Course Outline – Human Body Systems

Unit One – Identity (26 Days)

Lesson 1: Identity: Human (4 Days)
  Activity 1.1.1 - Amazing Facts
  Activity 1.1.2 - Orientation to the Maniken® (Directional/Regional Terms)

Lesson 2: Identity: Tissues (12 Days)
  Activity 1.2.1 - Identity of Your Maniken® (Histology Review/Build Face)
  Activity 1.2.2 - Skeleton Scavenger Hunt
  Project 1.2.3 - Bone Detectives: Forensic Anthropology
  Activity 1.2.4 - Height Estimation from Bones

Lesson 3: Identity: Molecules and Cells (10 Days)
  Activity 1.3.1 - DNA Detectives
  Activity 1.3.2 - Careers in Identity
  Project 1.3.3 - Biometrics: Who Are You?

Unit Two – Communication (38 Days)

Lesson 1: The Brain (9 Days)
  Activity 2.1.1 - The Power of Communication
  Activity 2.1.2 - Build-A-Brain
  Project 2.1.3 - Map-A-Brain

Lesson 2: Electrical Communication (15 Days)
  Activity 2.2.1 - The Neuron
  Activity 2.2.2 - The Secret to Signals
  Project 2.2.3 - Reaction Time
  Activity 2.2.4 - It’s All in the Reflexes
  Activity 2.2.5 - Communication Breakdown

Lesson 3: Chemical Communication (6 Days)
  Activity 2.3.1 - The Hormone Connection
  Project 2.3.2 - Hormones Gone Wild

Lesson 4: Communication with the Outside World (8 Days)
  Activity 2.4.1 - Exploring the Anatomy of the Eye
  Activity 2.4.2 - Visual Perception
  Project 2.4.3 - Put Yourself in Someone Else’s Eyes (Optional, additional 3 Days)
  Activity 2.4.4 - Eye Care Professionals
Unit Three - Power (33 Days)

Lesson 1: Introduction to Power (2 Days)
   Activity 3.1.1 - Resources for Life
   Activity 3.1.2 - The Rule of Threes

Lesson 2: Food (12 Days)
   Project 3.2.1 – Digestive System Design
   Project 3.2.2 – Living in a Material World (Optional – alternative for Project 3.2.1)
   Project 3.2.3 - The Amylase Experiment
   Activity 3.2.4 - Metabolism- A Balancing Act
   Activity 3.2.5 - In Search of Energy

Lesson 3: Oxygen (8 Days)
   Activity 3.3.1 - How Does Oxygen Get to Your Cells?
   Activity 3.3.2 - Measuring Lung Capacity
   Activity 3.3.3 - Oxygen Capture by the Lungs
   Activity 3.3.4 - Respiratory Therapy Resume

Lesson 4: Water (11 Days)
   Activity 3.4.1 - Hook up the Plumbing
   Activity 3.4.2 - Spotlight on the Kidney
   Project 3.4.3 - The Blood/Urine Connection
   Activity 3.4.4 - Water Balance
   Activity 3.4.5 - Urinalysis

Unit Four - Movement (42 Days)

Lesson 1: Joints and Motion (5 Days)
   Activity 4.1.1 - Bones, Joints, Action!
   Activity 4.1.2 - Range of Motion

Lesson 2: Muscles (15 Days)
   Activity 4.2.1 - Muscle Rules
   Activity 4.2.2 - Building a Better Body - Muscles of the Deep Chest
   Project 4.2.3 - Manikin® Mystery Muscles
   Activity 4.2.4 - Laws of Contraction
   Project 4.2.5 - Rigor Mortis Modeling
   Activity 4.2.6 - You’ve Got Nerve

Lesson 3: Blood Flow (11 Days)
   Activity 4.3.1 - The Heart of the Matter
   Project 4.3.2 - Varicose Veins
   Activity 4.3.3 - Go With the Flow
   Activity 4.3.4 - Cardiac Output
   Activity 4.3.5 - Smoking Can Cost You an Arm and a Leg!

Lesson 4: Energy and Motion: Exercise Physiology (10 Days)
Project 4.4.1 - The Body’s Response to Exercise
Activity 4.4.2 - Mind Over Muscle
Activity 4.4.3 - Performance Enhancers (Optional, additional 2 Days)
Problem 4.4.4 - Training A Champion

Unit Five – Protection (22 Days)

Lesson 1: The Skin (6 Days)
  Activity 5.1.1 - Under My Skin
  Activity 5.1.2 - Burn Unit
  Activity 5.1.3 - Hurts So Good: Pain as Protection

Lesson 2: Bones (8 Days)
  Activity 5.2.1 - Looking Inside Bone
  Activity 5.2.2 - X-ray Vision
  Activity 5.2.3 - Bone Remodeling and Repair

Lesson 3: Lymph and Blood Cells (8 Days)
  Activity 5.3.1 - To Drain and Protect
  Activity 5.3.2 - Transfusion Confusion
  Activity 5.3.3 - Fighting the Common Cold
  Project 5.3.4 - Lines of Defense (Optional, additional 3 Days)

Unit Six – Homeostasis (14 Days)

Lesson 1: Health and Wellness (14 Days)
  Problem 6.1.1 - Surviving the Extremes
  Activity 6.1.2 – Putting it All Together
  Problem 6.1.3 – Building a Case
  Activity 6.1.4 - Finishing Touches