**THEME 1 – Family Relationships**

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| **Bad parenting makes teenagers EIGHT times more likely to abuse alcohol, study finds**  Adapated from http://www.dailymail.co.uk/news/article-2030902/Bad-parenting-makes-teenagers-EIGHT-times-likely-abuse-alcohol-study-finds.html  Tough love: Parenting combining warmth and discipline was the most effective  The amount of alcohol a child drinks as a teenager and young adult could be linked with how they were brought up, a study has found.  Parenting style is one of the strongest influences on how much a child will drink, according to new research. Bad parenting at the age of 16 made children more than eight times more likely to become binge drinkers at that age and twice as likely to drink excessively when they reached the age of 34, independent think tank Demos found. The study also found that bad parenting at the age of 10 doubled the child's chances of binge-drinking in their mid-30s.  Researchers analysed data from more than 15,000 children born in Britain over the last 40 years as part of the study. They found the 'tough love' style of parenting, which combined warmth and discipline, was the most effective in ensuring against children developing an unhealthy relationship with alcohol. Less effective styles were 'authoritarian' parents, who set high standards and employ strict discipline, 'laissez faire' parents, who are emotionally engaged but do not set rule or boundaries, and those who are 'disengaged' with their children.  Demos called on parents and the Government to work together to curb 'an entrenched binge drinking culture' among Britain's young people. It recommended that parents develop a warm and loving relationship in the early years of their children's lives and assert discipline and supervision at the ages of 15 and 16.  Taking action: The think tank called on parents and the Government to work together to curb 'an entrenched binge drinking culture' among Britain's youngParents should also set firm boundaries, avoid getting drunk in front of their children and not take a relaxed attitude to under-age drinking, the think tank said. It called on the Government to enforce under-age drinking laws and invest in alcohol-related school programmes that involve parents. Spreading the six-week summer holiday throughout the year and providing activities for at-risk children was another recommendation Demos made.  Jamie Bartlett, lead author of the report, said: 'The enduring impact of parenting on a child's future relationship with alcohol cannot be ignored. 'This is good for parents: those difficult moments of enforcing tough rules really do make a difference, even if it doesn't always feel like that at the time.'  'For children whose parents may be disengaged, very practical measures like spreading the school summer holiday throughout the year and providing activities for children in the school breaks, will go some way to preventing boredom and avoiding risky behaviour like under-age drinking. |

**THEME 2 – Memories**

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| **'Digital dementia' on the rise as young people increasingly rely on technology instead of their brain**  Adapted from *http://www.dailymail.co.uk/health/article-2347563/Digital-dementia-rise-young-people-increasingly-rely-technology-instead-brain.html*  Doctors have reported a surge in cases of ‘digital dementia’ among young people.  They say that teenagers have become so reliant on digital technology they are no longer able to remember everyday details such as their phone numbers.  South Korean experts have found that those who rely more on technology suffer a deterioration in cognitive abilities more commonly seen in patients who have suffered a head injury or psychiatric illness.  Experts blame technology for 'digital dementia'. The number of people aged between 10 and 19 who use their smartphones f‘Over-use of smartphones and game devices hampers the balanced development of the brain,’ Byun Gi-won, a doctor at the Balance Brain Centre in Seoul, told the JoongAng Daily newspaper. South Korea is one of the most digital nations in the world and internet addiction, among both adults and children, was recognised as far back as the late 90s.  Heavy [technology] users are likely to develop the left side of their brains, leaving the right side untapped or underdeveloped,’ he said. The right side of the brain is associated with concentration and underdevelopment affects attention and memory span, which could in as many as 15 per cent of cases lead to the early onset of dementia.  Sufferers are also reported to suffer from emotional underdevelopment, with children more at risk than adults because their brains are still growing.  Byun Gi-won, a doctor at the Balance Brain Centre in Seoul, said that overusing smartphones and gaming devices hampered brain dvelopment  The situation appears to be worsening with the percentage of people aged between 10 and 19 who use their smartphones for more than seven hours every day leaping to 18.4 per cent - an increase of seven per cent from last year.  The Korean findings come after a study, carried out by UCLA, found that young people were increasingly suffering from memory problems. The research, published earlier this month, found that 14 per cent of young men and women between aged 18 and 39 complained that their memory was poor. The U.S. study blamed modern lifestyles for the problem -  saying that spending time on a computer and texting prevents people focussing and memorising information. They also blamed stress, saying hectic lifestyles prevent concentration information retention. |

