

PENANG SANGAM HIGH SCHOOL
P.O.BOX 44, RAKIRAKI
LESSON NOTES

School: PENANG SANGAM HIGH SCHOOL
Subject: SOCIAL SCIENCE

Year/Level: 10
WEEK 24

Strand	STRAND III PLACE AND ENVIRONMENT
Sub Strand	3.1 Develop an understanding recognize, demonstrate and critically examine the interdependent relationship of people with different places and environments and explain how people utilize and adapt this relationship for their survival and for sustainable development
Content Learning Outcome	Investigate the main features of physical geography and illustrate how they determine land use to maximize productivity.

AIR POLLUTION

- Industries contribute to environmental pollution. Smoke from factories build up in the atmosphere, sulphur and nitrogen oxides are converted into acids that mix with rain. This acid rain falls in lakes and on forests where it can lead to the death of fish and plants and damage the entire ecosystems.

- One of the greatest challenges caused by air pollution is global warming, an increase in the earth's temperature due to the buildup of atmospheric gases such as carbon dioxide.

- This trend appears to be a small change, the increase would make the earth warmer than it has been in the last 125,000 years possibly changing climate patterns, affecting crop production, disrupting wildlife distributions and raising sea level.

- Smoke from factories can affect the ozone layer, the protective layer in the atmosphere that shields the earth from the sun's harmful ultraviolet rays.

WATER POLLUTION

- The demand for freshwater rises continuously as the world's population grows.

- Sewage, industrial wastes agricultural wastes and chemicals are the main causes of water pollution.

- Primary effects of pollution occur immediately after contamination such as the death of marine lives, plants and wildlife after an oil spill at sea or industrial wastes pumped into the water source.

- Secondary effects may be delayed or may persist in the environment in the future, perhaps going unnoticed for many years. DDT a non-degradable compound seldom poisons birds immediately, but gradually accumulates in their bodies. Birds with high concentrations of this pesticide lay thin –shelled eggs that fail to hatch or produced deformed offspring.

SOIL POLLUTION

- Unhealthy soil management methods have seriously degraded soil quality, caused soil erosion and soil pollution.

- Treating the soil with chemical fertilizers, pesticides and fungicides interferes with the natural processes occur within the soil and destroys useful organisms such as bacteria, fungi and other microorganisms.

- Solid wastes are unwanted solid materials such as garbage, plastics paper and synthetic materials, metals and wood. Billions of tons of solid wastes are thrown out annually.

- Areas where wastes are buried are called landfills are the cheapest and moist common disposal method for solid wastes worldwide. Landfills quickly become overfilled and may contaminate air, soil, and water.

NOISE POLLUTION

- Unwanted sound or noise such as that produced by airplanes, traffic, or industrial machinery is considered a form of pollution. Noise pollution is at its worst in densely populated areas.

- It can cause hearing loss, stress, high blood pressure, sleep loss, distraction, and lost productivity.

OCCUPATIONAL HEALTH AND SAFETY

Industrial Safety is an area of safety engineering and public health that deals with the protection of workers health, through control of the work environment to reduce or eliminate hazards. Industrial accidents and unsafe working conditions can result in temporary or permanent injury, illness or even death. They also take a toll in reduced efficiency and loss of productivity. In Fiji the OHS department is under the Ministry Of Labour and they attend to individual complaints or otherwise do random checks to see that each individual workplace is OHS compliant.

HAZARDS IN THE WORKPLACE.

- Various external sources such as chemical, biological or physical hazards can cause work related injury.
- Hazards may also result from the interaction between worker and environment: these so called ERGONOMIC hazards can cause physiological and psychological stress.
- Chemical Hazards can arise from the presence of poisonous or irritating gas, mist or dust in the workplace.
- Biological hazards arise from bacteria or viruses transmitted by animals or unclean equipment and tend to occur primarily in the food processing industry.
- The source of the contamination must be eliminated or when that is not possible, protective equipment must be worn.
- Common physical hazards include ambient heat, burns, noise, vibration, sudden pressure changes, radiation and electric shock.
- If the physical, psychological or environmental demands on workers exceed their capabilities, ergonomic hazards arise. This type of hazard frequently occurs in the area of material handling where workers must lift or carry heavy loads.
- Poor working postures or improper design of the workplace often results in muscle strains, sprains, fractures, bruises, and back pain. These injuries account for 25% of all occupational injuries as their control requires designing the job so that workers can perform it without injuring or overworking themselves.

REDUCING INJURY IN THE WORKPLACE

- In recent years engineers have attempted to develop a system approach (termed safety engineering) to industrial accident prevention. Because accidents arise from the interaction of workers and their work environments both must be carefully examined to reduce the risk of injury.
- Injury can result from poor working conditions so the use of proper designed equipment and tools would stop fatigue, distraction, body pains etc.
- All work locations should be checked to stop or control hazards.
- Operating methods and practices should be followed well to make sure that workers are protected.
- Employees and supervisors should be trained to help them realize the importance of safety in workplaces.
- The systems approach more over demands a thorough examination of all accidents and near misses. Key facts about accidents and injuries are recorded along with the history of the worker involved and to see that the type of accident does not happen again.
- The systems approach also pays special attention to the capabilities that recognizes individuals and how they work and their abilities. The job should be suitable for the workers.
- Hazards elimination may require the use of alternative and less toxic materials, improved ventilation, leakage control or protective clothing.
- If possible workers are required to wear protective equipment depending on the hazard risk; this equipment may include safety glasses, earplugs, ear muffs, face masks, heat radiation protective suits, boots gloves, and helmets. To be effective however the protective equipment must be appropriate, properly maintained and worn by the worker.