

Little Bang Discovery Club

Information



Little Bang Discovery Club is a science program from the Children's Discovery Museum. It is specifically for preschool and early primary aged children, with an adult co-learner.

Lismore Library is going to present this as an online event. There will be 4 consecutive sessions, one per week, via our YouTube channel. These can be viewed by clicking on the link which will be posted on the Richmond Tweed Regional Library Facebook page each Wednesday afternoon.

The sessions are:

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|-------------|----------------------------|----------------------|
| • Session 1 | Collecting and Classifying | 3pm Wednesday 13 May |
| • Session 2 | Measuring and Recording | 3pm Wednesday 20 May |
| • Session 3 | Experimenting | 3pm Wednesday 27 May |
| • Session 4 | Science Fair | 3pm Wednesday 3 June |

The actual online content only runs for 10 –20 minutes, and can be paused and restarted as required, to allow time to undertake the activities and talk to your child about what they are doing.

Each week there will be an 'extension activity', which is a simple exercise to do between sessions. We are hoping to give the sessions a 'group feel' by sharing drawings, photos and observations from these, at the following week's session. Send these to: lismore@rtrl.nsw.gov.au

They will need to reach us by the Monday to be used in the next Wednesday session. Please only forward pieces you are happy to see on social media.

Other information you can find here:

Resource List: You will need to assemble a Discovery Box in time for session 2. Most of the items for this should be able to be found around the house. There are also a few extra items that you will need for experiments in sessions 3 and 4.

Pre-session Information Sheets set out the Learning Outcomes and the Resources that will be required for that session, as well as anything that needs to be prepared for the following session.

Survey Monkey: We would really appreciate if you could take the time to send us feedback via the Survey Monkey link, even if you don't complete all of the sessions. This will give us an idea of how many people participated, and help us to improve the program for future groups.

If you have more immediate feedback or questions, please phone the Lismore Library on 02 6621 2464 or contact me, Annette, by email lismore@rtrl.nsw.gov.au

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Resource List



In session 1 children will be asked to sort their socks. It is assumed the socks start in pairs. In this exercise you can add hats or other clothing, to demonstrate how this makes it more difficult to find things. Some of the child's smaller toys can also be used in sessions 1 and 2. Please have these items at hand.

In sessions 2, 3 and 4, we will be using resources from a Discovery Box, which you will need to assemble. It is hoped that most or all of the items in this box can be found around the house. I would encourage you to let the children take the lead in preparing this box.

Assembling Your Discovery Box:

The first thing to find is your box or bag to put everything in. Then see if you can find:

A ruler and/ or a tape measure

A timer or a clock/watch with a second hand, (or a mobile phone - but only with the owner's permission.)

2 plastic cups

2 big rubber bands

About 4m of string

Chopstick or a big spoon

Notebook or paper

Pencil

Magnet or fridge magnet

Coat hanger (wire is best for our purposes, but if you have different types to experiment with, that is great!)

Take away box or a lunch box sized container

In session 2 we will be making a mobile. You will need small items to suspend such as small toys or other items from your house. Pens or pencils will suffice to suspend the items from and a coat hanger, chopstick or similar to tie these to.

Also check if you have got these items for use in sessions 3 and 4:

¼ cup salt

Packet of Blu Tack or some plasticine

3 eggs (or a grape if you are allergic to uncracked eggs)

2 balloons

Picture from a newspaper or magazine

Bowl, a glass, dessertspoon, 3 more cups, metal coat hanger, tray or large piece of strong cardboard or the lid of a large box and/or small white board (if you have one)

Newspaper, towel or paper towel for catching/cleaning up water from experiment.

2 or more small wheeled toys (eg matchbox cars).

These websites will be referred to in sessions 3 and 4:

Suggested site to find experiments to do at home - <https://www.fizzicseducation.com.au/free-resources/>.

Link to 'disappearing pencil' - <http://www.pleacher.com/mp/puzzles/tricks/vanish.html>



Learning outcomes:

- Making choices: items to collect
(Children are asked to retrieve and sort their **socks, toys, t-shirts and hats.**)
- Observing and describing: similarities and differences in items.
- Making decisions: what items go into each collection based on similarities.

Resources:

Children will be asked to sort their socks in session 1. It is assumed the socks start in pairs. In this exercise you can add hats or t-shirts to demonstrate the increased difficulty when other items are in the assortment. Some of the child's smaller toys can also be used in sessions 1 and 2. Please have these items at hand.

Children are asked to put together a Discovery Box to be used in the remaining sessions. See 'Resource List'.

There is also an 'Extension Activity' where the child is asked to make a collection.

The example will be a leaf collection.