**THEME 3 – Different Backgrounds**

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| **Where should I emigrate to: Australia or the UK?**  Adapted from *http://www.australiantimes.co.uk/move-to-australia*  **Introduction**  In these times of financial austerity, many young Europeans are giving serious consideration to whether they should emigrate from their country of birth. Not surprisingly, many young Britons have journeyed to Australia, initially on working holiday visas, and later to stay permanently. However, this trend is changing with many new Australian immigrants now choosing to return to 'Old Blighty' which has resulted in a brain-drain. Was this a wise move? | |
| **The Economy**  During the GFC, the Australian economy was one of the few which emerged unscathed. Whilst the UK's economy is finally showing signs of recovery, it still lags behind the Australian economy. | |  |  |  | | --- | --- | --- | |  | **Australia** | **UK** | | **Predicted GDP (2013)** | 2.5% | 1.2% | | **Unemployment rate (July 2013)** | 5.7% | 7.8% | | **House price growth (2013)** | 7.5% | 4% | |
| **Liveability**  Australian cities are frequently rated highly in Liveability indexes. For example, in 2013, Melbourne was placed 1st in the EIU's Most Liveable Cities Index; Adelaide, Sydney and Perth also made the top-10, as opposed to no British cities. | |  |  |  | | --- | --- | --- | |  | **Australia** | **UK** | | **Cost of Living** | Higher | Lower | | **Average wage (yearly)** | $73K  (£42.5K) | £26.5K | | **Life expectancy (male)** | 82 years | 80 years | | **Broadband speed** | 4.7 Mb/s | 14 Mb/s | | **Hospital A&E waiting time** | 6 hours | 4 hours | | **Public holidays** | 7 | 8 | |
| **Climate**  Whilst Australia is renowned for its outdoor lifestyle and low population density, it is advisable to make comparisons between individual cities before you pack your bags. For example, whilst Sydney is warmer, wetter and has more sunny days than London this is not a complete snapshot. Sydney can experience stifling heat, bushfires, violent thunderstorms, flooding, drought and the occasional sandstorm.  **Conclusion**  For the past three years, Australia has been rated as the happiest nation by the OCED. This rating was awarded despite its highly poisonous and aggressive fauna, distance from the rest of the civilised world, strict quarantine and customs controls and recent unwelcome (and perhaps racist) stance towards the arrival of illegal asylum seekers. | |

**THEME 4 – School life**

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| **Exams in South Korea - The one-shot society**  Adapted from *http://www.economist.com/node/21541713*  ON NOVEMBER 10th South Korea went silent. Aircraft were grounded. Offices opened late. Commuters stayed off the roads. The police stood by to deal with emergencies among the students who were taking their university entrance exams that day.  http://cdn.static-economist.com/sites/default/files/imagecache/full-width/images/print-edition/20111217_SKP011_0.jpgEvery year the country comes to a halt on the day of the exams, for it is the most important day in most South Koreans' lives. The single set of multiple-choice tests that students take that day determines their future. Those who score well can enter one of Korea's best universities, which has traditionally guaranteed them a job-for-life as a high-flying bureaucrat or desk warrior at a chaebol (conglomerate). Those who score poorly are doomed to attend a lesser university, or no university at all. They will then have to join a less prestigious firm and, since switching employers is frowned upon, may be stuck there for the rest of their lives. Ticking a few wrong boxes, then, may mean that they are permanently locked out of the upper tier of Korean society.  Making so much depend on an exam has several advantages for Korea. It is efficient: a single set of tests identifies intelligent and diligent teenagers, and launches them into society's fast stream. It is meritocratic: poor but clever Koreans can rise to the top by studying very, very hard. The exam's importance prompts children to pay attention in class and parents to hound them about their homework; and that, in turn, ensures that Korea's educational results are the envy of the world. The country is pretty much the leading nation in the scoring system run by the Organisation for Economic Co-operation and Development (OECD). In 2009 it came fourth after Shanghai, Singapore and Hong Kong, but those are cities rather than full-sized countries.  Korea's well-educated, hard-working population has powered its economic miracle. The country has risen from barefoot to broadband since 1960, and last year, despite the global slowdown, its economy grew by 6.2%. In the age of the knowledge economy, education is economic destiny. So the system has had far-reaching and beneficial consequences.  Yet it also has huge costs. For a start, high school is hell. Two months before the day of his exams Kim Min-sung, a typical student, was monosyllabic and shy. All the joy seemed to have been squeezed out of him, to make room for facts. His classes lasted from 7am until 4pm, after which he headed straight for the library until midnight. He studied seven days a week. “You get used to it,” he mumbled.  A poll found that 100% of Korean parents want their children to go to university. Such expectations can be stressful. In one survey a fifth of Korean middle and high school students said they felt tempted to commit suicide. In 2009 a tragic 202 actually did so. The suicide rate among young Koreans is high: 15 per 100,000 15-24-year-olds, compared with ten Americans, seven Chinese and five Britons. Min-sung's older sister, Kim Jieun, who took the exams a few years ago, recalls: “I thought of emigrating, I hated the education system so much.” |

