Fresh Water Literacies Project:

Bernadette Haggerty

& Marj Francis

Burton Primary School

Based at Springbank Waters Wetland Reserve

Our school and community context

Burton Primary School is a category 4 school in the northern suburbs of Adelaide. Enrolments currently sit at over 470 students. Many with complex learning needs.

Students attending Burton are from many socio economic backgrounds. Up to 40% of students are on school card and 25% of students are from an English as an Additional language or Dialect, making up 15 different nationalities. Burton Primary School has an onsite Preschool that caters for students' birth to 5 years. The school is very community minded and parents are encouraged to take an interest in the learning of their child/ren.

Our class context

The Year 4/5 class consists of 28 students, 17 in Year 4 and 11 in Year 5.

- There are 17 girls and 11 boys.
- There are 14 ESL students in the class and 1 student with an Aboriginal background.
- There is 1 autistic student and 1 selective mute.
- Four students receive special support from an SSO because of their learning difficulties.
- All ESL students receive 1-2 support lessons to help with their comprehension skills.

Our research question(s)

- How does communicating science impact on visualising futures?
- How does investing in scientific literacies impact on desirable futures for our local wetlands?

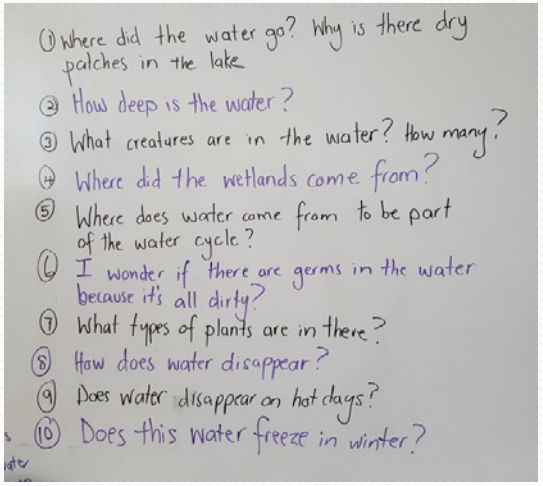
What we tried to do differently
Why?

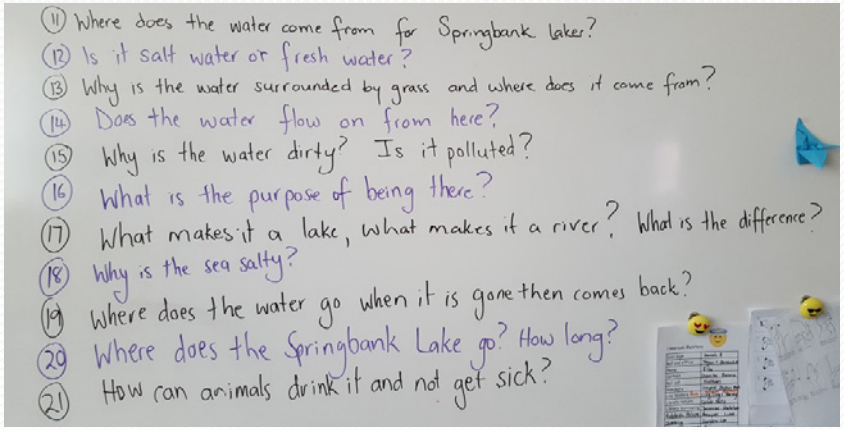
- Connect students with real life issues surrounding fresh water and nature in their community using:

  - A student-centred learning approach to drive the inquiry and develop engagement in the learning
  - Citizen Science Projects focusing on the local wetland environment to provide authentic contexts
  - Expert specialists from the community and UniSA to provide scope for deeper knowledge and skills acquisition

Types of data we collected

- Prior knowledge questions
- Student engagement
- Connection to topic (fresh water)
- Student built knowledge through student directed learning
- Ability to research
- Community experts engaged and affect on learning
- Futures thinking
- Reflective process





What happened?
What we did

- We provided scope for students to explore their own questions relating to water through;
  - Experiments that students chose to explore ideas about water
  - Observation walks to the wetlands
  - Providing access to internet and books
  - Lessons to explore ideas and develop scientific method and skills to equip the students with research and observation skills
- Posing the project questions,
- Establishing the wetland context – geographically/ historically,
- Citizen Science projects,
- Introducing mind-mapping as a shared reflection & planning tool,
- Posing and sharing challenges from teachers, between schools and from students,
- Further question and reflection activities,
- Mini lessons / overt teaching of skills related to the projects as required

What happened?
What the students did

- CS project activities
- RBL
- Challenges
- Working Parties
- Genius Hour
- Expert Specialist visitors/ projects

Exploring the Wetlands:

