

Little Bang and Bright Sparks

newsletter

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Welcome

It's been a busy few months with our inaugural Little Bang Forum taking place in Adelaide, quickly followed by National Science Week where we staged a series of brand new experiences to thousands of families in parklands and botanic gardens around Sydney.

It's been a delight to receive enquiries from libraries seeking advice on theming *Little Bang Discovery Club* to meet community interests. We highlight some of these innovations in the newsletter

alongside some great book ideas to add to Little Bang sessions.

One outcome from the August Forum was the idea to provide some STEM activities that could be included in regular story-time readings – we will be expanding on this in later issues of the newsletter.

Best wishes,

Adam

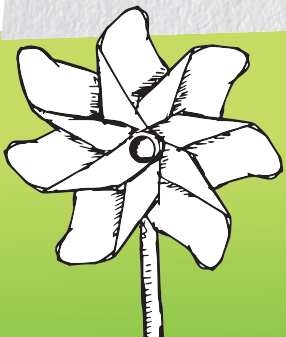
Executive Director
Children's Discovery Museum



Photo: The Children's Discovery team at Centennial Parklands, during Sydney Science Festival, National Science Week.

www.facebook.com/childrensdiscovery/

PLEASE LIKE US! We'd love to share your stories of science in the library! Some of our resources are also available for sale from here.



WHERE PLAY INSPIRES LIFELONG LEARNING



Finding our way with STEM through

Creativity and Discovery



Photo: Julia Stegele - Singapore

This was the title of our inaugural Little Bang Forum held on 7th August, 2018 at the State Library of South Australia.

In front of a sell-out and eager audience, the day opened with welcoming remarks from Dr Kristin Alford from MOD. on the importance of good literacy and research skills. This was followed by Christopher Abbott AM, principal Little Bang supporter, highlighting how **children want to learn for themselves**, discover their limits and develop their own ideas of right and wrong.

Our Executive Director, Adam, reiterated how libraries are *“arguably the single most important grass-roots community space with capacity to provide ALL members of their community access to current knowledge and information* and Dr Sheryn Pitman from Inspiring South Australia spoke about **the importance of science literacy** and why it matters in a modern society.

“The future is something we’re all involved in creating. And for this to happen, one of the most critical things we need is evidence-based knowledge and understanding of the world and its inhabitants; we need to be scientifically literate.”

**5 Cs:
Creativity,
Curiosity,
Collaboration,
Confidence
and a
‘Can-do’
attitude**

We were treated to an inspirational talk from Dr Jane Webb-Williams from the University of South Australia who spoke passionately on how **early childhood play and learning** are interlinked and have changed over time. She spoke of the need for adults

to allow children to have time and space to play freely.

We heard stories from the ground up with presentations from Sharmayne Coso and librarians from Cummins, Port Lincoln, Onkaparinga, Salisbury, and Charles Sturt.

Port Lincoln reported that Little Bang is popular, valuable and engaging, that it provides comprehensive and appealing

resources, has encouraged greater borrowing of STEAM resources, and is easily modified according to age and ability.

Salisbury Library described how they initially struggled with the uptake of their first Little Bang until they presented a 2-hour School Holiday Expo, which created demand for more Expos and a rapidly fully booked second Little Bang.

Thanks to fortunate timing, we heard from Keliann LaConte from the USA National Center for Interactive Learning at the Space Science Institute, who was leaving the following day after three months in Australia researching and sharing **STEM learning in libraries**. Links to useful resources are provided in this newsletter.

The conference concluded with a panel discussion about how we make sense of the changing world around us. It highlighted the importance of community beliefs and values in how we view the world around us and how we approach playful STEM learning in the community context. A podcast of this session will soon be available.

Little Bang Discovery Club

Modifications

Little Bang was created to develop the ideas and skills that inspire further scientific exploration, discovery and learning in early childhood. We have developed the framework – now it is up to you to deliver it in a way that suits your unique circumstances and requirements.

Recently, **Bayside Council libraries** went GREEN with one of our staff, Wendy Preston, adapting and delivering an environmentally themed **Little Bang** at both Eastgardens and Rockdale libraries.

Noarlunga Library adapted **Little Bang** to be delivered as a 10 week program for pre-school aged children. Each session was 30 minutes, consisting of Storytime and **Little Bang** activities.

What about a dinosaur themed **Little Bang**? Rachel McLellan at Bordertown Public Library did just that, with each participant eagerly borrowing a dinosaur book from the library's collection to continue discovering at home.

Some other approaches taken by libraries include:

- Theming Storytime to match the Little Bang themes, including related book selection and craft, followed by the Little Bang session afterwards.
- Compiling Little Bang activities to run as a school holiday science event or expo.
- Creating new activities or experiments to engage younger siblings who attend Little Bang.

Would you like to try a Dinosaur themed Little Bang Discovery Club?



The Little Bang program is highly adaptable, so it is easy to add and swap some activities to match the interests and events of your library community. Here are some suggestions for incorporating dinosaurs into the program (or even marine animals, or African wildlife or anything else instead).

