FSH-Home of the cobras

Course: Science 8 School: Fairview High School School Year: 2022-2023 Teacher: Mr. John Abwe Room: 21 School website: fairviewhs@prsd.ab.ca	***Contact information*** Email: abwej@prsd.ab.ca Availability: Monday-Friday during regular school hours. Note: If you have trouble with any concepts, please contact me right away by email. **Google Classroom class code**: arlff6h

Introduction:

Welcome to grade 8 Science! The grade 8 program has some very interesting topics of study. It helps students understand how things, in everyday lives work, including their own bodies.

Method of instruction:

A variety of instructional strategies will be employed. These will include explicit teaching, discussions, experiments, hands on activities, experiments etc.

Suggested timeline:

There are 5 units in science 8. We will spend approximately two months on each unit.

Unit 1: Mix & Flow of Matter (Sept-Oct)

Students learn that diverse substances such as air, natural gas, water, and oil are fluids. In further investigations, they discover that the properties of individual fluids are important to their use, including such properties as density, buoyancy, viscosity, and the fluid's response to changes in temperature and pressure.

Topics

- ✓ Matter on the move
- ✓ Mixing Can make it flow
- ✓ Separating Earth's Mixtures
- ✓ Flow rate and viscosity
- ✓ Density
- ✓ Buoyancy
- ✓ Fluid pressure
- ✓ Fluid Strength: Hydraulics and Pneumatics

Unit 2: Cells & Systems (Nov -Dec)

Students learn to interpret life at a variety of levels, from individual cells to complex organisms. To develop their understanding, students investigate ways that components of a living system work together and, through these studies, learn that healthy organisms function as balanced systems within a life-supporting environment.

Topics

- ✓ Living organisms
- ✓ Microscopes and Cells
- ✓ The cell and its structures
- ✓ Fluid movement in Cells
- ✓ Cell specialization and organization
- ✓ Body systems in Humans
- ✓ Body stems and youth health

Unit 3: Light & Optical Systems (Jan -Feb)

In learning about light, students investigate its interactions with different materials and interpret its behaviour using a geometric ray model. Students then use their understanding of light to interpret a variety of light-based technologies and envisage new technologies we may use in the future.

Topics

- ✓ What is light?
- ✓ Reflection
- ✓ Refraction
- ✓ Lenses and vision
- ✓ Extending human vision
- ✓ The source of colours
- ✓ The wave model of light
- ✓ Beyond light

Unit 4: Mechanical Systems (Mar-April)

Machines are used for many purposes in our daily lives when we need to transfer energy into motion or move materials in a controlled way. In learning about mechanical devices, students investigate how components are linked so that energy is transferred efficiently, and desired functions are performed.

Topics

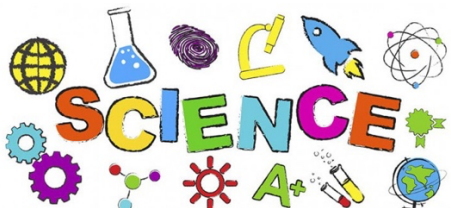
- ✓ Levers and inclined planes
- ✓ The wheels and axel, gears, and pulleys
- ✓ Energy, friction, and efficiency
- ✓ Force, pressure, and area
- ✓ Hydraulics and Pneumatics
- ✓ Combining systems
- ✓ Machines throughout history
- ✓ People and machines

Unit 5: Fresh & Saltwater Systems (May-Jun)

By exploring examples of aquatic systems, students come to appreciate the dynamic nature of these systems and learn about the interaction of landforms, sediments, water and climate.

Topics

- ✓ A world of water
- ✓ Earth's frozen water
- ✓ Freshwater systems
- ✓ The oceans
- ✓ Living in water
- ✓ Water quality and water management



Evaluation:

For each of the five units, there will be a graded unit exam. Other graded assignments include labs, activities, and projects. The final exam will be cumulative. Your final score will be allocated as follows:

- ✓ Labs, activities, projects: 25%
- ✓ Unit exams: 50%
- ✓ Final exam: 25%

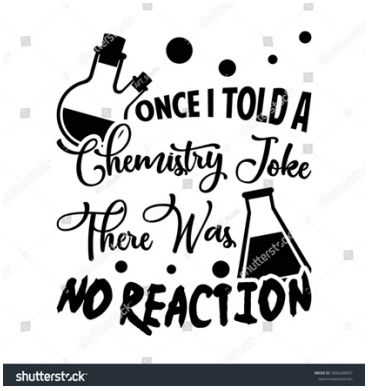
Note: Dates for projects, assignments and assessments will be announced in class.

Course materials:

- ✓ Science Focus 8 textbook (McGraw-Hill Ryerson)
- ✓ Teachers notes and exercises
- ✓ Calculator, pen/pencil, eraser, ruler, binder

A few tips for success:

- ✓ Be present on time and every day, ready and willing to learn
- ✓ Do your homework and ask questions
- ✓ Talk to me when you are unsure of something, if you have questions, or need extra help. If you are struggling, no one may know unless you say something.



Have a great year!