Geography – google earth/maps

History – Community expert

Only 10% of all water is drinkable

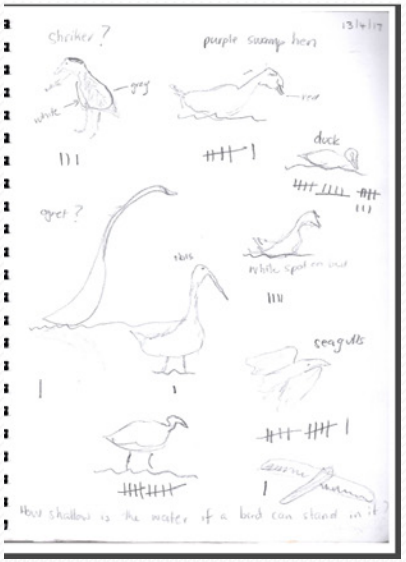
Our contribution to the pollution problem

We have learnt that we can make a difference.
We have learnt that the professionals are willing to share their knowledge.
We are always discovering new things.

Citizen Scientists Projects

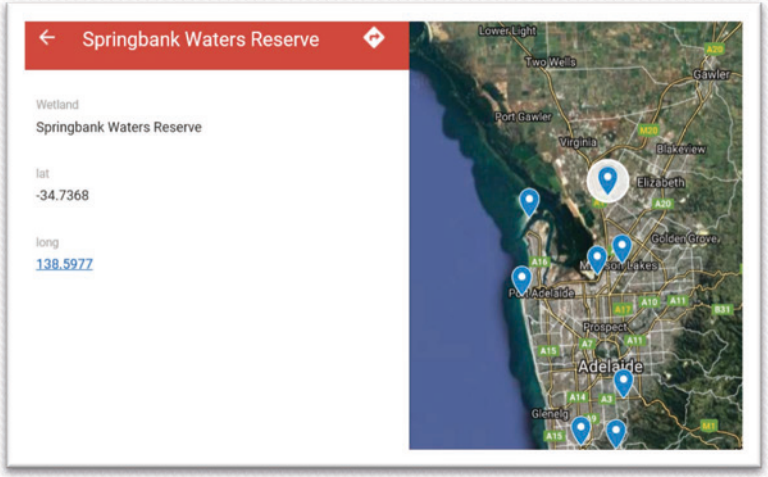
- NRM – data collection
  - Water quality testing
  - Bird monitoring
  - Rubbish collection
- Feather mapping
- Bowerbird

