

# **Correlation of MicroWorlds EX and the Texas Essential Knowledge and Skills**

## **Grades 4 – 7 Science**

### **Grade 4**

- 4.2 **Scientific processes. The student uses scientific inquiry methods during field and laboratory investigations, specifically:**
- A. plan and implement descriptive investigations including asking well-defined
  - B. questions, formulating testable hypotheses, and selecting and using equipment and technology;
  - C. collect information by observing and measuring;
  - D. analyze and interpret information to construct reasonable explanations from direct and indirect evidence;
  - E. communicate valid conclusions; and
- 4.3 **Scientific processes. The student uses critical thinking and scientific problem solving to make informed decisions, specifically:**
- A. analyze, review, and critique scientific explanations, including hypotheses and theories, as to their strengths and weaknesses using scientific evidence and information;
  - C. represent the natural world using models and identify their limitations;
- 4.4 **Scientific processes. The student knows how to use a variety of tools and methods to conduct science inquiry, specifically:**
- B. demonstrate that repeated investigations may increase the reliability of results.

### **MicroWorlds EX Robotics Edition – in addition to the above:**

- 4.3 **Scientific processes. The student uses critical thinking and scientific problem solving to make informed decisions, specifically:**
- E. Connect Grade 4 science concepts with the history of science and contributions of scientists.
- 4.4 **Scientific processes. The student knows how to use a variety of tools and methods to conduct science inquiry, specifically:**
- A. collect and analyze information using tools including calculators, safety goggles, microscopes, cameras, sound recorders, computers, hand lenses, rulers, thermometers, meter sticks, timing devices, balances, and compasses

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**Grade 5**

- 5.2 **Scientific processes. The student uses scientific methods during field and laboratory investigations**, specifically:
- A. plan and implement descriptive and simple experimental investigations including asking well-defined questions, formulating testable hypotheses, and selecting and using equipment and technology;
  - B. collect information by observing and measuring;
  - C. analyze and interpret information to construct reasonable explanations from direct and indirect evidence;
  - D. communicate valid conclusions;
  - E. construct simple graphs, tables, maps, and charts using tools including computers to organize, examine, and evaluate information.
- 5.3 **Scientific processes. The student uses critical thinking and scientific problem solving to make informed decisions**, specifically:
- A. analyze, review, and critique scientific explanations, including hypotheses and theories, as to their strengths and weaknesses using scientific evidence and information;
  - C. represent the natural world using models and identify their limitations;
- 5.4 **Scientific processes. The student knows how to use a variety of tools and methods to conduct science inquiry**, specifically:
- B. demonstrate that repeated investigations may increase the reliability of results.

**MicroWorlds EX Robotics Edition – in addition to the above:**

- 5.3 **Scientific processes. The student uses critical thinking and scientific problem solving to make informed decisions**, specifically:
- E. Connect Grade 5 science concepts with the history of science and contributions of scientists.
- 5.4 **Scientific processes. The student knows how to use a variety of tools and methods to conduct science inquiry**, specifically:
- A. collect and analyze information using tools including calculators, microscopes, cameras, sound recorders, computers, hand lenses, rulers, thermometers, compasses, balances, hot plates, meter sticks, timing devices, magnets, collecting nets, and safety goggles;

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**Grade 6**

- 6.2 **Scientific processes. The student uses scientific inquiry methods during field and laboratory investigations, specifically:**
- A. plan and implement investigative procedures including asking questions, formulating testable hypotheses, and selecting and using equipment and technology;
  - B. collect data by observing and measuring;
  - C. analyze and interpret information to construct reasonable explanations from direct and indirect evidence;
  - D. communicate valid conclusions;
  - E. construct graphs, tables, maps, and charts using tools including computers to organize, examine, and evaluate data.
- 6.3 **Scientific processes. The student uses critical thinking and scientific problem solving to make informed decisions, specifically:**
- A. analyze, review, and critique scientific explanations, including hypotheses and theories, as to their strengths and weaknesses using scientific evidence and information;
  - C. represent the natural world using models and identify their limitations;
- 6.4 **Scientific processes. The student knows how to use a variety of tools and methods to conduct science inquiry, specifically:**
- B. identify patterns in collected information using percent, average, range, and frequency.

**MicroWorlds EX Robotics Edition – in addition to the above:**

- 6.3 **Scientific processes. The student uses critical thinking and scientific problem solving to make informed decisions, specifically:**
- E. Connect Grade 6 science concepts with the history of science and contributions of scientists.
- 6.4 **Scientific processes. The student knows how to use a variety of tools and methods to conduct science inquiry, specifically:**
- A. collect, analyze and record information using tools including beakers, Petri dishes, meter sticks, graduated cylinders, weather instruments, timing devices, hot plates, test tubes, safety goggles, spring scales, magnets, balances, microscopes, telescopes, thermometers, calculators, field equipment, compasses, computers, and computer probes;

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**Grade 7**

- 7.2 **Scientific processes. The student uses scientific inquiry methods during field and laboratory investigations, specifically:**
- A. plan and implement investigative procedures including asking questions, formulating testable hypotheses, and selecting and using equipment and technology;
  - B. collect data by observing and measuring;
  - C. organize, analyze, make inferences, and predict trends from direct and indirect evidence;
  - D. communicate valid conclusions;
  - E. construct graphs, tables, maps, and charts using tools including computers to organize, examine, and evaluate data.
- 7.3 **Scientific processes. The student uses critical thinking and scientific problem solving to make informed decisions, specifically:**
- A. analyze, review, and critique scientific explanations, including hypotheses and theories, as to their strengths and weaknesses using scientific evidence and information;
  - C. represent the natural world using models and identify their limitations;
- 7.4 **Scientific processes. The student knows how to use tools and methods to conduct science inquiry, specifically:**
- B. collect and analyze information to recognize patterns such as rates of change
- 7.5 **Science concepts. The student knows that an equilibrium of a system may change, specifically:**
- B. observe and describe the role of ecological succession in maintaining an equilibrium in an ecosystem.
- 7.6 **Science concepts. The student knows that there is a relationship between force and motion, specifically:**
- A. demonstrate basic relationships between force and motion using simple machines including pulleys and levers;
  - B. demonstrate that an object will remain at rest or move at a constant speed and in a straight line if it is not being subjected to an unbalanced force;
- 7.12 **Science concepts. The student knows that there is a relationship between organisms and the environment, specifically:**
- A. identify components of an ecosystem;
  - B. observe and describe how organisms including producers, consumers and decomposers live together in an environment and use existing resources;
  - C. observe and describe the role of ecological succession in ecosystems.

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**MicroWorlds EX Robotics Edition – in addition to the above:**

- 7.3 **Scientific processes. The student uses critical thinking and scientific problem solving to make informed decisions, specifically:**  
F. Connect Grade 7 science concepts with the history of science and contributions of scientists.
- 7.4 **Scientific processes. The student knows how to use tools and methods to conduct science inquiry, specifically:**  
A. collect, analyze and record information to explain a phenomenon using tools including beakers, petri dishes, meter sticks, graduated cylinders, weather instruments, timing devices, hot plates, dissecting equipment, test tubes, safety goggles, spring scales, balances, microscopes, telescopes, thermometers, calculators, field equipment, computers, computer probes, timing devices, magnets, and compasses;