



FFCHS SCIENCE



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Science in the news!

Elevators into Space: GOING UP?



Picture description: Space elevator

A Japanese construction company is working on plans to build an elevator into space to be operational by the year 2050. While this may sound ridiculous, the idea is actually quite feasible.

The cable carrying the elevator car would reach as far as 60,000 miles into space with a counterweight at the end. The actual station where passengers, cargo or satellites would disembark would be approximately 22,000 miles above the Earth's surface. The system would consist of robotic cars powered by magnetic linear motors. The car would be capable of carrying up to seven people. You better like the people in your car since the trip up may take up to seven days.

You may wonder how this could be possible since the Earth rotates. If the cable assembly is in a geosynchronous orbit then it will always be over the same point on the Earth (your Dish TV satellite does the same). There are still technical issues with the engineering of the cable but perhaps one day you will be taking a slow ride to space!!

What we believe

We believe that all students may be motivated to succeed in science. It is our commitment to excite and support students in this process. We will use a multifaceted instructional program to accomplish these goals. This will include:

- Creating a **safe** learning environment.
- Recognizing and supporting the individual needs of **each** student.
- Providing hands-on demonstrations and laboratory experiences.
- Bringing the science of **today** into the classroom on a **daily** basis.
- Meeting the Utah Core Curriculum Standards.
- Using a range of student evaluation techniques.
- Interfacing with parents on a regular basis through both a science newsletter and periodic phone calls.
- Constantly challenging our students to push the envelope of their abilities.
- Showing each student that we **care** about their success.

What we offer

Currently we are teaching:

- Energy Foundations A
- Astronomy
- Great Scientists
- Biology A- Cells

Classes to look forward to next term:

- Biology B- Genetics
- Earth Systems A
- Physics A



Contact us

We'd love to hear from you! Share with us any thoughts or questions you have!



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Species spotlight:

Duchess grows world's "most dangerous garden"

The duchess of Northumberland, Jane Percy, has turned her castle and gardens into a children's spot of interest once again. After her castle had been used as Hogwarts in a couple of Harry Potter movies she has wanted to keep a "way to interest children" alive on her estate. The Smithsonian has labeled her garden "the world's most dangerous garden" as she has more than 100 fatal flora, including hemlock, poppies, foxglove, and castor oil.

She says, "What's really interesting is to know how a plant kills you, and how the patient dies, and what you feel like before you die." Behind locked gates with advertising that reads "These Plants Can Kill" are her toxic specimens, skulls and crossbones. It is open for people to go through. Just remember no touching, tasting or smelling the plants.



Extend your learning

Utah State University "Science Unwrapped"

Each Science Unwrapped event begins with a lecture and is followed by hands-on learning activities and exhibits. Each gathering begins at 7 pm in the Eccles Science Learning Center Auditorium (Room 130) on the USU campus. Each event is free and open to all ages.

"Matter of Patterns in Science" Series
Friday, Oct. 10: "Seeing the Forest for the Trees"
Friday, Nov. 14: "Unwrapped Science on the Radio"

Rich's class

The first term flew by! It doesn't seem possible but final exam time is here. Be sure to encourage your student to study for the exam. Although we do not have homework at Fast forward, there is no rule against studying!!! We have seen tremendous growth in many of the students during this six week term. It is so fun to see their eyes light up when they learn something new. I feel privileged to be your student's teacher! Now a quick summary about what has been happening in the class room over the last three weeks.

In first period, Energy Foundations A, students have been studying conservation laws. They analyzed both elastic and inelastic collisions. This was done by a lecture on the theory, class demonstrations and hands on activities. They were able to apply this knowledge to a real life situation (a football helmet flying off during a game). While this course is conceptual in nature, the conservation equations for momentum and energy were applied and calculations performed. These principles will be expanded upon if your student decides to enter the Physics program next term. They were also able to experience the conservation of angular momentum by holding a spinning wheel and attempting to turn it.

In second period, Astronomy, students started the second part of the term by studying the properties of the stars. They learned that just a few photons of light from a distant star can provide enormous amounts of information such as the mass, composition, age, temperature, luminosity, distance etc. of that star. They then learned the life cycles of stars. Their fate (predetermined by mass) yields either a white dwarf, neutron star or black hole. Ask your student about spaghettification or the fate of one entering a black hole. Finally they learned about the beginning of our Universe (Big Bang Theory) and what its final fate may be.

Finally in our third period, Great Scientists, students learned about Edward Teller (Father of H Bomb), Neils Bohr (model of the atom), Lise Meitner (discoverer of fission) and Albert Einstein. Some students got a headache (brains overheated) when presented with the true nature of our universe, one in which time and space are variably altered by velocity and gravity. Time can be slowed to a crawl under certain conditions!

Mariah's class

Fall is here and so is the end of the first term! Your students are going to be taking their final exam soon. On Tuesday the 30th, we will be having a half day. This day will still count though so make sure your student is here! We will be finishing up by working on the last couple of assignments, doing folder cleanouts as well as our long awaited class RAFFLE!! The students were given raffle tickets throughout the term to reward them for their hard work. On Tuesday we will be pulling tickets out of a box for prizes. The grand prize is a \$5 iTunes gift card!!! Students must be present to win.

We started the second half of the term by studying the process of Photosynthesis. Students were able to see the process by studying the stem of anacharis. In the next unit we studied cell division. We watched a movie call "The Race for DNA" which told the story of how scientists found the structure of DNA through research. Students followed this up by constructing their own DNA models and mapping chromosomes. We finished the term by learning how DNA allows for the processes of mitosis and meiosis to occur. Students were able to see the different stages of mitosis in an onion root under magnification.

