

NAPLAN Proficiency Level Descriptions

Reading Year 9 - Strong

Example texts

Caffeine

—an eye opener!

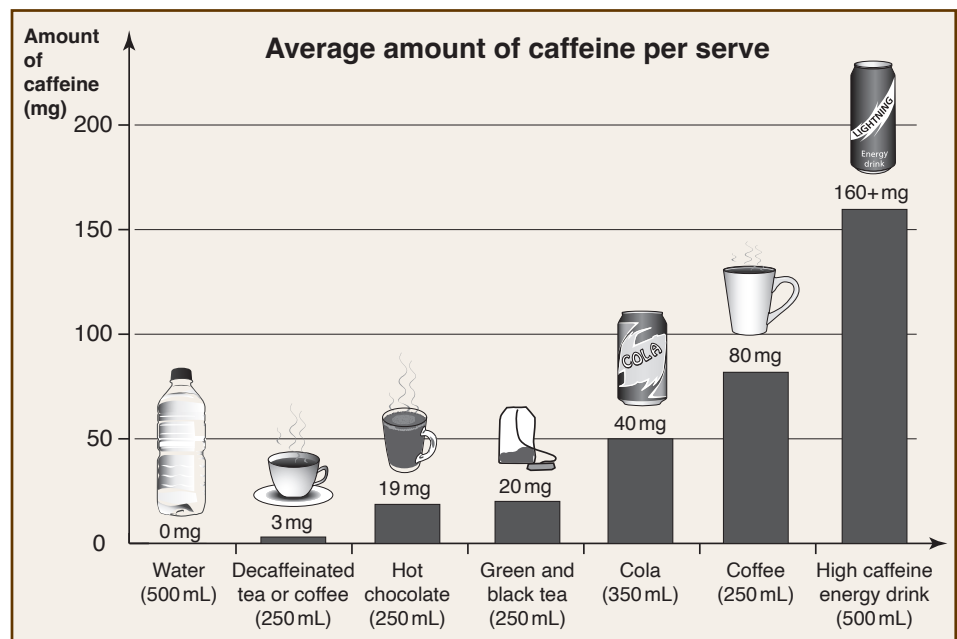
So what's your first choice for a drink on a hot day? Chances are, that you, like most people under the age of eighteen, will opt for a big cold can of cola or an energy drink crammed with caffeine. 'So what,' you say, 'it tastes good and keeps me alert'. Well, here are a few facts about caffeine that should make you think again!

For a start, caffeine—the common name for the chemical trimethylxanthine—is a drug. And like any other drug, its use can potentially have a disastrous effect on your developing brain and body. The parts of the brain that are in charge of higher functions include the prefrontal cortex and the temporal lobe and, at your age, these areas are still being developed and refined. The brain chemical adenosine, which controls your sleep patterns, is crucial to the development of these brain sections. The reason that caffeine makes you feel alert and less sleepy is because it blocks the action of adenosine and increases adrenaline production, speeding your metabolism. Get into the habit of slamming down too many of those high caffeine energy drinks every day and you can wave goodbye to good quality sleep and potentially affect your brain!

You can also stop kidding yourself that you're reaching for the caffeine just for the taste because it is tasteless at the levels found in beverages. What you taste is the massive amount of sugar that has been added to the drink. The caffeine is there to add the kick and to stimulate the production of dopamine in the nucleus accumbens. This is the pleasure and reward part of the brain which forms addictions. The upshot is that your brain associates the pleasure of sugar with the stimulation of the caffeine, making you want more.

By the way, caffeine is toxic in large quantities. Consume about 750 mg of caffeine in a day and you could experience anxiety attacks, ringing in the ears, migraine, heart palpitations and blurred vision. Even heart failure is not unknown!

Hmm ... maybe water would be a smarter choice from now on.



Auroras: neon signs in the sky

The phenomenon of the *aurora australis* (and its northern counterpart the *aurora borealis*) is one of nature's wonders. The majestic displays of the aurora—vast curtains of undulating green, red or blue light hundreds of kilometres high—can be seen in night skies in Antarctica and sometimes as far north as Tasmania, and are the result of a complex interaction between three major elements.

The first of these, Earth's *atmosphere*, is the collection of gases that surround the planet, mainly nitrogen and oxygen. This gas envelope begins at the planet's surface and extends upwards more than 700 km, becoming less dense with increasing altitude. Also enveloping the planet is a strong magnetic field called the *magnetosphere*, which arises from deep within Earth's core and spreads along invisible 'field lines'. The magnetosphere causes charged particles from space to be deflected around the planet. This function is made important by the third element in the equation: the *solar wind*. This 'wind' is actually a plasma composed of charged particles (protons and electrons) ejected from the Sun at high velocity by its intense nuclear fusion activity.

