

## **Artifact Reflection- PowerPoint Lesson on CO2 Car Design**

By John M. Berner

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This PowerPoint was created March, 2008, and it was intended to teach design concepts to a 7<sup>th</sup> Grade Exploratory class during my student teaching best practices assignment. Throughout the lesson, students learned about limitations and concepts that would affect the performance of CO2 cars that they would be expected to design and build.

The PowerPoint generated questions and discussion that not only allowed students to make intelligent choices about the cars they had to design, but how the auto industry makes decisions on the designs of the cars they produce. I incorporated humor into the presentation to keep the students engaged and make it easier for them to retain the concepts I wanted them to be able to learn. I broke the lessons up into several chunks- one day on aerodynamics, one day on physics, and one day on friction. At the end of each lesson, we had discussions on what they could do to their car designs that would make their cars faster and more energy efficient.

I learned how easy it was to keep the lessons organized without missing important information. Discussion often got off the relevant topic but showed evidence of transfer of learning. As much as I would have liked to keep pressing on, the students reinforced their understanding of the concepts on their own. When I felt that the students understood the point, I was able to move on to the next slide.

Several of the slides convey concepts that apply to the auto design, but don't make the connections alone. As I taught the lesson, I had to show the relevance of the concepts. For example, one slide conveyed size and weight of a golf ball vs. soft ball and how it related to the energy needed to achieve the furthest distance. The concept applies to the size and weight of a car, but doesn't directly show that without verbal instruction. I think these slides would be much more effective if they were reinforced with connecting relevance.

The Wisconsin Teaching Standards are "Knowing Content," "Knowing How Children Learn," "Knowing How to Teach," "Knowing How to Communicate," and "Knowing How to Plan Lessons." The domains that best represent this PowerPoint are "Planning and Preparation," "Instruction," and "Professional Responsibilities." In order to teach this lesson, one would have to have knowledge of physics, aerodynamics, friction, consumer wants and needs, energy conservation, design processes, and tools necessary for production. The PowerPoint was designed to keep students engaged and entertained using past experiences that the students can relate to. The overall presentation conveys objectives, key terms, concepts, and reviews which are easy to follow.

I am really proud of this presentation's effectiveness, regardless of the changes I feel would be an improvement. The students enjoyed learning and often lost track of the time. They were able to see how the concepts have a large impact on product designs.