Geography

1. Skills

Cross section demonstrates the shape of a landform, allowing for visualisation of complex landforms.

VE is the vertical exaggeration/stretching of landforms in cross sections. *VE* is calculated by $\frac{\text{vertical scale}}{\text{horizontal scale}}$ then put in the form 1:x.
The closer the *VE* is to 12.5, the better.

Gradient is the slope of land.
Calculated by $\frac{\text{rise}}{\text{run}}$, where both units are in **metres** and gives an **average** measurement. With *rise* being the difference between two points.

Local relief is the difference in height between the lowest and highest point.

Aspect is the direction a slope faces.

1. With a point, find the closest peak
2. Draw a line from the peak to the point
3. From the **peak** find the *direction* **to** the point,

e.g., a slope running downhill in a north-easterly direction, is said to have a north-easterly aspect
In the Southern Hemisphere, a north-easterly aspect is favoured due to the consistency of sunlight, vice-versa in Northern Hemisphere.

Calculating Area

1. Visual Approximation – approximating the number of boxes a landform occupies

2. Precise measurement:
   i. Draw a box around the feature, ensuring that it isn't larger than the feature
   ii. Measure the w and h of the box
   iii. Convert the dimensions into *REAL DIMENSIONS* by multiplying by the map scale.
   e.g., (map scale: 1:0.5 km), $3km \times 0.5km = 1.5km$
   iv. Use these **converted** dimensions to calculate the area ($wh = A$ u^2)

Density of a feature:

1. Calculate the area of a one grid box
2. Multiply that by the number of grid boxes
3. Count the number of features in the area
4. Simplify the ratio of area *to* features (e.g., 1 km^2:8 features) then change to this format x feature/s per 1 km^2

Latitude is the measure of how far north or south you are in reference to the equator.
While *longitude* is how far east or west you are of the equator.
15º of longitude is 60' of time (a time zone)

Always l**a**titude before l**o**ngitude.

2. Environmental Change and Management

Perspectives on environmental management can be grouped into three broad categories.

1. *Planetary management:* the world should be reaped by humans entirely for our own benefit. Other species and ecosystem are valued on their benefit to us.
2. *Stewardship:* an idea that we need to responsible manage the earth to maximise sustainability for future generations.
3. *Environment wisdom:* we need to work with the earth, and we should encourage moderation, instead of thinking of ourselves of masters of the earth; we need to learn and work with it.

Anthropogenic – caused by humans or their activities
Anthropocentric – humans and their existence are the most important fact

Anthropocene – humans have the greatest effect on the environment

Corals are simple limestone skeletons covered with animal polyps.
Polyps are in a symbiotic relationship with zooxanthellae (which provides 90% of a coral's energy), these polyps secrete the limestone in reef-building coral to provide the skeleton.

When corals bleach, the algae are expelled – leaving the raw, white skeleton underneath.
Caused by:

- Turbulent and polluted water, full of excess algae
- Water that is either too hot or cold
- Acidifying oceans

When the right environmental conditions are reached (phase of moon, temperature), the coral polyps reproduce.

Sexual reproduction
Mass spawning – corals release eggs and sperm (gametes) which produce a far-moving plantlet
Brooding – male corals release sperm that a directly taken into female corals which release a matured plantlet which develops much closer.

Asexual reproduction
Budding – mature polyps divide into two
Fragmentation – a piece of coral breaks off due to environmental action and establishes itself somewhere else

There are three types of coral reefs:

- Fringing reef: right off the coast of an island
- Barrier reef: further away from island, as the land it was next to has sunk
- Atoll: the island is completely gone, leaving a reef

However, some issues plague coral reefs:

- Crown of thorns starfish: which have thrived with mass amount of nutrients; with a lack of large number of natural predators (marine tripe snails). Scientists have now turned to active, artificial solutions like robotic bile injections.

Ocean acidification is the process of oceans decreasing their pH due to the increase of CO_2 in the atmosphere. CO_2 is absorbed by oceans and turned bicarbonate 'stealing' the resources for the other marine life around it. 25% of all CO_2 is absorbed by the oceans.

3. Changing Places

Our world is constantly changing, particularly due to migration.
Migration is the process of moving from one region to another with the intention of staying for the foreseeable future.
With **internal** migration being *within* countries and **international** migration being *between* countries.

Voluntary migrations are planned for.
While forced migration is caused by environmental factors, usually leading to strife.

Australia has traditionally had a harsh policy towards asylum seekers, preferring to go against UN HR law and put them in long stretches of arbitrary detention.

Asylum seeker is someone who is actively seeking the status of refugee from a state and they are yet to be assessed.
A refugee is someone who has been accepted and has been offered protection from persecution.

Successive governments have radically changed asylum seeker policy to better align with *perceived* public sentiment.
The government now employs a policy of actively mitigating people from ever entering Australia.
Australia says it will never resettle asylum seekers in detention centres in Australia.

There has been a 22.6% increase in refuge numbers from 2017 to 2021.

Our world lives in two different environments:

Urban: high developed and populated surrounds of a city
Rural: areas of low density and low development, with large areas of open space

Our world is moving to large urban centres, with large cities (5+ million) slowly becoming the norm.

Within China, urbanisation has had a very large impact. With many migrating from rural areas into urban areas for the opportunities of wealth, family and education. While at the same time escaping poor living conditions and infrastructure.

- China implemented the *Hukou* system to classify everyone as either urban (access to infrastructure) or rural (access to farmland), limiting their movement
    - This has created an urban underbelly of those with a rural status trying to live in an urban area, these people account for 16% of China's *total* population. These people work in the unregulated, informal sector getting paid little
- Dualism: created by the large divide between wealthy urban areas and poor rural areas
- Due to societal norms and the legacy of the *One Child Policy*, China has mass gender inequality
    - Encouraging financial competitiveness for brides
    - The commodification of women
- Some children are left behind by their parents, who are off seeking opportunities in the city
- There are large scale environmental consequences of the action of urban and rural dwellers, ruining the air and water
- Ghost cities are fully built expecting millions of residents, only for no one to afford a dwelling.

4. Human Wellbeing

Human Wellbeing is the about how well your environment fulfils of your *innate* needs: physical, mental and emotional.

With us living in a very diverse landscape we must use indicators to get a true sense of inequalities between countries.

HDI is a combination of 3 dimensions (health, education and income) and 4 indicators (life expectancy**;** average years of school, expected years of schooling**;** Gross National Income per capita).
However, the HDI is only in averages and cannot give a full picture.

Quantitative data – measurable and countable changes *e.g., number of women of politics*
Qualitative – subjective opinion on an issue, textual/descriptive form *e.g., quality of female political participation*

IHDI – Inequality adjusted, allows for an understanding of the inequality that exists in a country
GII – uses 5 dimensions to understand the disparity between males and females.
MPI – demonstrates the number of people who are 'multi-dimensionally' poor (poor in health, education and living standards)
PHDI – measures the effect of a country of a planet on the basis of their carbon emissions.

Between countries there are massive disparities in human wellbeing. Physical (e.g., earthquakes) and human factors (e.g., corruption) causes the variations between countries. Even *within* countries there can be large disparities.