

# HANDS-ON EDUCATION

## Book now for 2011

Many new activities have been added with Science split into **2** huge Workshops.

Bring Hands-On Activities to your school - no bus fares, no off campus concerns, no lost teaching time in traveling to venues!

Workshops are planned and presented by an experienced and registered teacher and cover all the new Curricula Outcomes.

HANDS-ON EDUCATION will come to your school with a huge array of exciting, colourful and curriculum based activities suitable for all year levels.

### 5 Workshops are available ...

- **Science 1**
- **Science 2**
- **Maths Problem Solving**
- **SOSE The Early Days** (Looking at the Past / Present / Future)
- **SOSE The Australian Gold Rush**

Since all 5 of the Hands-On Education Workshops have a huge variety of hands-on activities for the students to explore & discover, we can easily accommodate 85 to 100 students a session. However, this will be limited by the area in which the workshop is held.

Is your school looking for an exciting way to celebrate these dates in 2011 ?

<b>Education Week</b>	<b>30<sup>th</sup> May – 3<sup>rd</sup> June</b>
<b>Catholic Education Week</b>	<b>18<sup>th</sup> July – 22<sup>nd</sup> July</b>
<b>Science Week</b>	<b>15<sup>th</sup> – 19<sup>th</sup> August</b>
<b>Science Month</b>	<b>August</b>
<b>National Numeracy Week</b>	<b>5<sup>th</sup> – 9<sup>th</sup> September</b>

### How do I book Hands-On Education?

**Fax:** Complete the Booking Form and fax to **07 33114594**  
**Phone:** Hands-On Education **07 33578786**  
**Email:** [barb50@optusnet.com.au](mailto:barb50@optusnet.com.au)  
**Mail:** Barbara Dawson Hands-On Education  
**158 Maygar Street Windsor Brisbane Q 4030**

How much does it cost? **(No GST / GST Free) ABN 94097019590**  
**\$6.00 per student with 5 % discount when 250 students or more attend.**  
Parents and teachers are free.  
**\$5.50 for bookings made the previous year.**

# Science 1

This will include 18 trestle tables of activities on ....

## Electric Circuits

- Exploring circuits – sound effects, tape recorder, traffic lights, electromagnet, fan, digital clock, digital sign, light activated door bell, hand generated radio / torch / lights
- Building electric circuits

## Electric Circuit Games

- How they work

## Static Electricity

- Static Wands & Tubes
- Electroscope & Plasma Balls
- Static electricity toys

## Solar Power

- huge collection of solar powered toys & gadgets including .....  
butterflies, frog, grasshopper, spider, cockroach, dragonflies, crab, hula dancer, Viking ship, planes, helicopters, windmills, lighthouse, seagull, merry-go-round, ferris wheel, flower, Bugs Bunny, Piglet, birds, Sawyer, water fountain, musical cups, radiometer, rowing boat, bike riders, lights, orangutang, conveyor steps, waving Queen Elizabeth, dancing chook, bullet train, waving cat, traffic lights etc

## Alternative Energy

- huge collection of alternative energy machines including  
wind, solar, chemical including salt water power, thermal (heat & cold), magnetic, steam, hydrogen, water, mechanical, nitinol memory metal
- green science – ways to make our planet green & clean, Eco Card activity

## Magnetism & Electromagnetism

- Huge collection of magnetic & electromagnetic activities, gadgets, toys

## Machines

- kinetic & potential energy – tumbling clowns, slinky, Maxwell Wheel, push & pull etc
- Medieval Machines
- Simple Machines - gears, lever, wheel & axle, screw, inclined plane, wedge, pulley, springs
- Gyroscopes, 2 Ride-On Gyroscope Cars
- Archimedes Water Pump based on the screw

## Balance

- Centre of Gravity experiments & gadgets
- Diablo, Spinning Plates, Yoyo, Labyrinth, Harmonograph

## Air Pressure

- Air Pressure experiments & gadgets
- Rockets – high flying & long distance
- Helicopters

## Famous Inventors & their inventions

# Science 2

This will include 18 trestle tables of activities on ....