NRM



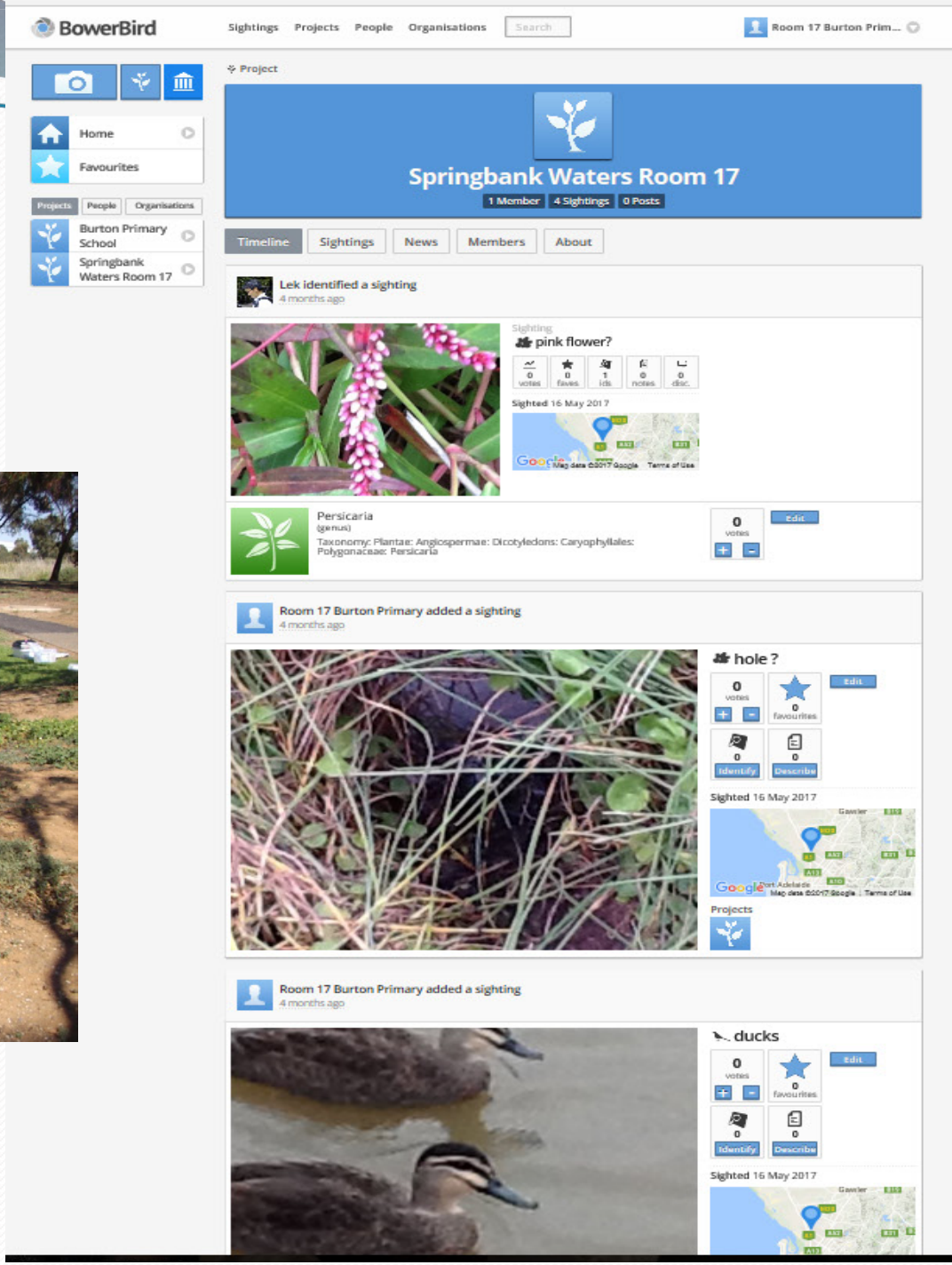
Feather Map

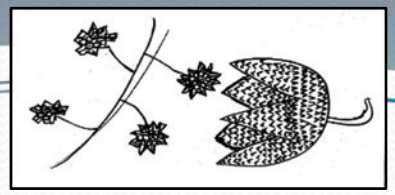

Feather Collection 23/3/17
only white
tiny
brown
black
black + white
1
2
3
4
5

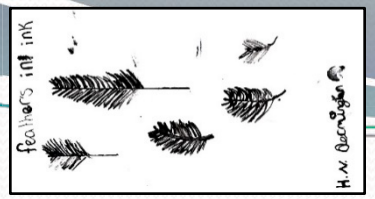

Springbank Waters Reserve
Wetland
Springbank Waters Reserve
lat
-34.7368
long
138.5977
Lower Light
Two Wells
Gawler
Port Gawler
Virginia
Elizabeth
Golden Grove
Adelaide
Prospect
Glenelg

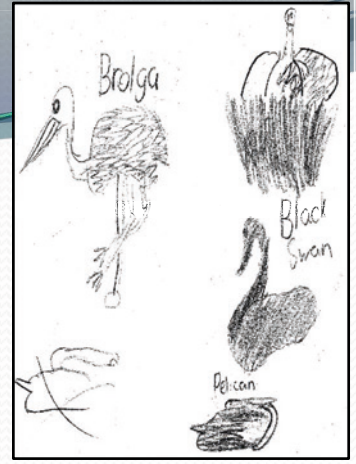

Australian Government
Ansto
Search...
Australian Nuclear Science and Technology Organisation
Feather Map
Become a citizen scientist today by collecting wetland bird feathers you find on the ground or in the water and help our researchers create the first ever Feather Map of Australia.
Ansto
Centre for Ecosystem Science
UNSW
Feather Map of Australia Project
Get involved
The science of analysing feathers
Meet our lead researchers and contributors
News
Scientific licence and permit details
School and education resources
Find a wetland near you
Discover wetland birds
Frequently asked questions
Latest News
Interactive map of locations feathers received from now available Read more
MORE NEWS

Bowerbird


BowerBird
Sightings
Projects
People
Organisations
Search
Room 17 Burton Prim...
Home
Favourites
Projects
People
Organisations
Burton Primary School
Springbank Waters Room 17
Project
Springbank Waters Room 17
1 Member
4 Sightings
0 Posts
Timeline
Sightings
News
Members
About
Lek identified a sighting
4 months ago
Sighting
pink flower?
Sighted 16 May 2017
Persicaria
(genus)
Taxonomy: Plantae: Angiospermae: Dicotyledons: Caryophyllales: Polygonaceae: Persicaria
Edit
Room 17 Burton Primary added a sighting
4 months ago
hole ?
Edit
Identify
Describe
Sighted 16 May 2017
Projects
Room 17 Burton Primary added a sighting
4 months ago
ducks
Edit
Identify
Describe
Sighted 16 May 2017





