

# Experience Science

2017 Teacher Resource Booklet



TE WHARE TAONGA O WAIKATO

1 Grantham Street Hamilton Open daily 10am-5pm 07 838 6606 [waikatomuseum.co.nz](http://waikatomuseum.co.nz)





Waikato Museum, Te Whare Taonga o Waikato is the artistic and cultural heart of our city. We value and celebrate our rich and diverse cultural heritage and our region's artistic vibrancy and flair for scientific innovation.

Waikato Museum is an ideal place for learning and enrichment.

Our programmes extend the learning environment beyond the classroom for both students and teachers.

We have developed relevant and useful teachers' notes and can tailor unique classes to meet the needs of our visiting education groups.

These provide stimulating learning experiences related to the exhibitions and tours described.

Science is a wonderful, interactive subject where students are actively involved in learning about the world around them and how it works. At Waikato Museum, we believe that science is exciting, stimulating and above all, FUN!

In our specialist science exhibitions, Exscite and Milk Matters, we are able to provide hands on activities that explore many concepts from the science curriculum in such enjoyable ways the children don't even realise learning is happening! During the year we also frequently host touring shows with science themes.

Contact the Education team to discuss what we can provide for your science learning needs. We can explore concepts such as simple machines, light, electricity, forces and motion and sound, and more.

## Our Museum Education

### Programme Provides

- Qualified teachers who present education programmes suited to your year level
- Planning, RAMS and timetable on the day all done for you
- Teacher pre-visits and support material available on request
- Flexibility in trip length and start times, half day, full day options
- Hands on learning opportunities
- A trip that is not weather dependent
- Provision for students to have morning tea or lunch inside
- Encouragement for students to use their digital devices to enhance their learning
- A portal for students to continue their Museum dialogue with teachers online
- Opportunity for students to develop educational relationships with the educators, using them as a resource for future learning



People use these competencies to live, learn, work, and contribute as active members of their communities. They are the key to learning in every area. Museum learners will become confident, connected, actively involved, life-long learners.

Thinking	Use creative and critical thinking to make sense of the information, experiences and ideas explored in the Museum.
Using Language, Symbols and Text	Students will make meaning of the language, symbols, text and specific terminology of the Museum.
Relating to Others	Interact effectively with a diverse range of people in different and new contexts. Listen actively and share ideas in the Museum.
Participating and Contributing	Understand the role of the Museum in the local and wider community. Develop a sense of belonging and confidence to participate within new contexts. Make connections between exhibitions and their relevance to local, national and global environments.
Managing Self	Students will see themselves as capable learners who develop strategies for meeting challenges. Students develop a can-do attitude with increasing independence.

## Vision:

Young people who will be confident, connected, actively involved, lifelong learners.

### Values

Excellence  
 Innovation, inquiry, and curiosity  
 Diversity  
 Equity  
 Community and participation  
 Ecological sustainability  
 Integrity  
 Respect

### Key Competencies

Thinking  
 Using language, symbols and texts  
 Managing self  
 Relating to others  
 Participating and contributing

### Learning Areas

English  
 The arts  
 Health and physical education  
 Learning languages  
 Mathematics and statistics  
 Science  
 Social Sciences  
 Technology

### Achievement Objectives

## Principles:

High expectations, Treaty of Waitangi, cultural diversity, inclusion, learning to learn, community engagement, coherence, future focus

## Visit focus

We work with you to develop a focus for your class or some suggested themes could be:

- How scientists use The Scientific Method
- How simple machines work together to form complex machines
- Understand how air pressure aids in flight
- How and why shadows are formed
- Additive and subtractive colour mixing and how we see light
- How electricity works and is used
- The function of our nervous system and how it keeps us safe

## Specific learning experiences

We can work with you to create learning outcomes for your visit that will meet your teaching goals and provide memorable and authentic experiences for your students.

