

**General Sci. & Tech (GST) and Applied Sci. & Tech (AST):  
CONTENT COMPARISON: Cycle 2, Year 1**

**THE LIVING  
WORLD**

<b>APPLIED SCIENCE &amp; TECHNOLOGY ONLY</b>	<b>COMMON TO AST AND GST</b>	<b>GENERAL SCIENCE &amp; TECHNOLOGY ONLY</b>
Cell and cell components (treated as a material in the technological world)	<b>Cell Division</b> Mitosis, meiosis, genetic diversity	DNA, functions of cell division, meiosis and sexual development
		<b>Levels of Organization</b> Tissues, organs, systems
	<b>Digestive System</b> Types of foods, energy value of different foods, digestive tract, transformation of food, digestive glands	
	<b>Circulatory System</b> Functions of blood constituents, compatibility of blood types, Types of blood vessels, lymphatic system	
	<b>Respiratory System</b> Nasal cavity, pharynx, trachea, bronchi, lungs	
	<b>Excretory System</b> Urinary system, components of the urine, maintaining a balanced metabolism	
	<b>Nervous System</b> Central nervous system (brain, spinal cord) Peripheral nervous system (neuron, neural inflow) Sensory receptors(eye, ear, skin, tongue, nose)	
	<b>Musco-skeletal System</b> Function of bones, joints, muscles Types of muscles Types of joint movement	
	<b>Reproductive System</b> Puberty Hormone regulation in men (spermatogenesis, erection, ejaculation) Hormone regulation in women (oogenesis, ovarian cycle, menstrual cycle)	

**General Sci. & Tech (GST) and Applied Sci. & Tech (AST):  
CONTENT COMPARISON: Cycle 2, Year 1**

**THE MATERIAL  
WORLD**

<b>APPLIED SCIENCE &amp; TECHNOLOGY ONLY</b>	<b>COMMON TO AST AND GST</b>	<b>GENERAL SCIENCE &amp; TECHNOLOGY ONLY</b>
	<p align="center"><b>Properties of Matter</b></p> Characteristic physical properties (melting point, boiling point, density) Characteristic chemical properties (reaction to indicators) Properties of Solutions	Concentration as g/L or as % Solubility (g/mL or as %) Solubility varies with temperature
	<p align="center"><b>Changes</b></p> Physical Changes Chemical Changes Forms of Energy Particle Model	Dissolution, dilution, phase changes Preparation and dilution of solutions Decomposition and synthesis, oxidation, precipitation Chemical, thermal and mechanical energy, radiation Balancing simple chemical equations
	<p align="center"><b>Organization of Matter</b></p> Pure substances (elements and compounds) Homogenous and heterogeneous mixtures	
	<p align="center"><b>Fluids</b></p> Compressible and incompressible fluids Pressure Relationship between volume and pressure Waves (frequency, wavelength, amplitude, decibel scale, electromagnetic spectrum, deviation of light waves, focal point of a lens.	

**General Sci. & Tech (GST) and Applied Sci. & Tech (AST):  
CONTENT COMPARISON: Cycle 2, Year 1**

**THE TECHNOLOGICAL  
WORLD**

<b>APPLIED SCIENCE &amp; TECHNOLOGY ONLY</b>	<b>COMMON TO AST AND GST</b>	<b>GENERAL SCIENCE &amp; TECHNOLOGY ONLY</b>
Exploded view Tolerances	<p align="center"><b>Graphical Language</b></p> Geometric lines Forms of representation Basic Lines Scales Axonometric Projections (isometric, multiview) Sections Dimensioning Standards and Representations	
	<p align="center"><b>Mechanical Engineering</b></p> Linking of mechanical parts Typical functions Motion Transmission Systems Motion Transformation Systems	
<p align="center"><b>Electrical Engineering</b></p> Power Supply Conduction, insulation, protection Typical controls		
Plastics (thermoplastics) The cell	<p align="center"><b>Materials</b></p> Constraints Mechanical Properties Types and Properties (ferrous alloys, non-ferrous metals and alloys, wood and modified wood)	
<p align="center"><b>Manufacturing</b></p> Shaping Manufacturing-roughing and finishing Characteristics of laying out Measurements-direct measurement		
Artificial insemination	<p align="center"><b>Biotechnology</b></p> Pasteurization Vaccines Cell cultures	Assisted reproduction GMO's

**General Sci. & Tech (GST) and Applied Sci. & Tech (AST):  
CONTENT COMPARISON: Cycle 2, Year 1**

**EARTH AND SPACE**

<b>APPLIED SCIENCE &amp; TECHNOLOGY ONLY</b>	<b>COMMON TO AST AND GST</b>	<b>GENERAL SCIENCE &amp; TECHNOLOGY ONLY</b>
		<p align="center"><b>Earth</b></p> <p>Geological Time Scale Major Stages in the History of Life on Earth Extinctions Fossils Stratigraphic Layers</p>
		<p align="center"><b>Space</b></p> <p>Scale of the universe Astronomical Unit Light Year Location Earth in the Universe Conditions conducive to the development of life</p>