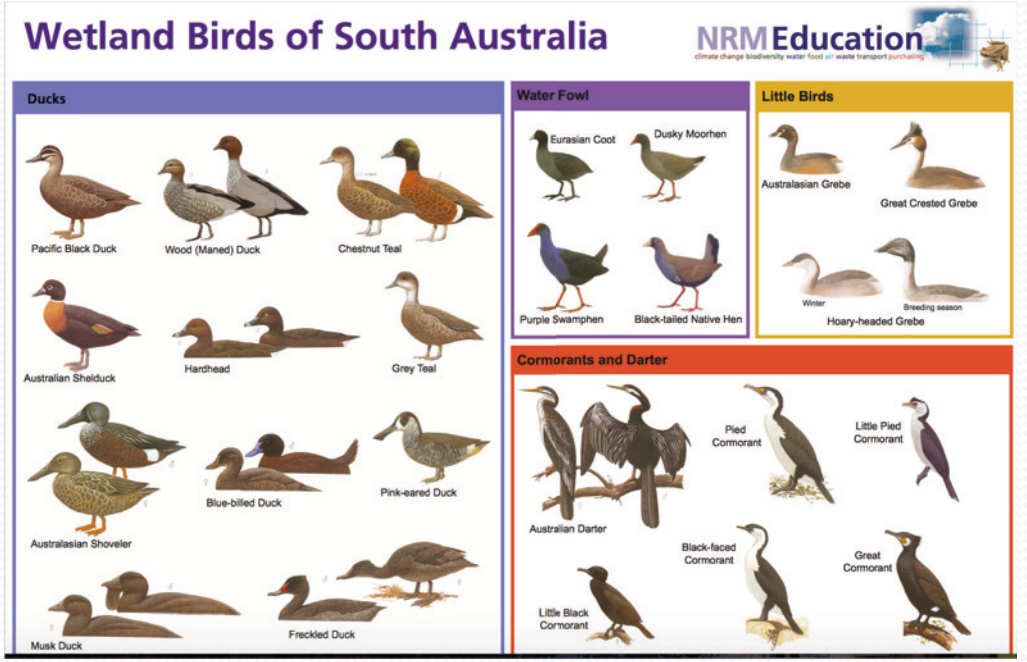


Why we call it STEAM
Art challenges

- Visit from Australian artist, John Whitney
- Setting small challenges
  - bird puzzle
  - exotic bird
- Barmera Challenge – line art

RBL – Wetland Birds

- All students researched one wetland bird and created a PowerPoint. They presented it to the class. Now we know something about every bird that makes a home in the wetlands.



Premier's STEM Reading Challenge

Task: read 12 science based books.
Make or draw a labelled diagram of your invention.
Write a manual to describe how it works.
Present – reflect – tweak - present

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Reply all | Delete Junk | ...

To: Haggerty, Bernadette (Burton Primary School)
Cc: Raethel, Kaleen (Secondary Learners Directorate); Stephenson, Jodie (Secondary Learners Directorate)
Subject: RE: PRC STEM [DLM=For-Official-Use-Only]

For Official Use Only

Dear Bernadette,

Your class has done an amazing job. I will ensure they all get a certificate. Could you please indicate how many children are in your class and that participated?

I couldn't help but thinking having the clothes folder would be useful! And should I ever have more children, I could do with a baby holder (and trolley pusher!).

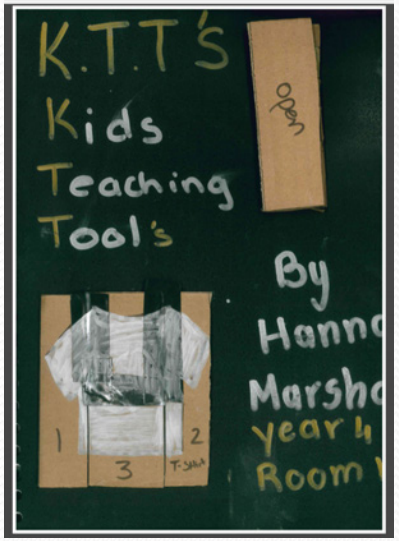
Well done to all the creative geniuses in year 4 at Burton Primary. Well done!

Cheers

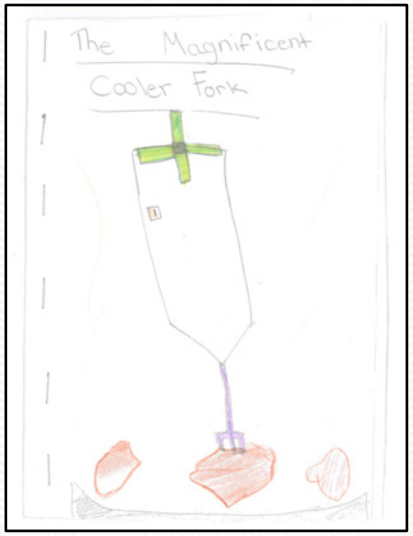
Mark

PS Bernadette, I think we will run the competition again next year. Your kids would have done very well amongst the 600+ entrants this year. One hint for next year – there were quite a few that used colour to great effect this year.

