



Kingswood Space Flight Center Highlights

Kingswood Regional High School

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High Power Field Trip

A group of KRHS students recently took a high powered field trip to **Ayre's Island Hydro Electric** facility and **Pine Tree Power** in Tamworth. **Ed Lord, Wally Orvis and Jay Bartlett** hosted the students at the hydro facility while **Russ Dowd** hosted the students at the wood chip burning plant in Tamworth. The field trip was a great way to wrap up the activity where the students had to research and plan a renewable energy generating facility for the Wolfeboro, area.

At Ayre's Island, the students learned about generating electricity with water power. They also learned that every technology has certain environmental impacts and some of the many initiatives that Public Service Company of New Hampshire has to help the environment around the dam site. The highlight, as always, was the walk through the dam to the other side of the river to tour the generator house.

In Tamworth, the students learned that most generating plants produce electricity the same way; steam spins turbines connected to the generators that produce electricity, its just the fuel that is different. In Pine Tree's case, the fuel is wood chips. (20-30 truck loads per day!) Students participating in this trip were **Arthur Chasse, Brandon Corliss, Sean Palumbo, Joe Pelligrino, Howie Pomponio, Brandon Roy, Brendan Skerry, Mike Tenney**. Thanks to the personnel at both facilities for a great day!



Wally Orvis and Jay Bartlett explain how the generator's governor system works.



Russ Dowd shows the class his wood stove.



Hanging out in the chip yard at Pine Tree Power of Tamworth

Rocketry Final

What began as a simple rocketry activity soon became a full blown rocket science presentation. Students in the Energy and Power class, **Mike Burns, Jake DiPrizio, David Grant, Cuinn McConell, Joe Pelligrino, Brandon Roy, Brendan Skerry and Mike Tenney** elected to turn their Space Transportation Activity into their final assessment for the semester. Using the engineering design process, the students designed and built a model rocket. They began the design phase using RockSim software. The software allows them to conduct simulated test flights to predict how their rockets will perform. While planning the project, the class met a number of times to discuss the criteria for evaluation and developed rubrics for effort, rocket performance, documentation and the final presentation. They built their models and then tested for stability to verify that the center of gravity was forward of the center of pressure. Test launches were flown on the athletic field to compare the performance of the rocket with the simulated launches. Each student launched their rocket three times and completed data sheets for each launch. The final presentation required students to construct PowerPoint presentations to explain the design they chose, compare its real flight with the simulations, and provide some insights into why it performed the way it did. Teachers **Bonnie Hutchinson** and **Dan Caron** both agreed that the students did an outstanding job on their projects.

Shuttle Main Landing Gear Tire Proposal

Kingswood Aerospace has high hopes that their proposal to borrow a space shuttle main landing gear tire will be accepted by **NASA**. NASA recently announced that a number of tires will be loaned out to schools, museums and other organizations. Kingswood teachers and students are proposing to construct a tribute to New Hampshire astronauts and have partnered with the **BG Harrison Thyng Chapter of the Air Force Association** and the **Aviation Museum of New Hampshire** to make it happen.

The tire will be mounted on a steel stand. Mounted inside, like a wheel, will be a wooden insert to mount a laser etched mirror to honor NH astronauts. The side walls will be painted with Projects Mercury, Apollo and shuttle launch scenes. Mission patches and/or the flags of all foreign astronauts from the shuttle crews involving NH astronauts will be painted on the tread. (etching and launch scenes are yet to be determined). The tire may also be wired for sound. Other display boards with pertinent facts may accompany the mounted tire.

Teachers have brainstormed a number of activities in which their students could become involved. Below are some of the suggestions:

Art Dept.

- * The art class will paint the side wall and the flags/patches on the tread.
- * The music class will record a score that will play over the sound system that is enclosed into the tire.

Technology Education Dept.

- * CAD Design will draw the plans.
- * Communication Tech will laser engrave the mirror.
- * Metals Tech will build the base, interior framework and do a material analysis of the tire.
- * Wood Tech will build the internal fixture that will hold the mirror.
- * Electric Tech will wire lights to the mirror and install the sound system.
- * Photography Tech students will document the process.

Science Dept

- * Chemistry will do a chemical analysis of the tire material.
- * Physics will do a physical analysis of the tire material.

Social Studies

- * The US History class will complete the historical research for display boards.

Math Dept

- * Math will calculate statistics (volume, size, thickness, rolling circumference, load capacity, etc)

English Dept

- * English Dept will write the text on the display boards that will state shuttle mission statistics.

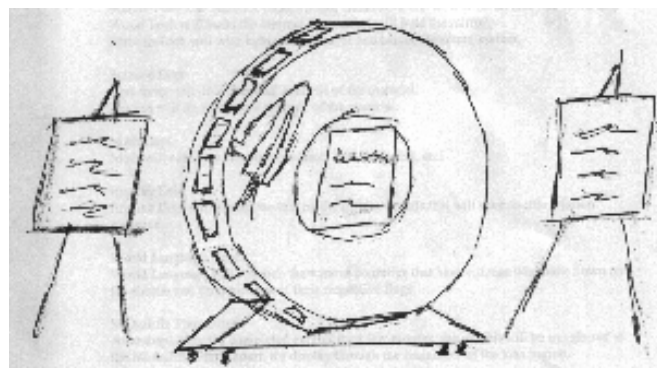
World Language Dept

- * World Language will research the various countries that have citizens who have flown on the shuttle and find pictures of their respective flags.

The **Aviation Museum of New Hampshire** will host the exhibit during the remainder of the loan period and assist with shipping charges.

The **BG Harrison Thyng Chapter of the Air Force Association** will write a matching grant to the national organization to fund shipping and supplies.

Kingswood will find out in July if their proposal is accepted.



Artist's conceptual drawing

For additional Information concerning any of the above activities, contact:

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