Session 1: Sort small toy dinosaurs.

Invite each child to take a dinosaur, and then sort the children into groups based on the characteristics of the dinosaur they are holding. 'Stand up if your dinosaur has a long neck', or 'is standing on two feet' etc. You can also hatch baby toy dinosaurs from fillable Easter eggs, and match them to pictures of parent dinosaurs.

Session 2: Measure dinosaurs.

Laminate and cut out various pictures of dinosaurs. Ask the children to order the dinosaur pictures from smallest to biggest. Have the children measure the dinosaurs with the items in their discovery boxes. Older children may like to write down their measurements on their notepad.

Session 3 and 4: Dinosaur themed experiments.

Pinterest is a fantastic place to find easy preschool experiments. Search 'preschool science dinosaur' (or your own theme) for plenty of options. Here are a few to get you started. **Have fun!**



Dinosaur track matching –

Paint the feet of a few different toy dinosaurs and walk them across paper to make tracks.

Make sure they have different shaped feet. Provide the tracks and the dinosaurs to the children and have them figure out which footprints belong to which dinosaur. A magnifying glass for examination makes this more fun.

Make dinosaur fossils –

Use plastic toy dinosaurs to make 'fossil' impressions in play dough.

Try their bodies and their footprints. Have pictures of real fossils from books for comparison and discussion.



You may like to use air dry clay that will harden for the children to keep, or try a recipe of more realistic 'fossil dough': type "Make a fossil using coffee dough" into your search engine.

Story by Carmen Spears

Little Bang Melbourne

www.inquisitivekidsincursions.com

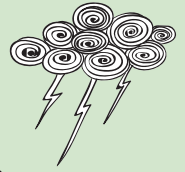
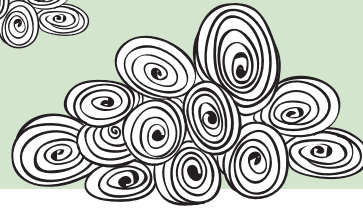


Measuring the children's height against a dinosaur cutout, left Jacob Staude. We used ZooKazam app for the Science Fair, right Spencer Norton with his Brontosaurus.

Please contact us for assistance in making Little Bang work for your library!



Little Bang Discovery Club



Books To Support Little Bang Discovery

Here are some suggestions provided by librarians of story books to support your Little Bang either through Storytime, as part of a modified session or as a loanable resource.

Session 1: Collecting and Classifying

- *Hector the Collector*
by Emily Beeny
- *The Word Collector*
by Peter H. Reynolds
- *The Two Mutch Sisters*
by Carol Brendler
- *Simon Sock*
by Sue Hendra & Paul Linnet

Session 2: Measuring and Recording

- *Inch by Inch*
by Leo Lionni
- *How Big is a Pig?*
by Clare Beaton
- *Guess How Much I love You*
by Sam McBratney

Session 3: Experimenting

- *Ada Twist, Scientist*
by Andrea Beaty
(also Rosie Revere, Engineer and Iggy Peck, Architect)
- *Charlotte the Scientist is Squished*
by Camille Andros
- *Who Sank the Boat*
by Pamela Allen

Session 4: Science Fair

- *Anything is Possible*
by Giulia Belloni
- *Iqbal and his Ingenious Idea*
by Elizabeth Suneby
- *Keep Your Eye on the Prize*
by Barbara Esham
- *Dave's Rock*
by Frann Preston-Gannon
- *Mr. Archimedes' Bath*
by Pamela Allen

Little Bang Feedback

"A great opportunity for parents to engage in child-led learning with their little scientists. The experiments were well designed to give exciting outcomes and spark higher-level thinking in the 'scientists'. The fact that the children lead their own learning and all outcomes are embraced as learning opportunities is empowering for the children and gives them a positive start to STEM education."

Sarah: Staff (Aldinga Library)

"Thank you for providing this to this age group to encourage them to explore and discover. But also to show mums it doesn't cost much to do experiments and engage their little minds."

Patron (Cummins Library)

"We will take from this program 'the power of questioning, allowing for discovery and exploration'."

Patron (Cummins Library)

Little Bang Discovery Plus Training

We are excited to be back in Adelaide on October 23rd & 24th to run training for the Little Bang extension program, **Little Bang Discovery Plus!** Spots are filling fast so use the links below to guarantee yourself a spot.

Please note registrations are only available to those who have **already completed** Little Bang training and run a Club in South Australia.

https://lbdp_tuesday_23oct_2018.eventbrite.com.au

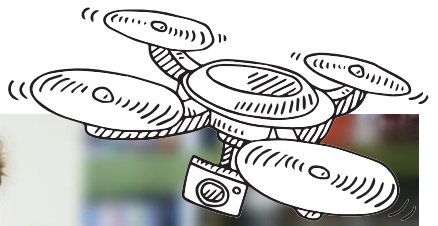
https://lbdp_wednesday_24oct_2018.eventbrite.com.au

If your state or community is interested in receiving training for Little Bang Discovery Plus, please speak to us about organising a training day! We have reached libraries in 4 states with the Little Bang program and hope to do the same with **Little Bang Discovery Plus!** Located in Sydney? We are happy to travel to you and run this 8-week program.