## Earth Science

- Lightning, Weather Instruments (Old & Modern), Rainbow, Snow, Geyser, Tornado, Volcano, Rocks & Minerals, Fossils, Earthquake + Seismograph, Tsunami, Waves, Wind Funnel Cyclone, Natural Disasters etc

## Space

- Models & Interactive activities on ... Solar System, Stars & Constellations, Moon, Exploration of Space, Space Shuttle

## The Human Body

- Models & Interactive activities on ... Skeleton, Brain, Skull, Eye, Ear, Hand, Foot, Body Parts, Heart, etc
- Robotic Arms & Hands

## Optical Illusions

- How the brain & eyes work to create an illusion - Animation (Zoetrope, Thaumotrope, Phenakistoscope, Praxinoscope, Cineoscope, Flipbooks, Moire Pictures), Hologram Chambers, 3D Glasses & Pictures, Moving Heads, Persistence of vision clock etc

## Light & Colour

- Activities on ... Reflection & Refraction of Light, Prisms, Black Light, Kaleidoscope, Colour Wheel, Binoculars, Telescope, Periscope, Pixels, Box Camera, Fibre Optics, Teleidoscope, Mirrors, Light activated objects, Thermochromic Dyes, Shadows etc

## Sound & Vibrations

Activities on ... Musical Instruments, Vibrating Toys, Voice Changers, Wobble Board, Stethoscope, Vibrating Pens, String Telephones, Sound Activated Toys, Head / Body Massagers, Tuning Forks, Thunder Tube, Sound Tubes, Talking Cup, Clucking Chooks, etc

## Animals

- Life Cycles – Bee, Ant, Mealworm, Earthworm, Praying Mantis, Ladybird, Silkworm, Frog, Butterfly, Dragonfly, Chicken, House Fly
- Young & Adult matching activity
- Endangered Species interactive activity
- Animal Kingdom Classification Activities – (Mammals, Insects, Birds, Fish, Reptiles, Amphibians) + (Vertebrates & Invertebrates)
- Animal Anatomy

## The Microscope + Eyeclops

- Using the Microscope to study slides of animals & plants

## Robotics

- Huge collection of Robots for the students to operate
- Robotic Arms & Hands

## Famous Inventors & their inventions

# Maths - Problem Solving

This will include 20 trestle tables of activities covering these topics ....

The Maths Hands-On Workshop includes all of the following activities to challenge your students & reinforce Maths outcomes:-

## Number Facts

- Beeline 5 in a Row Game (Addition, Subtraction, Multiplication, Division)
- Mini Computers (Addition, Subtraction, Multiplication, Division, Fractions, Decimals)
- Multicube Game (Multiplication Facts to 12x12)
- Octopus Puzzle (Division & Multiplication)
- Magic Number Facts Game
- Tutor Boxes for Number Facts
- Twist & Shout Number Facts Tubes (Addition, Subtraction, Multiplication, Division, Turbo Turbo has %, decimals, fractions, problems & Addition, Subtraction, Multiplication, Division)
- Number Facts, Fractions Jigsaws
- Electronic Number Facts Boards
- Fractions & Mixed Fractions Domino Games
- Consul The Educated Monkey Calculators
- Shut the Gate Number Facts Game

## Plane & Solid Shapes

- Tangrams & Pentominoes (Tiles) & Pentominoes (Blocks)
- Build a Pyramid, Cube, Rectangular Solid Puzzles
- Plane Shape Puzzles (Octagon, Pentagon, Hexagon, Star, Triangle)
- Build a Square Puzzles
- Make a Shape Puzzles
- Brick By Brick & Block By Block
- Magnetic Sticks & Balls to build 3D Shapes
- Magnaforms ... Magnetic Triangles, Squares & Pentagons to build 3D Shapes
- Build a Pyramid Puzzles with 2 blocks, 3 blocks & 7 blocks
- The Almost Impossible Pyramid
- Wedgits 3D Building Puzzle
- 2D/3D Pyramid Brain Teaser
- Patch Match Shape Puzzle
- Soma Cubes - varying in levels of difficulty
- Tessellations Batty Lizards, Frantic Fish, Dizzy Dogs & Puzzled Parrots
- Pack It Puzzle
- Pentago using rotational skills
- Camelot & Castle Logic using spatial awareness
- Top This

## Problem Solving

- Farm Puzzle & Island Rescue Puzzle
- Rush Hour Series (Traffic Jam, Road Rescue, Safari Escape, Railroad Train Escape, Stormy Seas, IceCream Truck Traffic Jam)
- Raging Rapids & Sink the Hippo Puzzles

