

KCKPS Science Course Syllabus Biology

(Note: This syllabus has been correlated to the current text *Biology Principles and Explorations*, Holt, Rinehart, and Winston, 2001. The material fulfills the national, state and local standards.)

Overarching Course-level Essential Question:

- When do we know something in science? What is the evidence and how reliable is it?
- What makes something alive? When and why is the definition important?
- What is growth and “natural” development in living things? What factors most influence healthy growth and development in living things?
- Why am I the way I am?
- How can individuals help solve world problems?
- What is wasteful and how do you know?

Course Description: This course is a laboratory-oriented course designed to introduce students in grades ten through twelve to the diversity of living organisms, the scientific inquiry process and important concepts surrounding living things. The course is organized into two parts, principles and explorations. The principles covered are those of cell biology, genetics, evolution, and ecology. The exploration part includes the kingdoms of life, plants, invertebrates, vertebrates, and human biology.

Power Standards—State and Local Assessed Standards Addressed by this Course:

Biology

Standard 1 – Science as Inquiry

Formulate research questions, conduct experimental investigations, analyze data, use appropriate technology, communicate results, defend conclusions, and propose further investigations.

_.1.1 Biology Research Benchmark:

Upon completion of Biology, all students will demonstrate the abilities necessary to do scientific inquiry.

_.1.1.1 Develop questions and formulate testable hypotheses based upon previous experience and knowledge. (Good hypotheses are predictions based on assumptions with conditions related to the developed question. For example; an “If ___ then ___ because ___” format is used.)

_.1.1.3 Design an experimental procedure to test hypotheses and conduct scientific investigations.

_.1.1.5 Analyze, summarize and communicate scientific findings using technology and mathematics. Use the SI system of measurement in the recording and interpretation of results.