

Gravity Discovery Centre Teacher Package



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Overview

The Gravity Discovery Centre (GDC) is a premier science education centre in WA, and the only science centre with a focus on **Astronomy** and **Cosmology**. It is a unique facility which provides educational opportunities for students to experience science as a real human endeavour. It connects students to developments in science and astronomy and provides ways for students to develop deeper understanding of concepts in the school curriculum, while also challenging them to expand their thinking.

What we offer

The centre offers exciting **science education programs** for students, as well as science education **resources** and **professional learning** opportunities for teachers. Education programs include both **excursions** and **incursions**.

Educational value

The main objective of the GDC is to provide a stimulating and engaging education program for students. We aim to inspire students to develop an interest in science. Our education programs target Australian Curriculum content at specific year levels to form *Science Pathways*.

Science Pathways:

All year levels: Gravity and beyond our Earth

Year 5 Science: Exploring the Solar System

Year 7 Science: Gravity shaping our Solar System



Excursions

Students embark on a journey of discovery based on the story of human understanding of our Solar System and beyond. Hands-on activities, exhibits and displays will challenge students to expand their thinking about the Solar System and beyond. Students repeat Galileo's experiments in gravity and experience science in action.



Cost - Excursions **\$12.00** per student.

Teachers and/or parent helpers (1 per 15 students) admitted free.

Time - We recommended allowing **3-4 hours** for a school excursion. Longer excursions, overnight stay excursions (including camping options) are welcome. *Gingin Observatory* requires a separate booking for stargazing.

Suggested itinerary for school excursions:

10:00am	Arrive
10:30	Leaning Tower
11:00	Discovery Gallery
12:00	Cosmology Gallery
12:30	Lunch
1:00	Solar System Walk
1:30	Solar Energy
2:00pm	Depart



Student outcomes

Students visiting the Centre will focus on achieving one or more of the following outcomes:

1. Recognise that science is a human endeavour where teams of scientists develop and test ideas within a social and cultural context of the time.
2. Recognise that scientific knowledge has limitations and change to that knowledge evolves over time as new information is gathered.
3. Use current scientific knowledge to explain observations.
4. Identify ways that science is a driver of technological advancement and technology advances scientific research.
5. Develop an enthusiasm for, and interest in, science.

Activities

The Leaning Tower – This is a 40 metre high platform which allows students to repeat Galileo’s famous experiments from the *Leaning Tower of Pisa*. Students conduct free-fall experiments by dropping water balloons from the tower. Balloons supplied.



Discovery Gallery – Stimulating hands-on exhibits and displays. A GDC guide will direct student learning by targeting specific learning areas suitable for the year level. Students will be challenged to expand their thinking about the Universe.



Cosmology Gallery – This gallery contains the Timeline of the Universe, which reveals the story of our Universe, beginning from the ‘Big Bang’. Students can complete the Timeline Treasure Hunt. Also contains stunning astrophotography and indigenous art.

The Zadko Telescope – The Zadko Telescope is the largest optical telescope in WA.



AIGO - The Australian International Gravitational Observatory is located onsite. Students will learn of the human endeavour in science to measure gravity waves, first predicted to exist by Einstein in 1916. The discovery of gravity waves could yet prove to be a milestone in international science.

Solar System Walk - The Solar Walk is a 1.1km scale model walk of our **Solar System**, showing the planets with their moons. It demonstrates the vastness of our solar system, and creates a

reference point to the enormity of our Universe. Each step represents about 4 million km. This activity is usually teacher-led. Planets and their moons are marked clearly along the walk.

Additional Activities:

Bush Discovery Walk – A guided bushwalk provides a wonderful demonstration of the extraordinary biodiversity in the area.

Solar Energy – The Sun is an energy provider. Students investigate the Sun’s energy by using Tibetan Solar Cookers and solar powered toys.



Biodiversity - Discover the local flora and fauna. Students identify insect species and use microscopes to analyse samples.