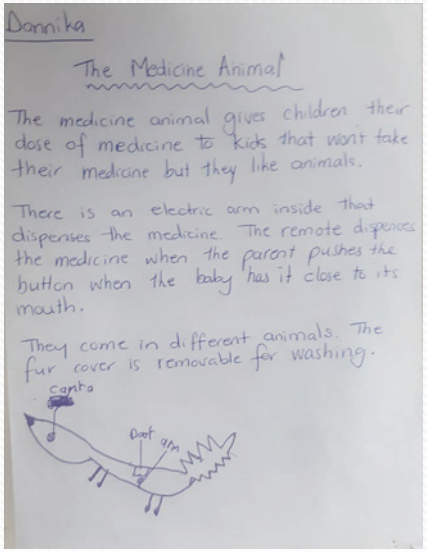
Mark A Williams
Manager Premier's Challenges
www.prc.sa.edu.au
www.pbac.sa.edu.au
Learning Improvement Division
Office for Education and Early Childhood
Department for Education and Child Development (DECD) / 31 Flinders Street, Adelaide SA 5000
t (08) 8226 2006 / m 0421 584 016 / f (08) 82262005 / e MarkA.Williams@sa.gov.au / w www.decd.sa.gov.au / d *Secondary Learners Directorate* / c R11/37a



Thumb Recogniser
By Katelyn



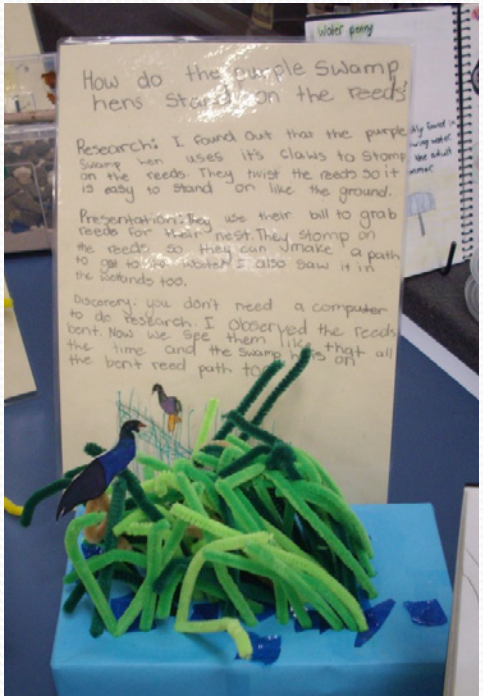
The Magnificent
Cooler Fork by Ella

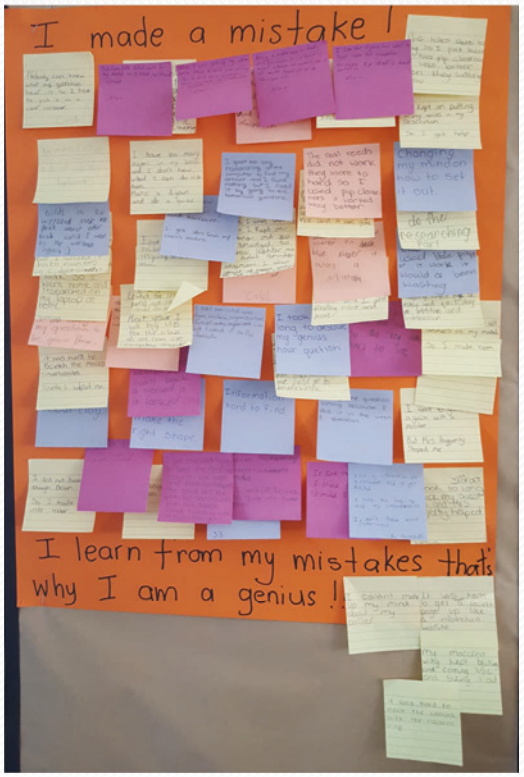


Genius Hour: Follow your interest

How does the swamphen walk on the reeds?

1. Research
2. Investigate the environment
3. Make something to show
4. Present it to the world





What's making a positive difference?

