



# FFCHS SCIENCE



Phone: 435-713-4255

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## Science in Action!



Above: McKenna Wilson is counting her M&M's to represent Radiometric Dating and half lives.

Above: TJ Bodily is rubbing off the shell on his egg so he can see the process of diffusion.

### Up Coming Events:

**Dec 10 @4-7pm: Parent Teacher Conferences!**  
**Dec 4-16th: Secret Santa (please donate what you can)**  
**Dec 22-Jan 2: Winter Break**  
**Jan 9: Biology C: SAGE TESTING!**

Students are inquiring on how to build a free standing tower out of 20 spaghetti sticks to hold a marshmallow only using 1 meter of tape and string. Sounds easy right! ☺



The winning tower that stood 19 in. Cade R, Issac C, LaRon B, Keifer C.

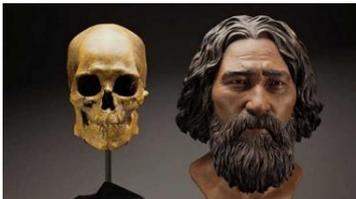


2nd place at 18 in. Mariah W, Draden S, Joe L, Tanner J.

### Science in the News

#### 9,000-year-old man yields secrets of America's earliest inhabitants

A prehistoric man's bones were found along the bank of the Columbia River in eastern Washington, giving clues about his diet and lineage, convincing forensic anthropologist Doug Owsley, that he was an immigrant who had come a long way before his death. The Kennewick man is finally telling his 9,000-year-old story—and reshaping our knowledge of how North America was first populated by humans.



*"We're realizing there are people getting here much earlier than we thought, and coming using different modes of transportation," Owsley said.*

### What we offer

#### Currently we are teaching:

- Biology A- Cells
- Biology C- Evolution
- Earth Systems B
- Physics B
- Energy Foundations B
- Chemistry A



#### Classes to look forward to next term:

- Biology B
- Anatomy & Physiology A
- Physics C
- Astronomy
- Chemistry B

### Contact us

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



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## Species Spotlight:

### Can the long-extinct woolly mammoth be cloned?

A woolly mammoth carcass recently unearthed in Siberia could be the best hope yet for scientists aiming to clone the massive, long-extinct beast.

The mammoth specimen, which was discovered in 2013 in a remote part of Siberia, oozed a deep red liquid when it was first discovered. Scientists have now analyzed the mammoth to understand how it lived and died and whether it will yield enough undamaged DNA to make cloning the extinct creature a reality.



<http://www.foxnews.com/science/2014/11/18/can-long-extinct-woolly-mammoth-be-cloned/>

## Rich's classes

Third term and the Holidays are here! Lots of exciting stuff happening in the science classrooms at Fast Forward. This term I am teaching Physics B, Chemistry A and Energy Foundations B. We will be having our Parent Teacher Conferences on 12/10 and I look forward to seeing everyone there. Now for a short update on what the students are doing in my classes.

In Physics B, we studied the work done in the early 20<sup>th</sup> century regarding the structure of the atom up to the discovery of the neutron. We looked at the experimental work performed to support that effort. Students were able to observe a stream of electrons in a Cathode Ray Tube being bent by a magnetic field. They also followed the mathematics of JJ Thomson in finding the charge/mass ratio of the electron (the first atomic particle discovered). We are now exploring the world of particle Physics including a look at the virtual particles that make all interactions possible in nature. Students learned that the universe is a bubbling brew of virtual particles coming in and out of existence. Care for some quantum soup?

In Energy Foundations we studied Einstein's paper, "Special Relativity", and learned concepts about time and space and how they are connected. Students were surprised to find that the rate of time can be altered by one's velocity. Later we expanded our study to, "General Relativity", where we learned of gravitational time dilation. We ended that unit with a spirited discussion on Black Holes. Ask your student about "spaghettification"!!!

In Chemistry A we have been learning some principles that will become important as we explore chemical reactions later in the term. The students have performed two labs so far. Please support your student in making sure that they wear appropriate clothing on lab day!

Have a great Holiday Season!

## 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.

## Mariah's classes

In Biology C we are currently finishing up our evolution units on looking at how animals and plants have evolved to what we see around us now. We have also looked at the changes that humans have gone through. I highly recommend you speaking to your students about what your beliefs on the subject are. We are now moving into our classification unit and how to use dichotomous key. The week before and after Winter break will be spent reviewing and preparing for the state end of level, SAGE, test.

In Biology A, we are working on cell functions: osmosis, diffusion, photosynthesis and cellular respiration. Students have been able to do different labs this far using the microscope, different materials to see diffusion through semipermeable membranes.

## Ryan's class



Ryan's Earth Systems B class is off to a great start this term. We have started out by studying our atmosphere. We have studied how small decisions that we make in our daily lives can have a big impact on our 'carbon footprint'. We have also learned about the causes and effects of air pollution. Currently, we are collecting and graphing data on air quality here in Cache Valley. We are also studying the forces that generate our global weather patterns. Our next unit will cover the Earth's hydrosphere- oceans, lakes, rivers and waterways!



**FAST FORWARD**  
CHARTER HIGH SCHOOL

