HSC PREPARATION

Using organisational templates & checklists

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To reach their potential in the HSC students need to have their work for each topic organised and apply their content knowledge and understanding in different contexts to encourage deeper knowledge and higher order thinking.

Providing organisational templates for summarising ideas or notes can assist less organised students while checklists can assist revision and exam preparation when the volume of work seems overwhelming.

A whole of topic organiser can be a good starting point to give students the "Big Picture". This particularly suits students who like visual prompts to "see" how and where everything fits.

There are several ways these organisers and checklists can completed:

- Individually or in groups
- Digital or hard copy (A3 is best)
- At home, school or in tutorials
- By topic sections, complete topic or whole course (End of course exam preparation)

A selection of templates and checklists are included here to demonstrate the potential.

- Some examples of content have been included:
- Template 1: The "Big Picture" topic summary
- Template 2: Encouraging deep understanding and use of directive terms
- Template 3: Categorising content
- Checklist 1: Revision and exam preparation by topic content
- Checklist 2: Skills revision and exam preparation by skills

Template 1: THE "BIG PICTURE" TOPIC SUMMARY

This circular mind map is a good example of a "Big Picture" organiser. When used in a digital platform students can work individually or collaboratively to add content.



CASE STUDY Example PORTER'S CREEK WETLAND (PCW) L Chaffer

Template 2: DEEP KNOWLEDGE OF MANAGEMENT STRATEGIES & APPLYING DIRECTIVE TERMS

DESCRIBE THE STRATEGIES .ocation / Features	EXPLAIN / ACCOUNT FOR Why was this strategy used? Aims	EVALUATION What have strategies achieved Use criteria here	How does this strategy contribute to ECOLOGICAL SUSTAINABILITY?
1 Constructed wetlands downstream of new suburban developments eg at "Monarch Hills" observed during fieldwork. Many have already been constructed and a network of these is planned throughout the PCW catchment. These artificial wetlands use reeds to remove nutrients and ponds to allow silt to settle. Still water in the ponds allows sunlight to penetrate. UV rays kill viruses and pathogens. Aeration devices in ponds maintain oxygen content to support the biosphere – important for a healthy aquatic ecosystem.	The aim of these constructed wetlands is to reduce nutrient, sediment and weed flows into the wetland. The introduction of constructed wetlands significantly improves water quality entering PCW. (Fieldwork Water testing statistics). Good water quality maintains a healthy ecosystem, the size of the wetland (less dieback) and biodiversity thereby reducing vulnerability to changes in the catchment. The aim is Ecologically sustainable development through the PCW catchment.	Water quality in the wetland is generally good (the evaluation criteria) - Wyong Council <u>State of The Environment</u> <u>Report</u> 20 The major problem is in the maintenance of the constructed wetlands in new urban subdivisions. There are places where reeds have been poisoned and other places where silt has not been regularly removed. Developers are only responsible for maintenance for a limited time. A suggested environmental levy for the maintenance of these structures by local council is yet to be implemented. Current urbanisation is occurring faster than the creation of new wetlands making the future health of PCW uncertain.	By contributing to the maintenance of biodiversity ensuring the wetland is large enough to maintain the ecological processes associated with water flow this strategy is contributing to the sustainability of Porter's Creek Wetland. If the wetland can be maintained in it's present state for the benefit of future generations then intra and intergenerational equity is ensured. (These are also evaluation criteria)
Catchment Management			
Rehabilitation			

Template 3: CATEGORISING CONTENT

CASE STUDY 1: GREAT BARRIER REEF

TYPE OF MANAGEMENT ACTION	EXAMPLES OF STRATEGIES USED TO MANAGE GBR				
Exclusion	Zoning – to allow multiple uses in different locations. Access to some places is restricted to scientific study Tourism – access in selected areas and within those areas in restricted locations that are changed by relocating pontoons Shipping restrictions and rules of access to shipping channels (Use of pilots)				
 Action eg. controlled use eg zoning, quotas restoration eg. revegetation of native species rehabilitation eg. revegetation replacement eg. constructed wetlands 	Surveillance of activities and enforcement of rules – fines for infringements or confiscation of boats and licences Reef Water Quality protection plan to reduce sediment and nutrient loads from catchment activities.				
Design eg. – constructed wetlands, fences, urban planning	Farmers fence riparian zones to reduce access by cattle and livestock. This reduces sediment and nutrients from farming activities entering GBR inland catchments.				
<i>Legislation</i> eg – water tanks on new houses	Great Barrier Reef Marine Park creation Land clearing in GBR catchments Fishing and shipping laws and regulations				
Education	Tourism operators conduct informational session on all GBR tours. Websites created to provide educational materials.				

