SENATE EDUCATION
EXHIBIT NO. 21
DATE 2-7-05
BILL NO. SJ-8

TESTIMONY OF HARRIS HIMES RE SJ8

OBJECTIVE ORIGINS' POLICY IS CONSISTENT WITH MONTANA'S SCIENCE STANDARDS

Research would have shown that the laws of Montana concerning educational standards and requirements would allow for such a curriculum as "Objective Origins." An examination of the Science Content and Performance Standards are consistent in requiring students to actively question results and theories:

10.54.5013 BENCHMARK FOR SCIENCE CONTENT STANDARD 1 UPON GRADUATION (1) The benchmark for science content standard 1 upon graduation is the ability to: . . .
(c) *question conclusions with insufficient supporting evidence, and recognize that the results of a scientific investigation are always open to revision by further experiments;* . . .
(e) compare observations of the real world to observations of a constructed model; and
(f) *investigate and evaluate science studies* and identify strengths and weaknesses in experimental design.

10.54.5050 SCIENCE CONTENT STANDARD 5 (1) To satisfy the requirements of science content standard 5, a student must be able to understand how scientific knowledge and technological developments impact society.

10.54.5053 BENCHMARK FOR SCIENCE CONTENT STANDARD 5 UPON GRADUATION (1) The benchmark for science content standard 5 upon graduation is the ability to: . . .
(b) model the ongoing, collaborative scientific process of gathering and evaluating information (e.g., *assess evidence for and against theories,* look for patterns, devise and retest different models); . . .
(d) *give examples of scientific innovation challenging commonly held perceptions.*

10.54.5060 SCIENCE CONTENT STANDARD 6 (1) To satisfy the requirements of science content standard 6, a student must be able to understand historical developments in science and technology.

10.54.5062 BENCHMARK FOR SCIENCE CONTENT STANDARD 6 FOR END OF GRADE 8 . . .
(a) *trace developments that demonstrate scientific knowledge is subject to change as new evidence becomes available* . . .

10.54.5087 ADVANCED SCIENCE PERFORMANCE STANDARDS FOR END OF GRADE 4 (1) A fourth-grade student at the advanced level in science demonstrates superior performance. He/she: . . .

(g) provide opportunities to study the relationships between biology and molecular genetics and the impacts of biology/technology upon humans and their environment *including ethical implications*; . . .
[Emphasis added.]

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(a) *trace developments that demonstrate scientific knowledge is subject to change as new evidence becomes available* . . .

(i) independently explores scientific exploration in the news and *discusses the possible impacts of past, present, and future scientific exploration on humans and other life*; and
(j) *thoughtfully discusses the historical significance of scientists and the impacts of their discoveries on humans today.*

10.54.5091 ADVANCED SCIENCE PERFORMANCE STANDARDS FOR END OF GRADE 8 (1) An eighth-grade student at the advanced level in science demonstrates superior performance. He/she: . . .
(b) makes accurate inferences based on observations and data and *creatively illustrates how scientific knowledge changes as new evidence and understandings are learned*;
(c) uses supporting details to thoughtfully and thoroughly explain the physical world; . . .
(i) *independently seeks new information, connects past to present, and is curious about scientific discovery and its significance.*

10.54.5092 PROFICIENT SCIENCE PERFORMANCE STANDARDS FOR END OF GRADE 8 . . .
(b) makes logical inferences based on observations and accurately interprets data, *providing reasonable examples of how scientific knowledge changes as new evidence and understandings are learned*; . . .
(h) *is often curious about new information and connects past to present.*

10.54.5095 ADVANCED SCIENCE PERFORMANCE STANDARDS UPON GRADUATION (1) A graduating student at the advanced level in science demonstrates superior performance. He/she: . . .
(b) *consistently recognizes the interconnections within and outside science*, making thoughtful inferences about explorations and experiments;
(c) effectively uses appropriate technology to investigate individually generated problems and/or questions about scientific phenomena when doing physical, theoretical, and mathematical modeling; . . .
(e) clearly describes and analyzes connections and interactions between and among technology, science, and society, applying scientific inquiry and technology skills to comprehend results obtained;
(f) *questions validity of scientific endeavors, past and present*; and
(g) *makes informed decisions about scientific and social issues based on observations, data, and knowledge of the natural world.*

10.54.5096 PROFICIENT SCIENCE PERFORMANCE STANDARDS UPON GRADUATION (1) A graduating student at the proficient level in science demonstrates solid academic performance. He/she:
(b) *recognizes interconnections within and outside science*, and often makes inferences about explorations and experiments; . . .
(e) describes connections and interactions between and among technology, science, and society, applying scientific inquiry and technology skills to comprehend results obtained;
(f) *clearly articulates the importance of science and the historical significance to question the validity of scientific endeavor, past and present*; and

(g) often makes informed decisions *about scientific and social issues* based on observations, data, and knowledge of the natural world.