Contact us to find out how!



National Science Week / Sydney Science Festival Activities



national science week 2018

Sydney Science Festival is a city-wide celebration that brings science to life during National Science Week! We were pleased to be a part of many events around Sydney over two weeks, engaging with schools and the community to inspire curiosity and learn through play.

Some of the highlights included:

BIG BANG SCIENCE WORKSHOPS
at the Australian Museum

EDISON ROBOTICS WORKSHOPS
at the Science & Technology Expo at
Ryde Library

ANIMAL SUPERPOWERS at the
Australian Botanic Gardens and
Centennial Parklands

Throughout the two weeks, we reached over 18,000 people, covering such topics as slime, robotics and programming, unbelievabubbles, the amazing properties of water, things that fly, and the incredible abilities of animal superheroes. We hope the science buzz created by the festival will continue as we return to our regular programming at libraries around Sydney!





Edisons rock Ryde Library

“Recently Ryde Library staff underwent training with **Children’s Discovery Museum** staff to kick start our up and coming robotics programs for 2019. We started the morning learning the basics of the Edisons: how to turn them on and off, tips and hints for troubleshooting and barcode programming. Then came programming with EdBlocks! It was lucky that most of us have had significant experience with online coding programs, particularly Scratch Jr, as the EdBlocks program was quite similar, though with more functionality. We were able to move, sumo wrestle and make our robots sing on command. To add to this great experience, we had a competition of Lego building to enhance our robots and make them into slingshots. Pity I was never a great Lego builder as a kid, though the younger staff zoomed along very nicely. The training staff were excellent and very thorough, we had a great time learning.

I am developing a Ryde Robotics Club program that will be held monthly over a school term. Children will be able to explore, learn and develop their robotic and coding skills which will enhance not only their education but also promote a love of robots and technology. As part of this program, children will be able to take home their Edison’s to practice with their families and we’ll also have kits that will be able to be borrowed from the library’s science kit collection.”

Gabbi Wyllie
Children’s & Young Adult Librarian
Ryde Library Service





What's New?

Spark! Discovery Box Extension Notes

All Spark! and Spark Junior Discovery Boxes now come with additional teaching resources, creating even more opportunities for use within your library. Use activities from each Discovery Box to run your own science fair, or buy some additional equipment to deliver an engaging workshop series. The addition of our workshop notes and science fair instruction sheets, provides an easy way to engage children and their families in STEM within the library and at home.

If you already have a set of Spark! or Spark Junior Discovery Boxes in your collection, email us at info@childrensdiscovery.org.au for a copy of the workshop notes and science fair instruction sheets to maximise the use of your Spark resources.

Big Bang Science Workshops

Not in Sydney or wish to deliver **Big Bang** workshops yourself? Our **Big Bang** workshop kits are now available for purchase! Each kit contains a comprehensive workshop plan, @ Home notes with workshop summaries and extension activities, and basic equipment. These carefully developed and road-tested workshops are designed for the library environment and deliver a fun and engaging STEM experience for children and their families.

For a full list of our available workshop kits, see our website:

<https://www.childrensdiscovery.org.au/programs/big-bang-science-workshop>

Note: All our available resources and workshops have current risk assessments which can be provided upon request.

Technology Spark! Discovery Boxes



We put the T in STEM with our new range of **Spark!** and **Spark Junior Technology Boxes**.

For children aged 3-5 years, our new Osmo Spark Junior Technology Box changes the way children interact with technology, opening them up to hands-on play. The Osmo periscope captures a child's real world drawings and activities, and pulls them into the game in real time creating a truly interactive experience!

For children aged 6-12 years, the Virtual Reality, Edison Robot and new Circuits and Electricity Spark! Technology Boxes offer endless opportunities to learn through play. Transport yourself to another world, program a friendly Edison robot or test your understanding of circuitry with a potato.

Our technology focused boxes are a great addition to your current Discovery Boxes and we are always developing more! Is there a topic of interest not currently available? Let us know and we will do our best to address it!

Animal Superheroes

After great success with our Animal Superheroes festival experience at National Science Week events around Sydney, we now offer Animal Superheroes as a 1-hour workshop for libraries. Are you as strong as a coconut crab? Can you see as well as an eagle? How does your sense of smell compare to an elephant? In this workshop we explore the amazing abilities or superpowers of some animal superheroes and discover how these adaptations help them to survive in their environment.

Resources NASA STEM activities for kids <https://www.jpl.nasa.gov/edu/learn/>
 Dorota Pinterest <https://www.pinterest.com.au/stemlibrary0935/?autologin=true>
 Australian providers of STEM activities: [StarPortal https://starportal.edu.au/](https://starportal.edu.au/)
 USA clearinghouse of STEM for libraries <http://c7learninghouse.starnetlibraries.org/66-activities>