

Science 8

Designed to help achieve the outcomes of Saskatchewan's Science 8 course in an individualized learning system, this resource includes eight workbook units, score keys, tests, and test keys. Corresponding experiments and activities are found in the final section of each workbook.

No additional text is required, but schools will need to be prepared with the necessary lab supplies for each workbook activity. **With the appropriate safeguards in place, these activities can be completed in a regular classroom setting.**

Workbook 1: Cells and Tissues

- ❖ Cells and Tissues
 - The Cell is the Basic Scientific Unit of all Living Things
 - An Invisible World
 - The Microscope Extends the Sense of Sight
 - Cells and Their Structures
 - Looking at Cells
- ❖ Living Things and Their Environment
 - How Substances Move Into and Out of Cells
 - The Cell Membrane and Diffusion
 - The Effect of Water on Plant Cells
 - Cell Specialization

NOTE:

These workbooks were designed to be used in conjunction with the text, *Saskatchewan Science 8*, Pearson Education Canada, 2009, but also work well on their own.

Workbook 2: Organs and Systems

- ❖ Interdependent Organ Systems
 - Relaxing or Stressful?
 - How Your Body is Organized
 - Circulatory System
 - Respiratory System
 - Digestive System
 - Nervous System
 - Excretory System
 - Working Together for Health
- ❖ The Needs of Your Cells and Organs
 - How Vital Substances are Transported to and from Your Cells
 - The Gas Exchange Process
 - Factors That Affect the Health of Your Cells
 - Healthy Cells Make a Healthy Body
 - Developing a Theory for Disease

Workbook 3: Optics and Vision

- ❖ Optics and Vision
 - How Light Travels
 - Illuminance and Distance
- ❖ The Law of Reflection
 - Specular and Diffuse Reflection
 - Reflection Using Curved Mirrors
- ❖ Light is Refracted by Transparent Materials
 - Refraction

- Changes in Direction
- Using Refraction to Focus Light

Workbook 4: Visible Light and the Electromagnetic Spectrum

- ❖ Properties of Light
 - How Does Light Enter Your Eye?
 - Other Optical Instruments
- ❖ The World in Colour
 - Light and Colour
 - Seeing Colour
 - What Colour is It?
 - The Subtraction Model of Colour
- ❖ The Electromagnetic Spectrum
 - The Wave Model of Light
 - Electromagnetic Radiation
 - Sources of Light and Other Forms of Electromagnetic Radiation
 - Canadian Light Source

Workbook 5: Viscosity and Density of Fluids

- ❖ Forces, Fluids, and Density
 - Investigating Viscosity
 - Working Safely with Fluids
 - The Effect of Temperature on Viscosity
- ❖ Weight, Mass, and Volume
 - Comparing Measurements
 - Water and Other Fluids
 - Finding the Density of Substances
 - Experimenting with Density
 - Density and the Particle Theory of Matter

Workbook 6: Properties of Fluids

- ❖ Buoyancy and Forces
 - Balanced or Unbalanced Forces
 - Floating and Displacement
 - Boat Building
 - Floating and Density
 - How Much Buoyancy?
- ❖ Utilizing the Properties of Fluids
 - Under Pressure
 - Water and Other Fluids
 - Volume, Temperature, and Pressure
 - Compression Fluids
 - Hydraulic and Pneumatic Systems

Workbook 7: Water Systems

- ❖ Water Systems on Earth
 - The Water Cycle
 - The Water Table

- ❖ Comparing Salt Water and Fresh Water
 - The Diversity of Living Things in Salt and Fresh Water
 - Factors Affecting Living Things in Fresh and Salt Water
- ❖ Shaped by Geological Processes
 - Where the Water Flows
 - The formation of Features on the Ocean Floors

Workbook 8: Water Systems II

- ❖ Powerful Forces in the Environment
 - Waves
 - Regional Climates
 - Ocean Currents
- ❖ Large Bodies of Water and Glaciers
 - Ice, Water, Heat Energy, and Climate
 - Ocean Currents Affect Climate
 - Glaciers Affect Earth's Surface
- ❖ Earth's Water Supply and the Environment
 - How We Use Water
 - Controlling the Destructive Power of Water
 - Processing Water for Human Use
 - Natural Resource Development and Water
 - Keeping Our Water Healthy