Curriculum Map 7th Grade Life Science

Campbell

Week	Unit Name (Topic)	Lesson	Objectives	Standards and Eligible Content	Resources	Assessments	Adaptations Modifications	Vocab
1-3	The Nature of Science	1. Lab Safety and materials 2. Metric System and measurements 3. Scientific Method 4. Lab Report Format	Students will be able to develop, conduct and analyze data from an experiment using the scientific method Students will learn proper behavior in a lab setting Students will understand the difference between inference and prediction Students will be able to make inferences based on a scientific model	4.1.7.F 4.2.7.D 4.3.7.C 4.4.7.E 4.5.7.F 3.1.7.A.9 3.1.7.B.6 3.1.7.C.4 3.2.7.A.6 3.2.7.B.7 3.3.7.A.7 3.3.7.B.3 3.4.7.D.2 S.7.C.1.1-4 S.7.A.1.1.1-4 S.7.A.1.2.1 S.7.A.1.3.1-2 S.7.A.2.1.1-2 S.7.A.2.2.1-3 S.7.A.3.2.1	Lab safety video Notes Microscope Various lab equipment Boardworks	Lab safety quiz Chapter 1 Quiz 1,2,3 Chapter 1 Test Lab Reports	Completed by special education teacher	1.Abiotic 2.Biotic 3.Density 4.Design 5.Endothermic 6.Exothermic 7.Innovation 8.Invention 9.Mass 10.Model 11.System 12.Subsystem
4-6	Structure and Function of Organisms	1.Cellular structures 2.Mitosis 3.Virus 4.Meiosis	Students will be able to describe and explain the Cell theory Students will describe the levels of biological organization Explain the	3.1.7.A.1 3.1.7.A.3 3.1.7.A.4 3.1.7.A.5 3.1.7.A.6 3.1.7.A.7 3.1.7.B.2 S.7.B.1.1.1 S.7.B.1.1.2 S.7.B.1.1.3 S.7.B.1.2.1	Various Lab Equipment Boardworks Section 2 notes	Section 2 quiz 1,2,3,4 Section 2 Test Cell Lab report	Completed by special education teacher	1.Anatomical 2.Asexual Reproduction 3.Cell Cycle 4.Life cycles 5.Meiosisr 6.Mitosis 7.Multicellular 8.Organism 9.Red Blood Cell

			differences between asexual and sexual reproduction Model and explain the steps of Mitosis and Meiosis Students will know the structures and functions of the organelles that make up cells	S.7.B.1.2.2 S.7.B.1.2.3	Cell Lab Mitosis lab Meiosis Lab	Mitosis lab report Meiosis Lab report		10.Sexual Reproduction 11.Unicellular 12.equilibrium 13. Physiology 14.Lymphocyte 15.Neurons
7-10	Chemistry and Energy	Chemistry In Biology Energy transformation Photosynthesis and Cellular Respiration	Differentiate between elements, compounds and mixtures Understand chemical reactions Physical and chemical properties Explain how energy transformation results in heat release Understand the processes of photosynthesis and cellular respiration Identify atoms are building blocks of matter	3.1.7.A.2 3.2.7.A.1 3.2.7.A.2 3.2.7.A.3 3.2.7.A.4 3.2.7.B.2 3.2.7.B.6 S.7.C.1.1.1 S.7.C.1.1.2 S.7.C.1.1.3 S.7.C.1.2.1 S.7.C.1.2.2 S.7.C.2.1.1	Various lab equipment Notes Cellular respiration video Photosynthesis video Cellular respiration lab Boardworks	Lab Reports Chemistry quiz Energy quiz Photosynthesis quiz Cellular respiration quiz Section Test	Completed by special education teacher	1.Atoms 2.Biochemistry 3. Biomacromolecules 4. compounds 5.Elements 6.Enzymes 7.Hydrogen Bonds 8.Molar mass 9.Mole 10. Molecules 11.Organic Molecules 12.Periodic Table 13. Photosynthesis 14.Specific Heat 15.Matter 16.Digestion 17.Collagative properties 18.Coulombs Law 19.Mixture 20. Polarity 21.VSEPR 22.Electron Orbital Transitions

