

An Excellent Tool – Teacher Notes

Our pre-industrial agricultural ancestors across the world separated wheat from chaff, dried peas from their pods and seeds from soil using the local version of this tool. Flat shallow baskets of woven leaves were used by many early agricultural people for this purpose and are still in use in rural areas in Asia, Africa and South America.

Aboriginal people were hunter-gatherers and were constantly on the move to follow game and seasonal food. Tools needed to be multi-purpose to make them worth being carried. The yandy or coolomon shown in the picture below is a multi purpose woman's tool which can separate sand from seed and husks from kernels. Its sharpened ends can be used as a digging tool and it was also used to carry babies, water and foraged food. They were often carved from trees where the softer heartwood had been eaten by termites or white ants. Men would use a large hand axe to cut the wood and smaller sharpened scrapers to complete shaping. Any holes could be plugged with melted balga (*Xanthorrhoea preissii*) resin or spinifex gum.



A Pitjantjatjara (Western Desert) yandy with a large black lump of balga resin

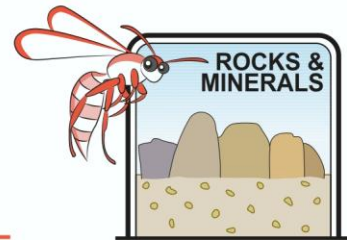
The Australian continent separated from Asia before natural hybrid wheat appeared in the Middle East. Emmer wheat was unusual in that its grain ripened on the stalk. Armfuls of emmer could be cut, carried to a threshing floor and the wheatears knocked off by walking cattle over it. Australian grass seed does not stay on the stalk when it is ripe. It cannot be harvested by reaping and threshing. It must be won from the soil it has fallen on. Aboriginal women would use the yandy to pick up seed and sand and then move the mixture to separate seed. Women have wider set acetabula (hip joints) than men and they are more efficient “yandiers”. Many of our refugee students were raised to perform this task. They will also throw the material up in the air to let wind blow away lighter husks and dry leaves.

I recommend inviting Aboriginal women “aunties” to tell you more about this useful tool in your community and to demonstrate its use.

Using a yandy to separate seed and sand

Materials per student

- A yandy, laboratory tray, panning dish or meat tray. If supermarkets are given advance warning they may save the polystyrene trays they use to display prepared meats such as kebabs “for the children”.
- A mixture of materials to represent weathered clasts. I recommend using clean sand, white rice, dried peas and marbles as the size and colour difference make the process more obvious. For experts on a windy day add dried leaves or the paper chads left behind in the hole-punch machine.



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1. Place the materials in the yandy and mix until homogenous.
2. Hold the yandy lightly with one end slightly raised.
3. Gently swirl the materials within the yandy. It really doesn't matter which movement you use as long as you are consistent so the forces are in a uniform direction.

During early rushes to the developing Goldfields Aboriginal women were taken to “yandy” or “dry pan” soils and broken rock when there was not enough water to use for conventional panning. Miners would select promising rock and then crush it into smaller pieces in a “dolly pot” in much the same way as we crush spices with a mortar and pestle. The fine crushed material would be given to the girls who would place it in a yandy and toss it into the wind. Gold is very dense and would drop back into the yandy whilst some less dense materials would be blown away.

Density of sand 2.65g/cm^3

Density of Fool's gold 4.85g/cm^3

Density of lead 11.34g/cm^3

Density of gold 19.32g/cm^3

The mix would be yandied and mullock (non-ore bearing rock) would be picked out and removed. The remainder would then be panned using precious water to concentrate gold in a “tail”. Water was often more expensive than gold!

Gold panning in an Australian gully: <http://www.youtube.com/watch?v=fB1ndqTuze4>

Gold is still expensive. Lead is less so. Lead shot can be belted with a hammer and sprayed with gold paint to make small passable gold nuggets.

Using a yandy to separate gold from mullock

Materials per student

- A yandy or equivalent (See above)
 - Sand and pebbles or road metal
 - 20 Lead “gold nuggets”
1. Placed the mixed material into the yandy and shake moving consistently in one direction with one end slightly raised
 2. Count how many “nuggets” can be easily picked out after two minutes.

The story of McLeod and Yandeyarra Station

When the armed forces returned to Australia at the end of World War 2, Aboriginal soldiers were not fairly treated. A Scotsman called McLeod organized some of the Aboriginal people from north of Newman in Western Australia. The groups walked across the Pilbara looking for minerals. At night they stopped and the women yandied their finds to concentrate the ore. They raised enough money from selling metal ores to buy Yandeyarra cattle station north of Newman. It was the first Aboriginal owned cattle station in Australia.