Case study 2: PORTER'S CREEK WETLAND

TYPE OF MANAGEMENT ACTION	EXAMPLES OF STRATEGIES USED TO MANAGE PCW				
Exclusion	Exclusion due to lack of access rather than and specific exclusion zones				
Action eg. – controlled use eg zoning, quotas	Buyback to increase wetland size and reduce vulnerability				
 restoration eg. revegetation of native species rehabilitation eg. revegetation 	Replanting native species on edges of the wetland				
 replacement eg. constructed wetlands 	Reducing stormwater runoff to reduce tree dieback				
Design eg. – constructed wetlands, fences, urban planning	Constructed wetlands, roads running around contours of hills, grassed swales in housing estates, houses facing wetlands reduce illegal dumping and clearing.				
	Identified wetland of significance in state legislation				
<i>Legislation</i> eg water tanks on new houses 	Council regulations on land clearing, sediment controls on housing subdivisions, water tanks to reduce runoff and erosion, fines for dumping rubbish.				
Education	Educational signs on the edges of the wetland and around constructed wetlands in new suburbs.				

Checklist 1: REVISION and EXAM PREPARATION by topic

T	OPIC CONTENT	STUDY SUMMARY	STUDIED	PRACTICE QUESTIONS ATTEMPTED	TUTORIALS or GROUP REVISION
U	RBAN PLACES	Completed	Tick each time you study a section	Tick when you complete an answer	Tick each time you attend
w	orld cities				
•	the nature, character and spatial distribution of world cities				
•	the role of world cities as powerful centres of economic and cultural authority				
•	the operation of global networks				
•	the relationships of dominance and dependence between world cities and other urban centres and the changing role of regional centres and the demise of the small town.				
m	nega cities				
•	the nature, character and spatial distribution of mega cities in the developing world				
•	the challenges of living in mega cities such as housing, traffic infrastructure, water and power				
	supplies, sanitation services, employment, and other social and health issues				
•	the responses to these challenges such as self- help projects, community self-government, cooperation from NGOs, urban protest and the operations of informal economies.				
u	rban dynamics				
•	the urban dynamics of change: suburbanisation, exurbanisation, counterurbanisation, decentralisation, consolidation, urban decay, urban renewal, urban village, spatial exclusion				
•	a case study of the results of the urban dynamics in a large city selected from the developed world including its				
	 social structure and spatial patterns of advantage and disadvantage, wealth and poverty, ethnicity 				
	 changing economic character, nature and location of residential land, commercial and industrial development 				
	 culture of place as expressed in the architecture, streetscape, heritage architecture, noise, colour, street life, energy, vitality and lifestyles 				
	 growth, development, future trends and ecological sustainability 				
•	a case study showing one of the urban dynamics listed above, operating in a country town or suburb.				

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TOPIC CONTENT	STUDY SUMMARY	STUDIED	PRACTICE QUESTIONS	TUTORIALS or GROUP REVISION
PEOPLE & ECONOMIC ACTIVITY	Completed	Tick each time you study a section	Tick when you complete an answer	Tick each time you attend
global economic activity				
 a description of the nature, spatial patterns and future directions of ONE economic activity in a global context. 				
 factors explaining the nature, spatial patterns and future directions of the selected economic activity such as: 				
 biophysical: climate, soils, topography, site 				
 ecological: sustainability and resource use 				
 economic: competitive advantage, consumer demand, mobility of labour and capital 				
 sociocultural: tradition, changing lifestyles, labour participation rates 				
 organisational: ownership, decision making and control 				
 technological: transportation, information transmission and flows, biotechnology 				
 political: quotas, tariffs, compacts, agreements 				
 the environmental, social and economic impacts of the economic activity such as pollution, resource depletion, labour exploitation, cultural integration, provision of infrastructure, job creation, transfer pricing. 				
local case study				
• a geographical study of an economic enterprise operating at a local scale.				
The case study should explore:				
 the nature of the economic enterprise locational factors				
 ecological dimensions including environmental constraints, climate, and human impacts on the environment such as pollution and ecological sustainability 				
 internal and external linkages and flows of people, goods, services and ideas effects of global changes in the economic activity on the enterprise. 				

