

# SKILLS LIST and SAMPLE ITEMS

FOR

## PRACTICE TEST FOR SCIENCE, GRADE 11 (Test items developed for skills measured in GA)

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### Skills

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| 1.0 Process/Research Skills                              | 3.0 Biology  |
| 1.1 Uses Science Process Skills                          | 3.1 Significance of Biology  |
| 1.2 Uses Traditional Reference Materials                 | 3.2 Cellular Basis of Life   |
| 1.3 Safety Practices                                     | 3.3 Homeostasis  |
| 1.4 Speed/Velocity/Acceleration                          | 3.4 Life has a Chemical Basis  |
| 1.5 Frequency and Energy of the Electromagnetic Spectrum | 3.5 Photosynthesis and Respiration   |
| 2.0 Physical Science                                     | 3.6 DNA and RNA  |
| 2.1 Compares and Contrasts Matter                        | 3.7 Cell Division, Mitosis, Meiosis  |
| 2.2 Fundamental Part of the Atom                         | 3.8 Mendelian Genetic Principles/Patterns of Inheritance and Genetic Engineering |
| 2.3 Chemical or Physical Changes                         | 3.9 Classifies Organisms   |
| 2.4 Basic Structure of Atom                              | 3.10 Monerans  |
| 2.5 Matter and its Characteristics                       | 3.11 Protists  |
| 2.6 Types of Energy                                      | 3.12 Fungi   |
| 2.7 Gravity and Work                                     | 3.13 Spore-Producing/Seed-Producing Plants                                       |
| 2.8 Electricity/Magnetism                                | 3.14 Anatomy and Physiology of each Phylum of Invertebrates                      |
|  | 3.15 Vertebrates   |
|  | 3.16 Overall Organization of the Human Body                                      |
|  | 3.17 Ecosystem/Major Biomes of the World   |
|  | 3.18 Environment and Ecological Problems   |
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(OVER)

# CRCT PRACTICE TEST IN SCIENCE - GRADE 11

For an experiment you need a lamp or other light source, a convex lens, and a hot plate. Place the lamp at one end of a table. Mount the lens into a ball of clay. Position the lens so that its center is at the same height as the bulb of the lamp. Put the lens between the light source and the wall. Darken the room. Turn on the light and describe the image of the bulb as it appears on the wall. Place the hot plate between the wall and the light near the convex lens. Turn the hot plate. Observe the image of the light bulb on the wall.

1. Which of the following is the best statement of the above problem?
- A. Why do stars appear to twinkle?
  - B. What makes the lens appear to be concave in the light?
  - C. What image will appear on the wall?
  - D. Why does the lens need to be the same height as the bulb of the lamp?

You are watching a candle burn. You start to wonder what would happen to the flame if you sprinkle baking soda on it. If you were to go ahead and do the experiment, the independent variable would be your sprinkling the baking soda on the candle's flame. The dependent variable would be what happens to the flame (if changes occur).

2. Which of the following hypothesis could have been tested in this experiment?
- A. Baking soda is the only chemical that will affect the flame.
  - B. Baking soda causes the wax to melt at a faster rate.
  - C. What would happen if I sprinkle baking soda on a flame?
  - D. Baking soda sprinkled on the flame will cause the flame to go out.

3. You have discovered that the average time a person can do step aerobics is substantially longer when one eats a nutritious breakfast than when one does not eat breakfast. Which of the following best illustrates this data?