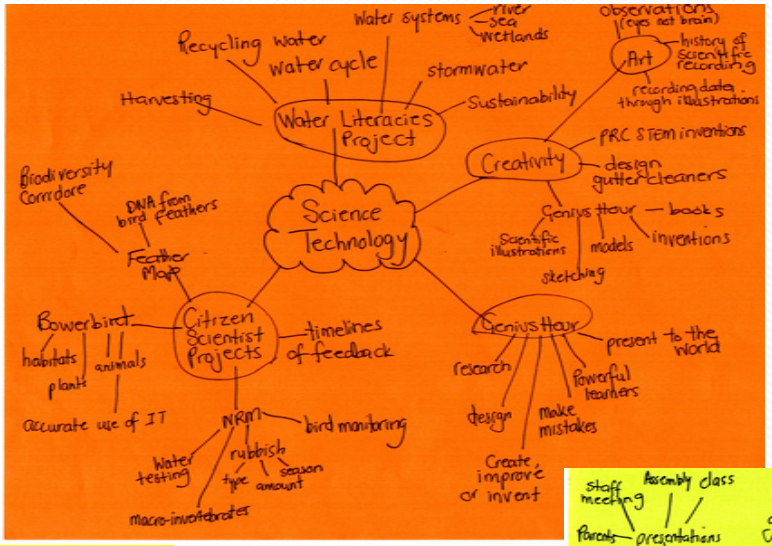
Our evidence of change/accomplishments

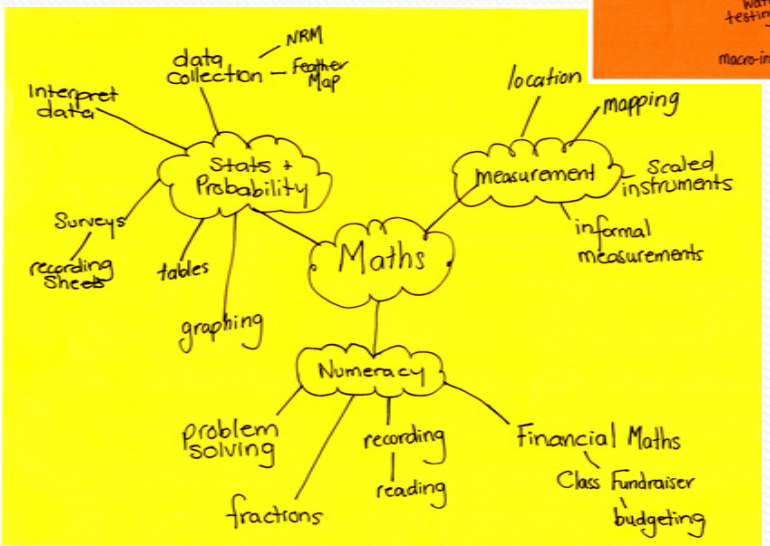
- Group work skills/relationship building/valuing each others knowledge
- Continual questioning
- private research and sharing it/challenging each other
- Learning to participate in discussions
- Reflection journal
- Student research skills/RBL/Genius Hour
- EXPO & Presentations/ Displays

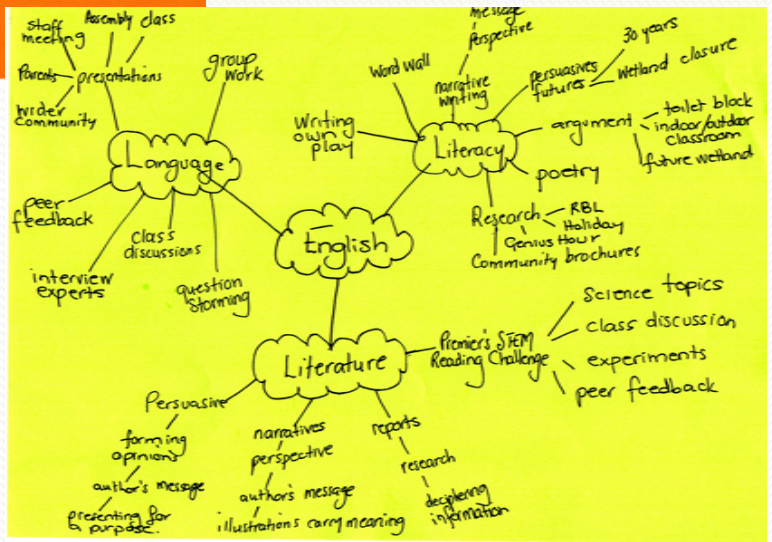
Connection to our school's Strategic Priorities

At Burton Primary School we will develop powerful learners through implementing quality teaching and learning practices

The school's priorities are: Literacy, Numeracy and Science and Technology.







What did we learn?