11-14	Genetics	Understand structure of DNA and RNA Learn how genes control traits Use punnett squares to predict genetic outcomes of parents	Explain how genetic instructions influence inherited traits Explain Mendelian Genetics Understand Selective breeding Observe physical characteristics among families	3.1.7.B.1 3.1.7.B.4 3.1.7.B.5 S.7.B.2.1.1 S.7.B.2.1.2 S.7.B.2.1.3 S.7.B.2.2.1 S.7.B.2.2.2 S.7.B.2.2.3 S.7.B.2.2.4	Boardworks Genetics videos Punnett Square worksheets Notes Genetics lab	**Genetics Lab Report Section quiz 1,2,3** **Section test** **Lab Report**	Completed by special education teacher	1.DNA 2. Forensics 3.Gamete 4.Gene Expression 5. Gene Recombination 6.genetic Engineering 7 Genetics 8. Genotype 9.Molecular Biology 10.Mutations 11.Nucleic Acids 12.Phenotypic 13. Mendelian patterns of inheritance 14.Protein Synthesis
15-17	Theory of Evolution	Adaptions Natural Selection	Describe how natural selection is a factor in a populations ability to adapt. Identify evidence from geology, fossils, and comparative anatomy	3.1.7.C.1 3.1.7.C.2 3.1.7.C.3	**Notes** **Book** **Internet** **Sunflower seeds** **Ruler** **Fossils**	**Quiz on natural selection, stabilizing selection, directional selection, and disruptive selection** **Selection lab with sunflower seeds**	Completed by special education teacher	1.Adaptations 2.Evolution 3.Gradualism 4.Natural Selection 5.Punctuated Equilibrium 6.Radioactive Decay 7.Speciation 8.Species 9.Families 10. Theory of Evolution 11. Strains
18-22	Ecology	Biomes Biogeochemical	Identify the key components of the Biomes	4.1.7.A-E 4.5.7.A-E 3.1.7.A.8 3.4.7.E.3	**Notes** **Book**	**Food web and chain construction**		1.Diversity index 2.biogeochemical

		cycles Biological Diversity Flow of energy in ecosystems Succession Humans and the Environment	Explain the cycles that occur in the world Explain the flow of energy in an ecosystem using food web and food chain Explain how diversity relates to the ecosystem Describe impacts humans have and continue to have on the ecosystem	S.7.B.3.1.1 S.7.B.3.1.2 S.7.B.3.2.1 S.7.B.3.2.2 S.7.B.3.2.3 S.7.B.3.2.4 S.7.B.3.3.1 S.7.B.3.3.2	**Biogeochemical cycle chart** **Food chain and web project** **Succession video**	**project** **Quiz on the biogeochemical cycles** **Quiz on the flow of energy** **Biome diorama**	Completed by special education teacher	3.biological diversity 4. Biomes 5.Biofuels 6.Carrying Capacity 7. Consumer 8.Decomposer 9. Ecosystem 10. Endangered Species 11. environment 12. extinction 13. Food Web 14. habitat 15. Integrated Pest management 16. Limiting factors 17. Natural Resource 18. Niche 19. Non Renewable resource 20. predator 21. prey 22. pest 23.producer 24. renewable resource 25. symbiotic 26.succession 27. Population dynamics 28. Carbon Cycle 29. Food Chain 30.biosphere
23-25	Watersheds and Wetlands	Parts of a watershed and wetlands Pollution in watershed	Explain how water enters, moves, and leaves a watershed Primary functions of a wetland in a	4.2.7.A-C 4.3.7.A-B 3.4.7.E.1-2 3.4.7.E.4-7	**Notes** **Internet**	**Watershed project** **Freshwater analysis lab**	Completed by special education teacher	1.Buffer zone 2.Lentic 3.Lotic 4.Mitigation 5.Non point source pollution 6.Point source pollution

