

## Dinosaurs - an ancient bridge to new learning

*Courier Editor*

By Samar Fay

On a Sunday afternoon, about 30 middle school teachers are leaning over laptop computers, headphones clamped on. They frown as they struggle with a tutorial about building a GIS map of fossil sites around Fort Peck Lake. The geology of the land is supposed to be in there someplace. Detailed ownership maps must be layered on with road maps.

They come from 20 schools, including Havre, Plentywood, Circle, Glendive, Glasgow and Hinsdale. They teach science, math and vo-ag. One is a school counselor; one is the school tech consultant.

These teachers are crossing the rough ground that they will later lead their students over, learning how to use geospatial technologies such as handheld global-positioning system units in the field and Arc View geographic information system (GIS) software.

The trick is that the hard work has been baited with dinosaurs. Teachers have been linking fun to learning forever. Kids struggle with thirds of a cup and teaspoons to tablespoons because muffins happen at the end.

In this case, GIS knowledge is the way to hunt real dinosaurs in the fossil-rich badlands around Fort Peck.

"When technology is used in context, it is more likely to be used in the schools," said the class instructor, Dr. Lisa Blank, one of the project leaders for the Paleo Exploration Project, a partnership between the University of Montana, and Fort Peck Paleontology Inc. UM has a \$1.3 million National Science Foundation grant to train middle school teachers and their students on ways to use Montana's incredible natural classroom.

Teachers spent two days at Glasgow High School last weekend, swimming against the basketball tournament tides to reach the business classrooms. The first day was with Dr. George Stanley, professor of geology and director of the UM Paleontology Center, learning fossil identification, how fossils are extracted and protected, and handling their own real fossils taken from a quarry in Wyoming. On the second day, the teachers were at the mercy of people talking about "developing a geo-referenced fossil database."

The teachers will take two more days of training in April, then bring students to one of two summer institutes to find fossil material, collect it, take it back to the lab, prep it and catalog it.

They will learn how to transfer fossil location data onto topographic or geologic maps. Middle school classes also will develop their own research projects.

"We'll have ideas for them, but they will select their own research projects," Stanley said. "They may want to talk about the mass extinction of the dinosaurs, or turtles or plesiosaurs and other swimming marine reptiles. The idea is they experience scientific research for themselves first-hand."



Dr. Lisa Blank, a project leader for the University of Montana's Paleo Exploration Project, helps two middle school teachers create a map query Sunday. Nancy Pehl, center right, is a seventh- and eighth-grade math and science teacher from Terry. Connie Mogan, right, teaches science for grades five-12 in Hinsdale. At left is Rod Donahue, a Harlem ag education teacher. Courier photo by Samar Fay.