This is an easy collection to make and can be gathered at the last minute if necessary.

Don't give any other ideas because the kids can come up with the most imaginative things to collect e.g. different types of pasta, things magnets attract, buttons, shells, toys, things made of plastic and so on.

Adults remember to let the children do the thinking to come up with the initial ideas and then you can provide guidance.

Collecting Rules

- 1) Always have an adult with you when you are out on 'collection'.
- 2) Only collect items that are safe to handle.
- 3) Only take a few examples of items from nature (and nothing from National Parks).
- 4) Do not take anything that does not belong to you, unless you have permission.
- 5) Optional: label your items – describe what each item is and where you found it.

Encourage children to send photos or drawings with details of their thoughts and observations.

For example:

What is their favourite item?

What are the biggest and smallest items?

Is this a new collection or one you already had?

Why did you chose these items to make into a collection?

Send information to us via email: lismore@rttl.nsw.gov.au

Please make sure we can identify who has sent these items. (First name only is fine.)

Drawings/photos will be displayed on social media. Please send images you feel comfortable with, for this purpose.

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Session 2 Measuring and Recording Information for Carers



Learning outcomes:

- You can use informal measuring instruments (e.g. chopsticks or a spoon), but they can have failings when used for comparison.
- Measuring just by observation is not always accurate.
- Explore lots of different types of measurement including length, height, weight and time.
- Discover how to balance unevenly weighted sides of a scale.
- Start to record observations.
- Start to make hypotheses, (guess what will happen).

Resources:

Have your Discovery Box ready for this session.

We will be making a mobile. You can use any items from your house or chose 4 toys. These can be tied to each end of 2 pens or pencils, pop sticks or chopsticks - whatever you have. They can then be suspended from a coat hanger or chopstick or similar.

Prep for next session

One of the experiments in the next session uses a boiled egg or a grape. If using the egg, please have it ready.

Also needed are

A piece of strong cardboard or a tray or a flat box lid

2 or more small wheeled toys (e.g. Matchbox cars)

Metal coat hanger and 2 pieces of string approx. 45 cm long, a spoon or pen

3 strips of Blu tack or plasticine, 5 cups with tap water, 1 spoon, 1 bowl, $\frac{1}{4}$ cup salt, (newspaper, towel)

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Session 3 Experimenting Information for Carers



Learning outcomes: .

- Understanding what an experiment is.
- Understanding how observations provide evidence for explanations
- Understanding how more questions can be generate from our experiments.

Resources:

Have your Discovery Box ready for this session as well items for experiment as below:

One of the experiments in this session uses a boiled egg or a grape, so if using the egg please have it ready.

Also needed are

A piece of strong cardboard or a tray or a flat box lid

2 or more small wheeled toys (e.g. Matchbox cars)

Metal coat hanger and 2 pieces of string approx. 45 cm long, a spoon or pen

3 strips of Blu tack or plasticine, 5 cups with tap water, 1 spoon, 1 bowl, ¼ cup salt, (newspaper, towel)

The Extension Activity is to do a science experiment at home. There are plenty of ideas in books or online.

One such site is:

<https://www.fizzicseducation.com.au/free-resources/>.

This is a suggestion only. You are free to chose your experiment from where ever you please. You may even have something in mind yourselves!

Prep for next session

One of the experiments next session uses a raw and a boiled egg. Adults, please prep the boiled egg, but don't tell your child which one is raw and which one is boiled. You can mark them 'X' and 'Y' or similar, with a permanent marker, so you can identify which is which.

Other things families need for next week are:

A bowl, cup with tap water, spoon, (newspaper, towel)

A glass half filled with water, a newspaper or magazine picture

2 balloons and 2 strings approx. 30 cm long

You will also need a copy of the Disappearing Pencil puzzle which can be found at

<http://www.pleacher.com/mp/puzzles/tricks/vanish.html>

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Session 4 Science Fair Information for Carers

Learning outcomes: .

- Understanding that scientists share their discoveries.
- Understanding that science is something that everyone can experience and everyday items can be used.
- Understanding that scientists don't know the answers to every question and use scientific methods to explore these questions further.

Resources:

Have your Discovery Box ready for this session

Prep for this session

One of the experiments uses a raw and a boiled egg. Adults, please prep the boiled egg, but don't tell your child which one is raw and which one is boiled. You can number them '1' and '2', and remember which is which.

A cup or bowl with tap water, spoon, (newspaper, towel)

A glass half filled with water, a newspaper or magazine picture

2 balloons and 2 strings approx. 30 cm long

The Disappearing Pencil Puzzle which can be found at:

<http://www.pleacher.com/mp/puzzles/tricks/vanish.html>