Incursions

Rocket Science Made Easy – Experience model rocket and water rocket launches. Discover how rockets are used to explore space. A fascinating look at the basics of rocketry. Includes teacher resources and video of your school from above. Lots of fun and a big wow factor!

Suitable for large and small groups.

Astronomy – *New in 2012!* Expert astronomy presentations for your students. A fascinating discussion including the latest in astronomy. An ideal compliment to classroom learning.

Incursions cost \$4-5 per student. Prices dependant on numbers. Minimum fees apply.



Booking Information

Please complete the *Booking Form* and return by email bookings@gdc.asn.au or fax 9575 7544.

You will be contacted by the Education Manager to arrange your program.

For more information or to organise a personalised program, please contact our Education Manager, Brad Whitaker at education@gdc.asn.au or (08) 9575 7577.

Open Tues to Friday for school excursions.

Website: www.gravitycentre.com.au



Café and Shop

Breakfasts, lunches, dinners available at **Stargazers' Cafe**. School menu below.

The GDC **shop** is available for purchases during opening hours.

Accommodation

Recommended school accommodation is **Brookside Accommodation** (ph 9575 7585 or www.brooksideaccommodation.com.au), located 15 minutes drive from the centre.

Camping options are available at nearby Neergabby Community Grounds. Contact us for further information.

Please note:

- Booking form: Excursions are not confirmed until a booking form is received
- If you wish to make changes to the timetable, please contact the Education Manager, at least one week prior to arrival.
- Student control is the Teacher's responsibility. Our guides are not trained teachers, but are here to assist you
- Cancellation: We require 24 hours notice for any cancellation or alterations for GDC or Café bookings.

Stargazers' Café – School menu

Stargazers' Café can be booked for breakfast, lunch and dinner. The Café caters for all school meal requirements. All food is prepared fresh on the day of your visit. Please finalise orders one week in advance.

Drinks, snacks and ice creams may be purchased at any time during your visit.

LUNCH/DINNER OPTIONS

Number Req'd	Choose any meals from the following options	Price	Total
	Student Lunch – Chicken Nuggets 4 Chicken Nuggets and chips + juice box	\$6.50	
	Student Lunch – Sandwich platter Ham/salad, chicken/salad or cheese/salad sandwich, piece of fruit and a juice box.	\$7.00	
	BBQ – Hotdog and large chips + juice box	\$8.50	
	Hot Lunch – Lasagna / Beef Pie / Fish, with chips + juice box	\$12.00	
	Hot Dinner – Tempura fish/ Honey soy chicken and chips + can of drink	\$16.00	
	Cook your own BBQ Use our BBQ facilities to cook your own lunch/ dinner. Bring your own supplies.	Free	
Total			\$

NOTE: The Café Manager will contact you once this form has been received to confirm and finalise your order.

Please complete this **Order Form** & email or fax back (9575 7544) as soon as possible.

School Name:.....Contact Person:.....

Date of Excursion:/...../..... Phone:



GINGIN OBSERVATORY THE SPACE PLACE

Educational Program Information



Daytime Solar Viewing Tour (1 hour)

View sun and moon (if available) through telescopes. Interactive and hands on. Entertaining theatre presentation on the Universe. Latest NASA missions. Educational games.

Costs: Minimum \$200.00. Up to 25 children. \$8.00 p/p thereafter.

1 teacher/leader per 15 students no charge. Coach driver no charge.

Additional teachers/leaders \$8.00 p/p. Parents \$10.00 p/p.

Evening Stargazing Tour (2 to 2.5 hours or tailored to suit)

Stargazing through telescopes. See stars, planets, galaxies and more. Laser beam sky tour of stars and constellations. Interactive and hands on. Entertaining theatre presentation on the Universe. Latest NASA missions. Educational games.

Costs: Minimum \$600.00. Up to 25 children. \$24.00 p/p thereafter.

1 teacher/leader per 15 students no charge. Coach driver no charge.

Additional teachers/leaders \$24.00 p/p. Parents \$40.00 p/p.

Not available Fri, Sat & Sun nights (Sep to May).

Bookings essential

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