- Match Stick Puzzles
- Magic Squares & Puzzle Squares
- River Crossing + Spiderman City Crossing
- Arrow Puzzle & Knot Easy Puzzle
- 4 in a Row Pyramid Game, 4 in a Row Vertical Game & Quixo 5 Blocks in a Row
- 0's and X's, Gobble It Junior & Gobble It Senior
- Space & Speedway Puzzle
- Changing Places Puzzles– Kangaroos with Koalas & Red Frogs with Green Frogs
- Khun Phaen Indonesian Block Puzzles
- The Fifth Chair Puzzle
- Sudoku Puzzle Boards & Sudoku Electronic Games
- Sudoku Colour Game, Chocolate Fix Sudoku & Castle Banquet Sudoku
- Colour Code
- Solitaire & Hopping Frogs Solitaire
- Kaleidoscope
- Blokus, Draughts & Othello
- North Pole, African Safari, Egyptian Mummy, Farm Animals, Road Block, Bumper Cars, Airport, Princess, Pirate & Mermaid, Crazy Campers Puzzle Boards, Titanic
- Cover Your Tracks
- Horseshoe, Interlocking Keys, Wooden Crate, Bolt & Washer, Spring & Ring, Padlock, Remove the Ring, Remove the Rope, Ball behind Bars, Remove the Blocks Brain Teasers
- Fireman to the Rescue Puzzle
- Tip Over + Spiderman Tip Over
- Zoologic
- Kayak Cove
- Utopia
- Chicken Shuffle & Anaconda
- Balancing Nails Brainteaser

## **Symmetry**

- Mirror Tiles & Mirror Blocks

## **Grids & Co-ordinates**

- Farm Puzzle
- Co-Ordinate Games - Star Wars, Monsters Inc, Simpsons, Harry Potter, Ice Age, Toy Story, Shrek

The Maths Activities are self-correcting with various levels of difficulty to suit all age & ability levels. They can be quite easy to very challenging and can be quite addictive.

# **The Australian Gold Rush**

This will include 18 trestle tables of activities covering these topics ....

## **History + Population Growth**

- How gold was discovered, migration to Australia

## **The Goldfields**

- Housing, different types of mining

## **Mining Equipment & Tools**

- Pans, sieves, cradle, spider stick or tommy, crucible, cupel, dolly pot, shovel, buckets, windlass (Chinese & European styles), gold scales & original grain weights + ounce weights, gold nuggets etc

## **Ballarat**

- Model of the Gold Mining Town of Ballarat, typical shops & what they provided, people who provided their services to the miners

## **Transport to & from the Goldfields**

- Models of ... walking, horse, donkey, wheelbarrow, cart, coach, sailing ship, later – rail etc

## **Foods**

- What the miners ate, how the food was cooked, where the food was obtained

## **Entertainment**

- What the town provided, two-up, musical instruments, etc

## **Women on the Goldfields**

- Work women did on & off the Goldfields
- Disease & Mortality rate of ... babies, children & women giving birth
- Entertainer Lola Montes & her popularity on the Goldfields

## **Chinese on the Goldfields**

- The prejudice towards them
- The skills they brought

## **Bushrangers & Convicts**

- Ned Kelly outfit to wear + convict outfits & leg irons & ball & chain
- Replica of Ned Kelly + Bushranger & Convict charts

## **The Eureka Stockade**

- Eureka Flag, chart

## **Household items used in that period**

- Huge display of items from the home including items from the kitchen, lounge, bedroom, laundry, school (Items listed on Early Days Workshop Flyer)
- Entertainment items
- Clothing – How the women & men dressed, Students can dress up in items of clothing and accessories from that period for both boys & girls (hooped skirts, pantaloons, hats, gloves, fans, fur coats, top hats, starched collars & bow ties, trousers with braces, waist coats, pipes, glasses, hats with corks etc

