.
11. _____ Rutherford or Godward?
13. Sir William _____ invented the jet boat in the 1950s.
15. RJ Dickie invented a _____ vending machine after working at a post office.
16. This popular style of boat did not need a propeller.
17. Sir Colin _____ was an inventor, vet and scientist.
19. Some inventors and scientists have won a _____ Prize for their efforts.
20. John _____ developed a world famous motorcycle.
21. William _____ invented the referee's whistle, used in early rugby games.
22. The _____ Sleeper was invented by the Hallmark team, who set out to make something from indigenous New Zealand materials (wool).
23. Someone who invents inventions.

Down

1. Inventors take out a _____ on their design to own the rights.
2. Sir Colin Murdoch came up with many of his inventions while working as a _____.
3. Ernest Godward's world famous engine.
4. _____ jumping was first done by AJ Hackett, when he jumped off the Upper Harbour Bridge in Auckland.
6. The spiral _____ made Ernest Godward a rich man.
7. The _____ economiser became a world famous engine.
9. Sir Colin Murdoch invented a disposable _____.
10. 9 down invented the tranquillizer _____ gun.
12. Terry Roycroft invented the _____ which can be driven on land and in water.
14. It is said that this famous meringue dessert was invented in New Zealand.
16. This popular style of boat did not need a propellor.
18. The _____, a special type of walking stick, was invented by David Dell.
20. The popular toy, _____ Bee was invented by Hec and John Ramsey in 1948.

Name: _____

Inventors and their Inventions 2

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