

**A subject students enjoy**

“Sean and Tom were very approachable,” Jones said. “The kids really enjoyed it, especially when they got to build the paper bridges.”

Because Jones’ social studies class was studying Egypt, the Great Pyramids were a fitting example of an engineering project that has lasted thousands of years. Ancient bridges, viaducts and buildings incorporating simple compression arches were also mentioned as having bested the test of time during the presentations in Nyssa and at other schools.

“Some of the strongest structures are Roman arches,” Bornstedt told the La Grande Middle School science class.

During the presentations, students enjoyed seeing a time-lapse video of a bridge build and images of various engineering feats, old and new. These included super high speed magnetic trains, computers, future vehicle concept designs, plus Wallace’s preferred engineering topic.

“Toys, that’s my favorite,” Wallace said. “You didn’t know engineers develop toys, did you?”



*Tom Wallace and students*

**Young engineers in the making**

Maloney gave the younger kids something to ponder when he told them “you are already engineers.” If they had ever used a board or log to cross a ditch, created a pool by damming part of a stream, or helped build a fort, they were using engineering skills.



*Sean Maloney at Nyssa School*

“That’s what engineers do, they solve problems,” Maloney said.

To test their creative talents, class members were invited to design bridges using four pieces of 8.5 by 11 inch paper and a foot-long piece of tape. The goal was to design the structures to hold two pounds of weight over a 10 inch span.

“You can punch holes, cut, twist, fold – whatever you want to do with the paper to try and make it strong,” Bornstedt said. “A good bridge design will distribute the forces, so no one piece of the bridge will get overloaded.”

“The ODOT engineers really got involved during the paper bridge building project,” Jones said. They talked about the importance of math and science education, and the need to be curious and creative.

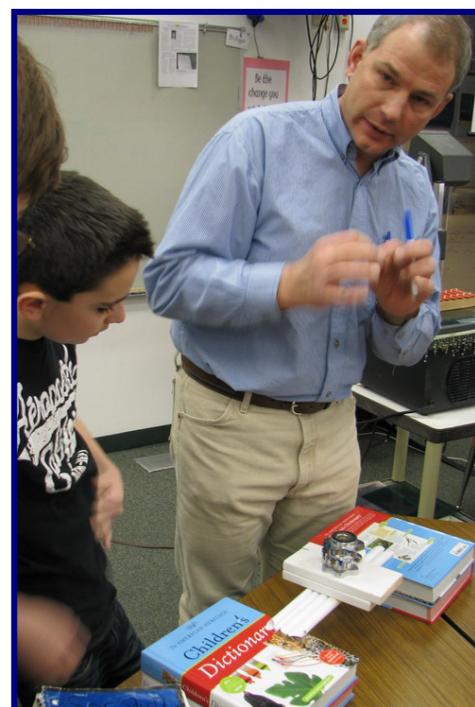
As the students pursued their paper bridge building skills in small groups, many decided the best designs incorporated rolling the paper in tubes or folding them like an accordion. While some structures failed the two pound test, others exceeded the weight limit.

“One of the paper bridges held over 18 pounds,” said Burns High School science teacher Ann Haak, whose father worked for ODOT for over 30 years. “The kids just loved the presentation, especially building the bridges out of paper. It really helped them understand there’s more to engineering.”

Haak said that after the other science teachers heard the ODOT presentation they moved their students into Haak’s class throughout the day. Overall, about 130 kids out of 226 total Burns High student body members attended one of Maloney’s February 29<sup>th</sup> presentations.

When teachers were asked if they would like ODOT and other members of the engineering community to return next year, they responded with a rousing “yes!”

“The future is in the science, math and technology that ties into engineering,” said Jones. “Engineering is real world. It’s about problem solving and it is in just about everything we wear, do, see and use.”



*George Bornstedt at La Grande Middle School*