**THEME 5 – Logic**

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| **Spaceships are doing it for themselves**  Adapted from http://plus.maths.org/content/spaceships?src=aop  It requires only a little processing power, but it's a great leap for robotkind: engineers at the University of Southampton have developed a way of equipping spacecraft and satellites with human-like reasoning capabilities, which will enable them to make important decisions for themselves. Using a new control system called sysbrain engineers will be able to programme these space vehicles to avoid accidents, fix their own faults, and maybe even save the Earth from asteroid impact, all without step-by-step guidance from humans.  http://plus.maths.org/content/sites/plus.maths.org/files/news/2011/spacecraft/veres.jpgThe new system is currently being tested in the lab using a fleet of model satellites operating in an environment that simulates conditions in space. "[The models] are spatially aware of their environment, they can foresee the future, plan and execute," says Sandor Veres, who leads the research. "Essentially this is similar to human reasoning."  Using sensors, the satellites can observe their environment, for example the position of other satellites. They then project their view of the current state of the world into the near future and derive statements about what's happening, for example "this satellite is going to collide with me". Using a set of pre-programmed rules of behaviour, for example "avoid collisions", they then use logical inference to decide what action to take.  The machines' ability to think logically comes from a mathematical system called temporal logic, whose roots can be traced back to the 10th century Persian philosopher Ibn Sina. Like other systems of logic, it gives a way of representing statements about the world in a formal language and sets out rules of logical inference that can be implemented on a computer. For example, if we know that a statement P (eg "something is moving towards me") implies a statement Q (eg "there will be a collision"), then if we observe that statement P is actually true, we can immediately deduce that statement Q is also true. Temporal logic has the added ability to deal with statements that can change over time: while in more basic systems a statement like "something is moving towards me" is either true or false, temporal logic allows it to change its truth value over time, depending on other factors. This enables a machine to explore sequences of events and the implications of any course of action it decides to take.  Collision prevention is just a simple example of what sysbrain can enable machines to do. "We are looking at situations that involve much higher logical complexity," says Veres. "For example, we have simulated a situation where one of the thrusters of an agent fails. The agent can detect the problem and reconfigure its controls without much delay before something goes badly wrong. It does all this very fast, much faster than any human would be able to. Its processing power is staggering, in fact it's hugely underused." |