10.54.5097 NEARING PROFICIENCY SCIENCE PERFORMANCE STANDARDS UPON GRADUATION (1) A graduating student at the nearing proficiency level in science demonstrates partial mastery of the prerequisite knowledge and skills fundamental for proficiency in science. He/she: . . .
(b) *recognizes interconnections within and outside science* and sometimes makes inferences about explorations and experiments; . . .
(h) sometimes communicates connections and interactions between and among technology, science, and society:
(i) *sometimes defines the importance of science and its historical importance*, but is generally accepting of the validity of scientific endeavor; and
(j) *sometimes formulates a decision about scientific and social issues* based on observations, data, and knowledge of the natural world.

10.54.5098 NOVICE SCIENCE PERFORMANCE STANDARDS UPON GRADUATION (1) A graduating student at the novice level in science is beginning to attain the prerequisite knowledge and skills that are fundamental in science. He/she: . . .
(b) sometimes recognizes interconnections within and outside science, but struggles to make inferences about explorations and experiments; . . .
(h) has difficulty defining the importance of science and its historical significance;
(i) seldom questions the validity of scientific endeavor, past and present; and
(j) seldom makes informed decisions about issues based on observations and knowledge of the natural world.

[Emphasis in all of the above added.]

The only place where "evolution" is actually mentioned as an area of study is contained in the codification of "SCIENCE", under the biological sciences. The word is used together with "equilibrium" elsewhere, but there it denotes a generic process of conception rather than the theory itself. Note also the concepts of "investigation," "inquiry," "social and historical perspectives," and "ethical implications":

10.58.522 SCIENCE

. . .
(5) The biology program shall:
(a) provide conceptual understanding in the unifying concepts and processes of systems order and organization, evidence models and explanation, change constancy, measurement, evolution and equilibrium, form and function; . . .
(c) include study and experiences emphasizing living organisms including laboratory and field studies *promoting investigation, inquiry, applications of biology in social and historical perspectives*, and the use of experimental methods;
(d) include course work in zoology, botany, physiology, genetics, ecology, microbiology, cell biology/biochemistry, and *evolution*, and their relationships to each other; . . .

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(g) provide opportunities to study the relationships between biology and molecular genetics and the impacts of biology/technology upon humans and their environment *including ethical implications*; . . .
[Emphasis added.]

THE FEDERAL NO CHILD LEFT BEHIND ACT ENCOURAGES A CURRICULUM SUCH AS OBJECTIVE ORIGINS

The Conference Report provided by Congress for the No Child Left Behind Act (2001) adopted what has come to be known as the "Santorum Language":

> "The Conferees recognize that a quality science education should prepare students to distinguish the data and testable theories of science from religious or philosophical claims that are made in the name of science. Where topics are taught that may generate controversy (such as biological evolution), the curriculum should help students to understand the full range of scientific views that exist, why such topics may generate controversy, and how scientific discoveries can profoundly affect society."

In a letter from Congress to explain the effect of such language, the explanation is given: "Report language provides official guidance from Congress on how statutory language should be enforced by other government agencies, and the Santorum language should be understood in this light. It is just as authoritative as other provisions in the report language of the Act . . . ."

THE DARBY SCHOOL DISTRICT HAS BEEN ACCREDITED BY OPI – EVEN WITH A PROPOSED CURRICULUM INCLUDING "INTELLIGENT DESIGN"

The Darby School District has recently received its accreditation from OPI notwithstanding the fact that in its submittal papers for a five-year plan, one of the top three considerations for additional curriculum was "intelligent design," a finding which was made by a committee of approximately 70-75 Darby residents in proposing its five-year plan.