Suggested learning Experiences and outcomes might include:

- Discuss and demonstrate Bernoulli's Principle in relation to air pressure
- Explain why we see a rainbow and how we see colour
- Demonstrate how reaction times change as we age or increase in experience
- Discuss and demonstrate the six simple machines

## Suggested pre-visit activities

- Class discussion about what science is
- Complete a thinking map to establish prior knowledge about science questions that could be considered:  
What is science? (Definition)  
Do you like science?  
Why? Why Not?  
Who uses science?  
Who performs science?  
What different things can you study in the science field?  
Who are some famous scientists and/or science discoveries?
- Think about and discuss how science has influenced the world we live in
- How does science help in the creation of inventions?
- Why scientists are sometimes labelled 'mad'?

## Suggested post-visit reflection activities

- Review the pre-visit thinking map about science
- Add new knowledge and understanding to the thinking map in a different colour to compare prior and new knowledge
- Discuss new knowledge gained as a class
- Research a scientific discovery and think about how the scientific method was used
- Create a list of questions about science and possibly experiments the students would like to try
- Choose an experiment to carry out
- Use the 'Scientific Method' to carry out a science investigation
- As a class or perhaps syndicate, organise a mini science fair
- Explore the life of a well-known scientist and look at their contribution to the world



## Before you arrive

We will email you a booking sheet with the information we require, your booking will be confirmed once we receive it back.

Health and safety guidelines and RAMS information are available to download through our website.

Please discuss with the Education Manager your timetable and organisation for your visit. If possible, arrange for your group to leave their bags at school or on the bus as we have limited storage in the Museum.

Discuss photography with the Museum educators as there are different conditions for every exhibition.

If you require disabled parking and access, discuss this at the time of your booking and we can ensure we meet your needs.

## When you arrive

Bring your group to the School Entrance at the top right of the Museum. Your educator will meet you.

Bus parking is available near the school entrance on Grantham Street. School vans may also use the bus parking area.

There is limited three hour paid parking in the Museum car park off Victoria Street (entrance beside Arts Post) and Knox Street open air car park. Only a few minutes walk from the museum are the Knox Street and Alexandra Street car parking building.

We supply any pencils, paper or other equipment that you may need for your visit however students, teachers and supervisors are encouraged to bring IT devices to support their learning. (Please note there is no Wi-Fi in the Museum.)

## Late arrivals

We regret that in most cases we cannot extend your lesson time beyond the time that has been booked as our educators may have multiple commitments throughout a day.

## At the conclusion of your visit

Please sign off the numbers of children in your group and details of payment with the educators.

We appreciate knowing what we are doing well and to hear any suggestions you may have for improvement. We encourage teachers to communicate with us about their visit experiences and will be sending out a post-visit email with a survey attached. We hope you will take the opportunity to feed back about the programme; we appreciate your time and comments. Students are also encouraged to communicate with us, ask questions or send samples of work done on the theme via our web email. We are happy to act as 'experts' as another learning link for your class.





## About our programmes

All our education programmes explore and develop the curriculum through classroom-based sessions, exhibition tours and activities.

**Bookings are essential.**

## Exhibition-specific programmes

We offer regularly-changing education programmes to complement our temporary and touring exhibitions. Check our website or call us to learn about our current short-term programmes.

## Explore History at Waikato Museum

Hamilton and the wider Waikato region are rich in history and tales of peoples of the past. At Waikato Museum we are proud to be able to present these stories to our children.

We can share tales of brave settlers, Maaori heroes and dastardly misdeeds. We allow students to explore their concepts of the past and see how this has shaped the people and place we are today.

## Experience Art at Waikato Museum

Art is captivating, stimulating, thought provoking, and at times challenging, especially with the wide range of mediums open to artists today.

Waikato Museum education sessions allow students to explore artistic concepts such as how people view and interpret art in different ways, art in media, art techniques and medium.

## Explore Tangata Whenua at Waikato Museum

The Waikato region is the home of Tainui, the tangata whenua of the region. Waikato Museum is proud of our close relationship with iwi. We are kaitiakitanga of many treasures that reflect this rich and spiritual history.

The education team can provide interesting and creative ways to explore our cultural heritage and legacy through presentations, gallery tours, specialist speakers, visiting exhibitions and creative art activities.



**Waikato Museum**

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**Hamilton  
City Council**  
Te kaunihera o Kirikiriroa