**THEME 6 – Ecological Problems**

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| **Our top 10 environmental problems**  Adapted from *http://www.abc.net.au/environment/articles/2009/12/07/2764044.htm*  Australia has its share of environmental problems. But what are its top 10 ecological probems?  1. Water. It's hardly surprising that on the world's driest inhabited continent, experts are concerned about how Australia looks after its water. We need to get smarter about how we manage water — that means everything from replacing our ageing infrastructure to ensuring we capture rain water when it does fall.  2. Climate change. Of all the wealthy countries, we're the most vulnerable. We're locked in to another 0.5°C temperature rise due to past emissions, but what we do between now and 2050 is crucial for the magnitude and rate of climate change later this century and beyond.  3. Energy. We should be replacing fossil fuels with renewable power. We have capacity to be world leaders in solar, wind, marine and geothermal energies, but we've become lazy thinkers. Why don't we do minerals processing and manufacturing in Australia using these energy-efficient resources?  4. Coal. We're the biggest coal exporter in the world. We may think our global carbon contribution is small, but it's much greater due to our bulk coal exports to countries like Japan, South Korea, the Netherlands and China. It's unbelievable we haven't developed alternative, renewable energy sources on a large scale.  5. Biodiversity. With 1500 land-based species threatened, "the extinction crisis" is upon us. There's a whole suite of services we enjoy thanks to a biodiverse-rich ecosystem, from provisioning services like food or water, through to nutrient flow and pollination. He believes our highly urbanised society only compounds the problem.  6. Oceans. Despite knowing the problems faced by one of our best-loved tourist attractions, we're still not doing enough to protect the Great Barrier Reef. Rising sea levels and the impact of fertiliser run-off are damaging the reef. It needs more attention, because once it's gone, it's gone for good.  7. Population. With Australia's population projected to reach 35 million by 2049, commentators continue to express concern about the pressure this growth will place on resources. It means more consumption, and greater challenges for providing infrastructure to manage our country in a sustainable way.  8. Sustainable cities. With Australians using more water and energy per person than almost any other country in the world, rethinking how we live in and develop our cities is vital, says the ACF's Josh Meadows. We should invest in energy-efficient houses and buildings, and then export our ideas and the smart technologies behind them.  9. Transport. The perennial debate about lack of investment in public transport continues to frustrate many experts. People complain about the per capita cost of investment in public transport, but it's far cheaper than the cost of putting cars on the road.  10. Ourselves. While the majority of surveyed experts highlighted the need for government action, and fast, it seems the buck doesn't stop there. We need a population that understands the issues, and can make constructive contributions to the debate to force politicians to develop longer than three-year 'solutions'. |

**THEME 7 – Microscopy**

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| **Miraculous new microscope detects cancer deep inside body, but doctors can’t agree on what they’re looking at**  Adapted from *http://www.nydailynews.com/life-style/health/miraculous-new-microscope-detects-cancer-deep-body-doctors-agree-article-1.1136413*  A tiny, new microscope has the potential to detect cancer in hard-to-reach areas of the body well before existing technology.  But the 10-15 doctors in the country trained to use the groundbreaking device may not even know what they're looking at, according to study published recently in Digestive Diseases and Sciences.  The microscope, known as the probe-based confocal laser endomicroscope, is just under several millimeters in diameter - so small it can fit inside the bile duct, which connects the liver to the small intestines. The tiny device takes real-time videos of the duct.  Most medical institutions still use earlier probe technology, which tends to be "hit-or-miss," failing to detect 20 percent to 30 percent of bile-duct cancer or other tumors, Dr. Michel Kahaleh of the New York-Presbyterian Hospital/Weill Cornell Medical Center said in a statement.  Confocal endomicroscopy of bile duct cancer. Researchers hope the new camera will be able to help them catch cancer earlier, and determine which tumors need to be operated on.This mini-probe, however, is expected to improve significantly bile-duct-cancer diagnoses due to its size and accuracy.  But the doctors who have begun to use this miraculous technology aren't exactly in agreement over what the microscope’s videos show.  "When you have a new technology to search for cancer, you always want to make sure that you're speaking the same language while using it," Dr. Kahaleh told the Daily News.  To test the interpretation of the videos, Dr. Kahaleh and his research team sent them to six separate specialists at five different medical institutions. The footage was from the examinations of 25 patients with abnormally narrowed bile ducts.  Dr. Kahaleh found that the doctors were in "poor" to "fair" agreement on what they were actually seeing in the videos and that their diagnoses ranged from cancer to simple inflammation — to a benign condition.  This variability of interpretation “surprised” Dr. Kahaleh. He explained to the News, "It's not acceptable to have a patient take five different tests and have five different results.”  To address this diagnostic dilemma the researchers around the country using this cutting-edge technology are now meeting regularly to revise and standardize the analysis of the videos.  When this criteria is clarified, it is likely that the “mini-scope” will help doctors catch cancer earlier and know more clearly which bile-duct tumors need to be removed.  "It's a big operation, and you want to make sure it is necessary," Dr. Kahaleh said in a statement. "If there is any way to prevent surgery that would be a phenomenal advance for patient care." |