

## **RINGWOOD PUBLIC SCHOOLS**

### **WHAT EVERY STUDENT SHOULD KNOW BY THE END OF SEVENTH GRADE – SCIENCE**

#### Scientific Processes

- Identify the variable and control in an experiment using the scientific method.
- Identify and apply safety procedures.

#### Science and Society

- Use timeline to record advances in science and technology.
- Name scientists that have contributed to study of life science.
- Describe origin of genetics.

#### Mathematical Applications

- Measure quantities using metric system, time, distance, temperature, volume and mass.
- Construct a circle graph, line graph and bar graph.
- Understand concept of averages, ratio, proportion, percentage, decimals and fractions.
- Construct and interpret a Punnett Square.

#### Nature and Process of Technology

- Use accurate compound light microscope, projection microscope, stereo microscope, graduated cylinder, beaker, double pan balance, Celsius thermometer and meter stick.
- Prepare wet and dry mount slides.
- Prepare a Petri dish with agar gel.
- Complete dissections of earthworm, frog, grasshopper and squid.
- Compare and contrast science and technology.

#### Life Science

- List characteristics of living things.
- Identify bare necessities of life.
- Name chemicals of life proteins, carbohydrates, lipids, nucleic acids, and ATP.
- Identify organization of life (cells, tissues, organs and organisms).
- Explain differences between eukaryotic and prokaryotic cells.
- Define diffusion.
- Compare cell respiration and photosynthesis.
- Diagram cell cycle.
- Explain process of cell reproduction (meiosis).
- Create a copy of DNA molecule.
- Describe how DNA makes proteins.
- Identify characteristics of bacteria and viruses.
- Describe characteristics of protists.
- Identify characteristics of fungi.
- Identify characteristics of invertebrates.
- Identify characteristics of vertebrates.