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TOPIC CONTENT	STUDY SUMMARY	STUDIED	PRACTICE QUESTIONS	TUTORIALS or GROUP REVISION
ECOSYSTEMS AT RISK	Completed	Tick each time you study a section	Tick when you complete an answer	Tick each time you attend
* Biophysical interactions which lead to diverse ecosystems and their functioning				
vulnerability and resilience of ecosystems				
 impacts due to natural stress 				
 impacts due to human induced modifications to energy flows, nutrient cycling, and relationships between biophysical components 				
the importance of ecosystem management and protection				
 maintenance of genetic diversity 				
 utility values 				
 intrinsic values 				
 heritage values 				
 need to allow natural change to proceed 				
 evaluation of traditional and contemporary management strategies. 				
Case study 1				
 spatial patterns and dimensions: location, altitude, latitude, size, shape and continuity 				
biophysical interactions including:				
- the dynamics of weather and climate				
 geomorphic and hydrologic processes such as earth movements, weathering, erosion, transport and deposition, soil formation 				
 biogeographical processes: invasion, succession, modification, resilience 				
 adjustments in response to natural stress 				
 the nature and rate of change which affects ecosystem functioning 				
 human impacts (both positive and negative) 				
 traditional and contemporary management practices. 				
Case study 2				
 spatial patterns and dimensions: location, altitude, latitude, size, shape and continuity 				
biophysical interactions including:				
 the dynamics of weather and climate 				
 geomorphic and hydrologic processes such as earth movements, weathering, erosion, transport and deposition, soil formation 				
 biogeographical processes: invasion, succession, modification, resilience 				
 adjustments in response to natural stress the nature and rate of change which affects ecosystem functioning 				
 human impacts (both positive and negative) 				
 traditional and contemporary management practices. 				

Checklist 2: GEOGRAPHICAL TOOLS and SKILLS

SKILLS FROM HSC SYLLABUS DOCUMENT	Attempt 1	Attempt 2	Confident
Students learn to interpret maps by:			
calculating the gradient of a slope as a ratio			
calculating the vertical exaggeration of a cross-section			
determining sight lines between two points			
constructing a transect between two points and describing the changes along it			
identifying spatial interaction and change using a variety of sources			
 describing patterns, relationships, networks, linkages and evidence of change within and between regions or areas 			
determining the density of a specific feature on a map			
reading, constructing and interpreting choropleth maps			
recognising the key features of changing pressure patterns on weather maps			
designing and interpreting flowcharts.			
Students learn to analyse graphs and statistics by:			
calculating the rate of increase or decrease between two points			
estimating the value of proportional circles of different size using a key			
estimating the value of particular segments in pie graphs of different size			
• identifying the three elements depicted in a ternary graph and the line scale of each			
stating the 'mix' of elements at any point on a ternary graph			
identifying clusters and patterns on a ternary graph			
constructing and interpreting proportional divided circles			
interpreting frequency distributions and diagrams			
reading and interpreting logarithmic and semilogarithmic graphs			
interpreting and analysing population pyramid data.			
Students learn to interpret photographs by:			
orientating a photo to a map			
 estimating the scale of aerial photographs and satellite images 			
 estimating the time of day at which a photograph was taken 			
calculating areas of land use as a ratio			
identifying spatial associations, interactions and change			
constructing a precis map from an aerial photograph or satellite image			
• using Geographic Information Systems (GIS) to examine spatial and ecological issues.			
Students learn to conduct fieldwork by:			
formulating a geographical question or issue for study			
 identifying, collecting and recording geographical data from a variety of primary sources 			
constructing a log of events and activities, which records the development of a fieldwork activity			
synthesising data and evaluating the fieldwork activity.			
*** Attempt Fieldwork related skills questions			

NOTE: These skills and tools may be applied and assessed in any of the course topics. Examples of their application are provided in each of the Preliminary and HSC topics in the syllabus. The HSC ones are shown below.