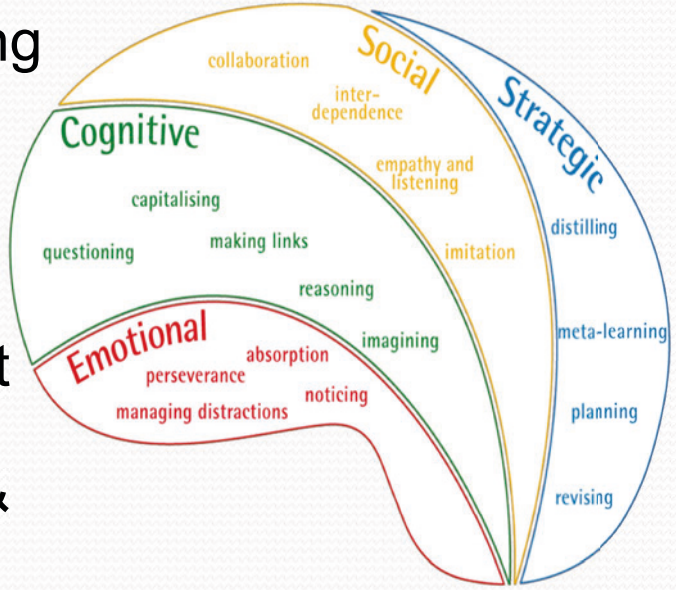
… about our pedagogy

… about our students

… about classroom research

Developing our teaching pedagogy: creating Powerful Learners

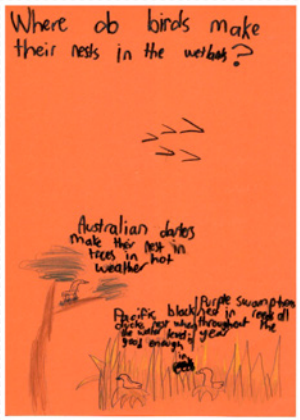
- A transdisciplinary learning approach using the Fresh Water Literacies Project as our theme
- Improved reading through research
- Improved writing through real issues
- Connection to local and state government processes
- Improved maths through data collection & recording/ measurement & number skills
- Improved science skills through building knowledge about wetlands environment
- Improved arts skills through photography/ media & digital technology/ observational drawing – drawing scientifically
- Wellbeing- Becoming connected/ sharing with community their love of the wetlands / futures thinking

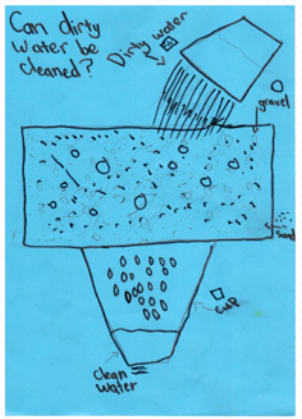


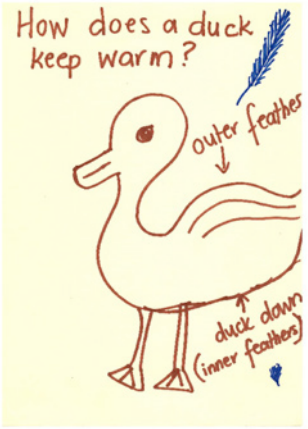
Teaching Powerful Learners to be leaders by joining working parties

- Dan French – school sustainability project
- Reporting group – (levels of government)
- Student Environment Officer
- Assembly presentations
- Brochure designs

They've learnt to drive their own learning in an innovative classroom

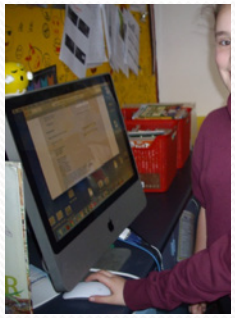






Students have learnt to be:

Researchers

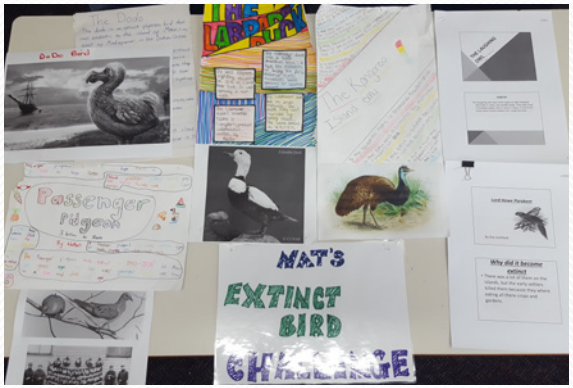


They researched using information texts and search engines.
They learnt how a wetlands works at the Botanical Gardens
They observed birdlife and habitats at the wetlands and at the Adelaide Zoo.