High in Earth's atmosphere, at the border between the denser gaseous regions and outer space, lies a zone known as the *ionosphere* where the *aurora* occurs. Here, the high-energy charged particles of the solar wind become captured by the magnetosphere and are driven into collision with the gas particles of the atmosphere. As gas atoms absorb energy from collisions with the solar-windborne particles, the atmospheric gases become 'excited', or at even higher energies, 'ionised' (positively charged). These atoms release light (photons) when they fall back out of their excited or ionised states. Much like the gas contained in a neon sign, which glows as a current is passed through it, the particles in the ionosphere glow as they return to an unexcited state.

But why the differing colours of the auroras, and why do they only happen near the poles? The colours are explained by the different *spectra* emitted by different gases at different levels of excitation—lower-energy oxygen yields different (reddish) hues compared to higher-energy nitrogen (greenish). As for the phenomenon's polar locations, interactions between magnetic fields and charged particles are simply stronger where the magnetic field itself is stronger—near the planet's magnetic poles.



Mrs Douglas

Dressmaking didn't pay so well in the bush then as it had in the old digging days when sewing-machines were scarce and the possession of one meant an independent living to any girl—when diggers paid ten shillings for a strip of “flannen” doubled over and sewn together, with holes for arms and head, and called a shirt. Mrs Douglas had a hard time, with her two little girls, who were still better and more prettily dressed than any other children in Bourke. One grocer still called on her for orders and pretended to be satisfied to wait “till Mr Douglas came back”, and when she would no longer order what he considered sufficient provisions for her and the children, and commenced buying sugar, etc., by the pound, for cash, he one day sent a box of groceries round to her. He pretended it was a mistake.

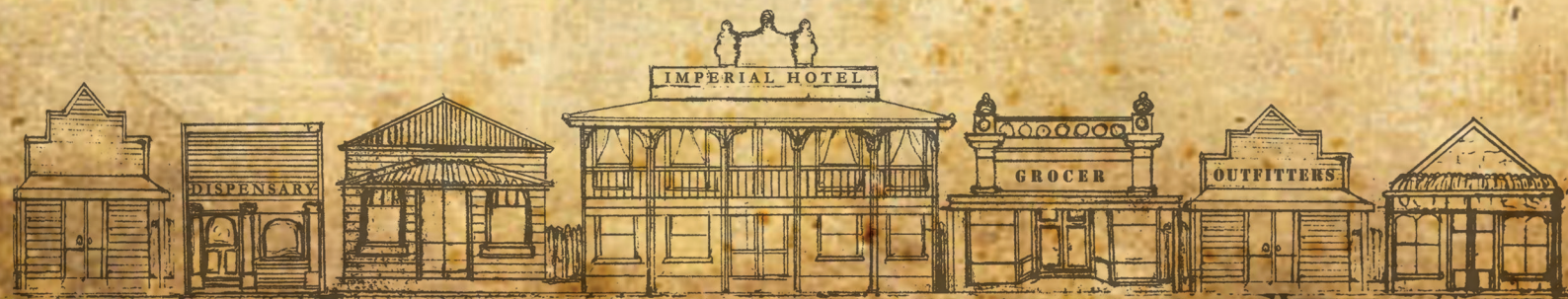
“However,” he said, “I'd be very much obliged if you could use 'em, Mrs Douglas. I'm overstocked now; haven't got room for another tin of sardines in the shop. Don't you worry about bills, Mrs Douglas; I can wait till Douglas comes home. I did well enough out of the Imperial Hotel when your husband had it, and a pound's worth of groceries won't hurt me now. I'm only too glad to get rid of some of the stock.”

She cried a little, thought of the children, and kept the groceries.

“I suppose I'll be sold up soon meself if things don't git brighter,” said that grocer to a friend, “so it doesn't matter much.”

The same with Foley the butcher, who had a brogue with a sort of drawling groan in it, and was a confirmed cynic.

“You see,” he said, “she's as proud as the devil, but when I send round a bit o' rawst, or porrk, or the undercut o' the blade-bawn, she thinks o' the little gur-r-rls before she thinks o' sendin' it back to me. That's where I've got the pull on her.”



Acknowledgements

Auroras: neon signs in the sky

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Mrs Douglas

Extract from 'Lord Douglas' in Send around the hat by Henry Lawson. First paperback edition 1907, out of copyright