



National
Center for
Science
Education

WHAT'S WRONG WITH "THEORY NOT FACT" POLICIES ON TEACHING EVOLUTION?

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1. Legislation or regulations that single out evolution for restriction, ignoring other scientific topics, are unconstitutional (*Epperson v. Arkansas*)
2. Legislation that requires teaching evolution as “theory” or “belief” only, or that it not be taught as “fact”, without defining these terms, is too vague to give real guidance to school districts and teachers about what may be taught.
3. Such legislation intimidates teachers, who are likely to avoid teaching a subject for fear of violating the law. Legislation that explicitly bans teaching evolution has been found unconstitutional; vague legislation that has a “chilling effect” is also likely to be found unconstitutional. In First Amendment law, laws which have a “chilling” effect on behavior are often found to be as unconstitutional as laws which explicitly forbid that behavior.
4. “Theory, not fact” legislation implies that “theory” should be understood in the ordinary sense of “guess” or “hunch.” Science teachers, however, use *scientific* terminology, in which “theory” means a logical, tested, well-supported explanation for a great variety of facts. In a physics class, students will learn that the *theory* of gravity explains such facts as the rate of acceleration of falling objects; in chemistry class, they learn that atomic *theory* explains the structure and behavior of elements and compounds; in biology they learn that the *theory* of evolution explains facts about genetics and other subjects. If the purpose of the legislation is to require that teachers and texts offer evolution as a theory in the *scientific* sense, it is unnecessary — they already do so.
5. “Theory, not fact” legislation, if passed, is likely to cost the taxpayers money for useless litigation. In 1968, in its *Epperson v. Arkansas* decision, the Supreme Court outlawed bans on teaching evolution. In 1994, the Ninth Circuit Court of Appeals ruled in *Pelozo v. Capistrano* that evolution is *not* a religious belief but a scientific principle; the Supreme Court refused to hear an appeal of this ruling, allowing the decision to stand. And in 1997, in *Freiler v. Tangipahoa Parish Board of Education*, the District Court for the Eastern District of Louisiana ruled unconstitutional a policy adopted partly because Board members objected to teaching evolution “as fact,” and requiring that a disclaimer be read aloud by teachers whenever they taught about evolution.