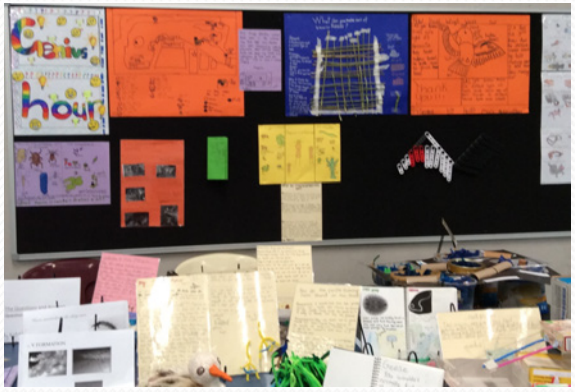
Independent

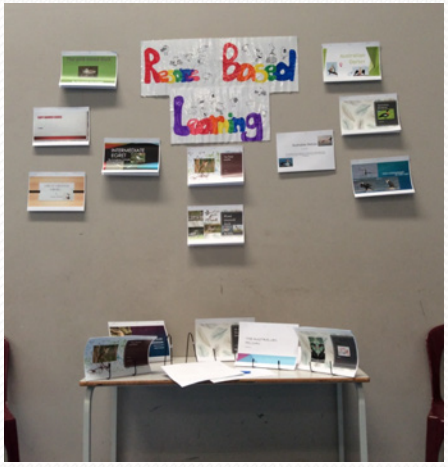
Students set own challenges

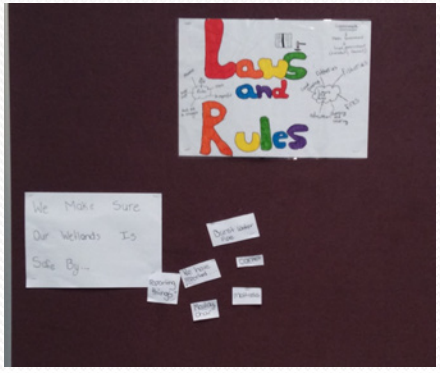
Term 1: Create a ground level gutter cleaner
Term 2: Research a bird of your own choice
PRC STEM invention
Term 3: Link script to get pen licence

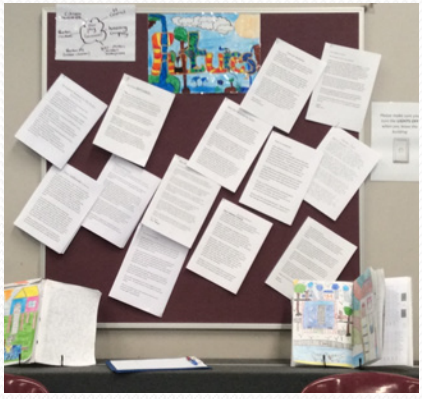


Wetlands Expo









Shopping centre presentation
Sharing their knowledge

Harvey: Reflection
'I taught people in one minute what took me a whole year to learn.'

Involvement in Classroom Research

- Sharing / borrowing ideas with colleagues/ experts
- Challenging your own teacher practice and methods
- Building knowledge & confidence
- Building a network of experts
- Covering the curriculum and more!
- Improved grades
- Feeling of satisfaction

What will we do in the future?

It just kept growing…from this project came:

- School sustainability project
- Eco-schools
- Voucher for 50 plants and construction of a butterfly garden
- NRM – host the Student Voice Summit
- Present to staff
- Present to parents
- Present to the community

Conclusions

This could not have happened if we were not supported by our Leadership team.

Not doubting the value of a big project

Building deep student knowledge and confidence to be real scientists

Students became reflective, collaborative and effective communicators

Acknowledgements

- Alison Lynch – Principal; Burton Primary School
- Nic Dale – Deputy Principal; Burton Primary School
- Cath Summers – SSO; Burton Primary School
- Julian Marchant – NRM Education & City of Salisbury
- John Whitney – Adelaide Artist & Educator
- Dan French – Sustainable Schools Consultant & Educator; French Enviro
- Philip Roetman – Research Fellow; School of Natural & Built Environments
- Jarrad Kilsby – Teacher; Barmera Primary School
- Joanna Whitehead – Teacher; Barmera Primary School
- Lorretta McMillan – Teacher; Goolwa Primary School
- Kathy Paige – Project Coordinator; Higher Degrees Coordinator; School of Education; UniSA
- David Lloyd –Adjunct Research Associate; School of Education; UniSA
- Barbara Comber – Research Professor; School of Education; UniSA
- Katrina Elliot – Strategic Design Project Officer Mathematics & Science; DECD
- Samuel Osborne – Associate Director: Regional Engagement (APY Lands); UniSA
- Sandra Gosnell – Lecturer: Education (Literacy & Numeracy); UniSA
- Lisa O'Keefe; Education UniSA