# Early Days Workshop

## SOSE Change - Looking at the Past/Present/Future

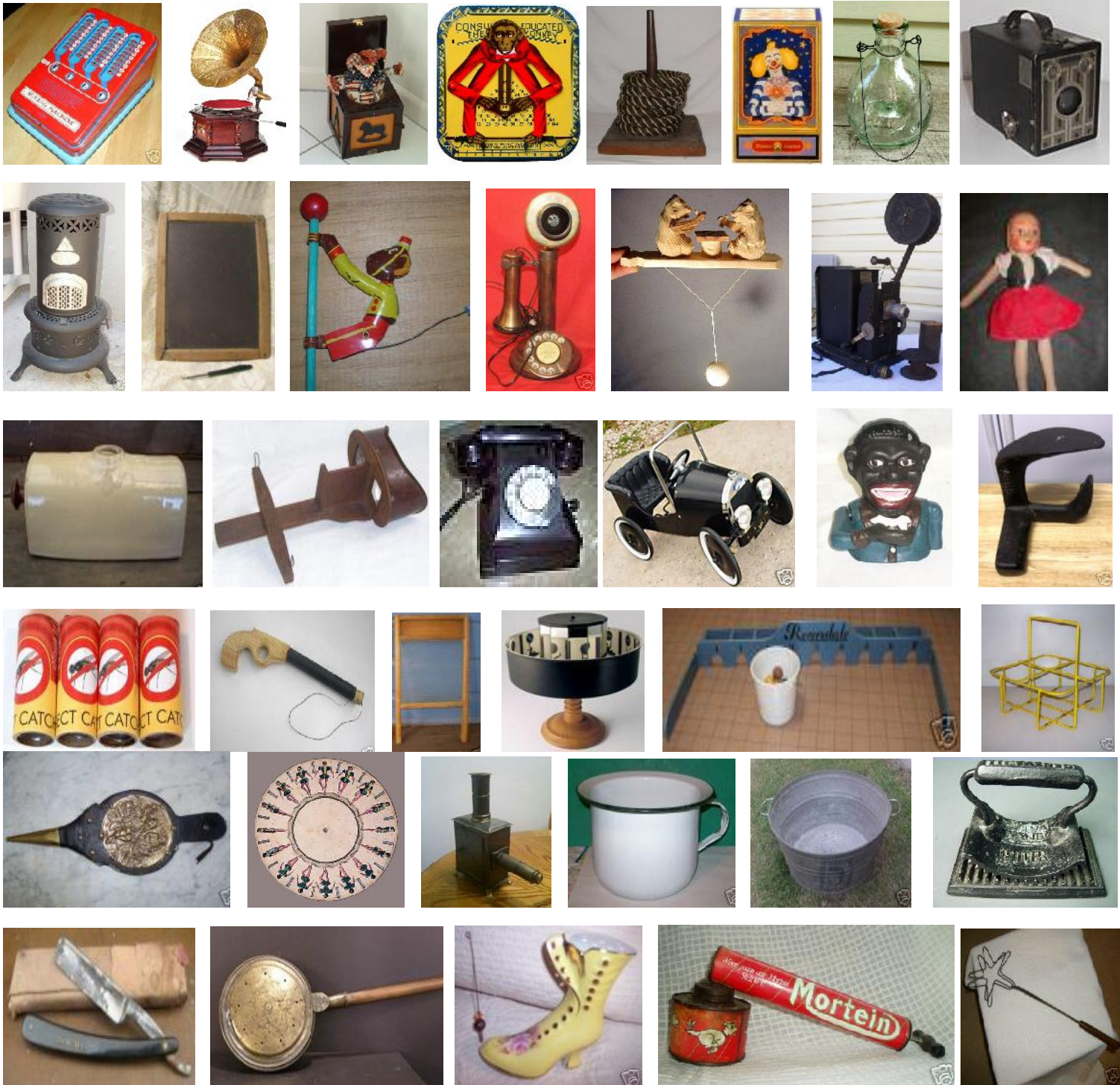
This Workshop explores Changes since the Early Days. Students look at how we lived in the past, compare it with the present and predict the future.