8.3.1 Ecosystems at Risk

use geographical skills and tools such as:

- calculating the gradient of a slope as a ratio
- calculating the vertical exaggeration of a cross section describing a specific ecosystem
- determining sight lines between two points
- recognising features of changing pressure patterns on weather maps in order to describe characteristics of different ecosystems
- constructing a log of events and activities to manage the development of a fieldwork activity explaining human impacts on an ecosystem at risk
- interpreting frequency distributions and diagrams about energy flows in different ecosystems
- constructing a precis map from an aerial photo or satellite image to describe spatial patterns of overland flow
- using GIS to examine spatial and ecological issues relevant to the protection and management of ecosystems.

identify geographical methods applicable to, and useful in, the workplace such as:

- using meteorological data, satellite imagery and aerial photography
- constructing environmental maps and compiling environmental impact reports
- the relevance of a geographical understanding of ecosystems at risk to a particular vocation such as: managing a national park, guiding tourist groups, ecological mapping for surveyors, evaluating dune stabilisation programs preserving heritage sites.

8.3.2 Urban Places

use geographical skills and tools such as:

- calculating population density using maps of a large city
- constructing a transect to show land use change in a local area
- describing patterns, linkages, networks and change, using maps of large cities and other urban areas
- constructing and interpreting choropleth maps
- synthesising and evaluating fieldwork data about the dynamics of change in a country town or suburb
- interpreting trends from logarithmic and semilogarithmic data about the growth of mega cities
- analysing population pyramid data to investigate the implications on health and social issues of a rapidly growing city
- calculating the time of day when a photograph was taken and relating a photo to a map of a streetscape.

identify geographical methods applicable to and useful in the workplace such as:

- using GIS, satellite imagery and aerial photography
- analysing maps including topographic, cadastral and land use maps
- collecting and analysing urban field data
- the relevance of a geographical understanding of urban places to a particular vocation such as: urban and regional planning, designing effective city infrastructure, planning the delivery of social services, monitoring environmental quality and sustainability, preserving heritage sites

8.3.3 People and Economic Activity

use geographical skills and tools such as:

- analysing spatial relationships using land use and topographic maps
- interpreting flow charts depicting trade data
- identifying, collecting and recording geographical data from primary sources through fieldwork
- calculating the rate of increase or decrease between two points on a line graph showing employment change
- interpreting a ternary graph depicting raw material inputs
- interpreting proportional circles containing pie graphs
- calculating the area of a land use or vegetation type from aerial photographs, absolutely and relatively
- identifying spatial associations, interactions and changes from aerial photographs.

identify geographical methods applicable to and useful in the workplace such as:

- analysing census data, statistical registers and digests, economic production data and reports
- analysing aerial photographs, electronic street directories, cadastral maps, tourist maps, atlases
- collecting and analysing field data about economic activity
- the relevance of a geographical understanding of people and economic activity to a particular vocation such as: advising public servants, consulting in market and commercial research, contributing to environmental impact statements.



www.geocareers.net.au

Meet a Geographer – Caring for the environment

Kathryn Goyen Professional Development Coordinator – LandLearn Department of Primary Industries (DPI)

In my work every day is different! Some examples of things that I do, include researching issues relating to sustainable agriculture and natural resource management, writing the information up into activities, and trialling these activities with school students. I also run workshops with teachers showing them ideas of activities that can be undertaken in schools. On some days I will be in the office, however on other days I am out in forests or paddocks taking teachers and students on fieldwork looking at salinity, or issues associated with water use or land management.

Read more about Kathryn Goyen at GeoCareers – http://geocareers.net.au/environmental_care/goyen_k.htm

The GeoCareers website is an initiative of the Australian Geography Teachers' Association (AGTA).