Shape Sleuths at the Creek

Continuing the 2013 biodiversity series in Otherways by Jeanie Clark

Sometimes man does some amazing things as part of living on Earth. He gets together with others, explores, creates, inspires. The Shape Sleuth program did this.

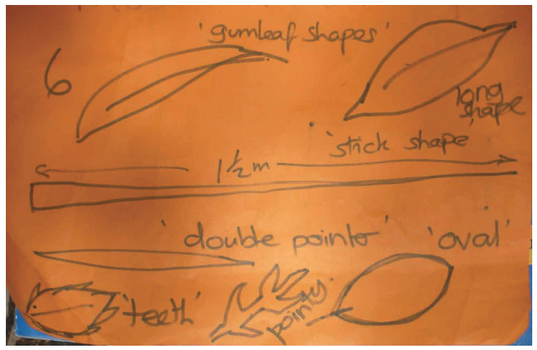
'Sleuths' are detectives – they follow clues to find out things. The Shape Sleuth program I ran last term was to enable people to find out things that they otherwise might not have noticed. It used shape as a key maths concept, and a key descriptor of differences between living things that helps in their identification … and thus discovering biodiversity.

An investigation has limited value if it is not communicated to others. It was awesome for me to be able to share and introduce new people – from pre-schoolers to teenagers and their parents – to an 'ordinary' creek environment, which I knew well, but they did not, and to use some ideas shared in the last *Otherways* article about focussing on shape for this. The photo below is of the site, Apex Park on the Yarriambiack Creek at Warracknabeal, on a lovely summer's day, with all its relaxing blues and greens.

Shape Sleuth 1 – plants

This site is blessed with plants in the water, on the banks and on the verge- the flat land beside the creek. The group's hunch for the main species shape to be found was of a 'gumleaf' shape. The water plants did not agree! Some even had tiny leaves to look at.

We found six other leaf shapes beside the gumleaf one and named them with descriptive words.



Being able to give names makes it easy to record and communicate observations. But if you want to put it into the Scientific community, you need to know 'proper' leaf shape names. Links to these were given on p35 in my last *Otherways* article. If you'd just like to know what these water plants are, see the Shape Sleuths section at my enviroed4all website.

Shape Sleuth 2 - creatures

Joseph Cornell's 'Sharing Nature' organisation, based in national parks of the USA, provides many activities to encourage observation and getting to really know nature. (See http://www.sharingnature.com/index.php and a list of his books with activities there.) Some of these were used for sleuthing creek creatures.

Can you turn your family into a creek creature? Each family brought a human sculpture of something that might be found here for others to guess. What do you think my son and I are? Notice the shape of hands?

Two other 'Sharing Nature' activities were:

- Some quiet listening to discover birds and frogs nearby – sounds which come to us through the air– though they could not be seen, so had no shape to discover.
- Sitting still beside the creek, to discover bubbles in the water and large ants along the waterline.

A Waterwatch bug hunt provided some easy to see water life to test our group shape hunch that their bodies would be oval – and most were.

At the end, everyone was inspired to share some words on the theme of 'when we were quiet' as a reflection. Collated, these formed a memorable poem.

When we were quiet,

We

Heard

Singing,

a frog
birds making a noise,
beautiful birds chirping
7 different birds –
kookaburras,
ducks,
through the air
In the distance

Saw

Birds
Frogs
Lots of ants
Busy near the water's
edge
cleaning their antennae
Lots of spiders
Lots of bubbles
Water boatmen
swimming fast
Fish (Gambuzia – a pest fish)

Had fun
walking around
playing with sticks
Had a nice time

Shape Sleuths 3 – of land and water

The Wimmera landscape is basically of dry plains, with water an important component on them. Where will the water flow and stay? What shapes help it hold water?

We made some landscape shapes with soil in tubs and tested them to see how well they held water. One failed, and was rebuilt as a deep channel like the others that had worked. The shape of the land creates the differences in water regimes. That determines what plants can live where and what creatures with them.

Everyone brought drawings of their water places to share on a big map of the Wimmera to show where they were located. Again shape helps us to recognise the features from the small birdbath to the big lake.

What shape is the creek? Butterflies tried to distract us from noticing how its path changed as we walked to the next bridge! But they hadn't been successful. We could all draw the curved shape – a meander – in the dirt. Like explorers, we had had to follow the water over the land, but it wasn't the only way to go. We chose the straighter line, to return more quickly.

This overview of the Apex Park Creek environment by Shape Sleuthing was complete – plants, animals, land, water, air – the key parts of an environment. As with all explorations, more can be learnt by returning and discovering changes or more detail. The Maths of Planet Earth aims were supported by using a simple maths concept to 'discover a part of the planet, supporting living things and with some organisation of water by humans'. Are there places you can similarly explore? For more information on how to do this, visit Shape Sleuths pages at www.enviroed4all.com.au

World Water Day - IY Water Co-operation.

Sleuths 3 was also a time to recognise World Water Day 2013 in the International Year of Water Co-operation. (See http://www.unwater.org/water-cooperation-2013/home/en/). Earlier we had placed the drawings between four corners, each for a main water use – recreation (people playing), irrigation (gardens and farms), aesthetics (looks nice) and wildlife (nature). This diagram showed us that our water is shared, with much co-operation between the uses.

'Walking for Water' <http://www.walkingforwater.eu/> is a European-based project for young people to link with children across the world who daily have to walk to get water for their family, missing out on learning. On our walk, we carried empty water bottles to the bridge and filled them there, before returning.