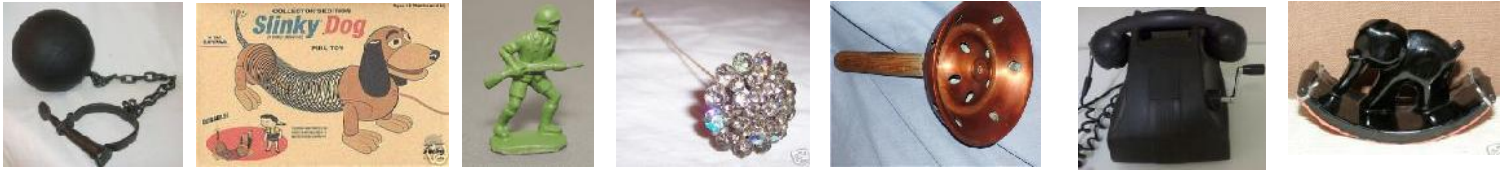
The display features :-

old school books, story books, school ports, nib pens, fountain pens, ink wells, school milk bottle, elephant rocker ink blotter, Cuisenaire rods, slates + slate pencils, wooden pencil case, old tin calculators dating back to 1889 & 1910, abacus, school sewing samplers, toys (1938 pedal car & tricycle, tops, hoops, huge variety of paper, papier-mache, wooden, wind-up and tin toys, lead soldiers, pin the tail on the donkey, slope-walking toys, jack-in-the-boxes, string-climbing toys, dexterity toys, acrobat toys, marbles, bob sets, horseshoes, quoits, jacks, pop guns, hobby horses, stilts, pogo stick, dolls (wooden, sawdust, rag, celluloid, kewpie, porcelaine, knitted & papier-mache), wooden jigsaws, rocking horse, pull-along toys , musical toys - harmonica, piano accordion, squeeze box, zippy zither, fife, wooden piano, music boxes, drum, water whistles), politically incorrect toys (gollywog, Punch & Judy puppets, black butler, story books), kerosene lanterns, gas light, candlestick holders and candle snuffers, old irons including Mrs Potts Iron, coal, petrol & shellite irons, Fluter iron 1866, ceramic & metal bed warmers, water hand pump, records, wind-up record player, horn gramophone, bellows, miniature wood stove, pot belly heater, fireplace tools, wind-up rotisserie, bellows, billy, Toby jugs, metal & cloth meat safes, butter churn, butter bell, butter pat, telephones including wind-up & candlestick phones, pianola roll, washboards glass & wooden, washing tub & tongs, dolly, early clothes dryer, pegs, blue bags & paddle, soap suders, flypaper, glass fly catcher, fly sprayer, mincer, jaffle irons, ice tongs, scone tray, toasters, hand toaster, brass & glass flower arrangers, beaded food covers, hair dryer, shavers, 1890 horsehair toothbrush, cut-throat razor, potty, coins, cast iron & tin money boxes, musical pop-up cigarette stand, two-up, magazines, newspapers (including a 1761 London newspaper), weaving frame, spinning wheel, knitting nancy, darning tool, lady's boot lacer, hat pins, hair net, glove stretcher, fur coat, mannequin in period costume, hoop skirt, top hat, starch collars, glass fishing float, bale hook, sheep shears, carriage step for ladies, old milk bottles & foil caps, milk crate, castor oil bottle, old bottles, cuckoo clock, wind-up clock, old reading glasses, pipe, box cameras, movie projectors hand-crank & electric, magic lantern & glass slides, stereoscopes + photos, animation & optical toys (anamorphic mirror, zoetrope, praxinoscope, thaumotrope, phenakistoscope, flip books, moiré pictures), convict leg irons & handcuffs, ball & chain, small model of a backyard dunny, 1899 travelling boot repairers stand, 1800's dentist drill, old pram, ice cream cart & baker's cart, 1930 large model racing car .... plus many more objects that appeal to children.

This workshop includes handling the objects and playing with the olden day toys, guessing what the objects were used for, discussing each, looking at their equivalent today and predicting what the future may hold. The workshop also includes a presentation of some very interesting olden day objects not included in the display eg a dog placed in a flywheel above the fireplace to turn the spit, first computer, first washing machine, wood stove, ice chest etc. There is also a collection of old photos of Brisbane showing the first RNA Show, ambulance, fire brigade, backyard dunny, trams etc and photos of children in dress of the day. Teachers are given a student booklet that may be photocopied and completed in class later.

These are just a few of the huge number of items we bring .....





**FAXBACK BOOKING FORM to 07 33114594**

School.....

Address.....

Telephone..... Fax.....

Teacher's Name ..... Email .....

Convenient Contact Time & Number.....

Year Levels **Prep 1 2 3 4 5 6 7** Circle year levels attending

Number of Classes..... Number of Students.....

Preferred Dates 1<sup>st</sup> ..... 2<sup>nd</sup> ..... 3<sup>rd</sup>.....

School Hours School day Begins..... Ends.....

1<sup>st</sup> Break Begins..... Ends.....

2<sup>nd</sup> Break Begins..... Ends.....

Place an **X** for the student workshop/s you are booking.

- **Science 1**
- **Science 2**
- **Maths**
- **SOSE – The Early Days**
- **SOSE – The Australian Gold Rush**

Is there a particular unit, theme or topic you would like me to focus on in my talk to the students? .....

Each of the above Workshops requires:-

- A spacious, uncluttered area (hall, activity area or double teaching space without chairs), preferably ground level or only a few steps due to heavy equipment.
- Undercover areas need protection from the elements both for safety & to avoid signs and activities from being blown over and damaged.
- Power source + 12 to 14 trestle tables or their equivalent in desks, trapezoids etc
- We can easily accommodate 85 to 100 students if area is suitable.

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