			watershed Analyze the properties of a freshwater environment		**Maps of watershed** **Freshwater analysis kits**			7.Regulation 8.Recycling 9. Stream order 10.Water Cycle 11.Watershed 12.wetlands 13.Hydrologic cycle 14.hydrosphere
26-28	Agriculture	Agriculture Natural Resources	Describe agricultural practices and how they are related to the environment and natural resources Describe economic importance of agriculture Explain how products are derived from natural resources	4.4.7.A-D	**Notes** **Agriculture video** **Internet** **Plant growing Lab**	**Design of plant lab.** **Plant lab report.**	Completed by special education teacher	1.Agriculture 2.Best Management Practice 3.Desertification 4.Fiber 5.Food and Fiber System 6.Monoculture 7.Sustainability 8.Textile 9.Risk management 10.Waste Management 11.Waste stream
29-31	Earth and Space Science	Geologic timeline Parts of the Earth Topography	Define the basic features of the rock cycle Describe the layers of the Earth Understand law of superposition and how it is used to date things in the ground Locate significant features on a map Compare and contrast	3.3.7.A.1-6 3.3.7.B.1-2 S.7.D.1.1.1-2 S.7.D.1.2.1-3 S.7.D.2.1.1-2 S.7.D.3.1.1-4	**Notes** **Model of Earth** **Plate Tectonic model** **Topographical maps**	**Quiz on geologic timeline and law of super position** **Lab reports on parts of the earth and topography**	Completed by special education teacher	1.Topography 2.Atmosphere 3.Geochemical Cycles 4.Geologic Timeline 5.Geology 6.Igneous 7.Law of Superposition 8.Lithosphere 9.Metamorphic 10.Meteorology 11.Plate Tectonics 12. Rock Cycle 13 Sedimentary 14.Seismic Events 15.Galaxy

			differences in the solar system Describe the basic elements of meteorology					
32-35	Physical Science	Electricity Gravity Inertia Frequency Torque/Velocity	Students will describe how unbalanced forces can change an objects velocity Differentiate between convection, conduction, and radiation Explain why heat consists of random motion and vibrations of particles of matter Explain how electrical current is produced by a flow of electrons Demonstrate how visible light is a mixture of many different colors Explain the electromagnetic spectrum	3.2.7.B.1 3.2.7.B.3-5 S.7.A.3.1.1-4 S.7.A.3.2.2 S.7.A.3.3.1 S.7.C.2.1.2-3 S.7.C.3.1.3	**Notes** **Lab equipment for gravity, wavelength, magnets, and inertia**	**Various lab reports on gravity, wavelength, magnets, inertia.**	Completed by special education teacher Completed by special education teacher	1.Angular Momentum 2.Conduction 3.Convection 4.Current 5.Electricity 6.Electrochemical reactions 7.Electromagnetic Force 8.Electromagnetic Spectrum 9.Frequency 10.Gravity 11.Inertia 12. Kinetic Molecular Theory 13.Magnets 14. Newtons Laws 15.Nuclear process 16. Nuclear Reactions 17. Ohm's Law 18.Period 19.Radiation 20. Resistance 21. Simple Harmonic Motion 22.Torque 23.Velocity 24.Voltage 25.Wavelength
36-38	Technology and Engineering	Design Process	Students will be able to describe some of the newer	3.4.7.A.1-3 3.4.7.B.1-4 3.4.7.C.1-3	**Notes**	**Medical Technology**		1.Biotechnology 2.Engineering 3. Engineering

		Biotechnology Medical Tech	biotechnology and discuss their pros and cons Students will choose a specific medical technology technique, research and present to the class* Students will go through the design process and try to create something new	3.4.7.D.1 3.4.7.D.3	**Internet access** **Research journals**	**project** **Student Design project**	Completed by special education teacher	Design Process 4.Intermodalism 5.Nanotech 6.Prototype 7.STEM 8.Technology 9.Technology Transfer 10Telemedicine

***Big Idea page will be added**