



GRADE 10 SCIENCE (20F)

COURSE OUTLINE

EXPLORE. QUESTION. INVESTIGATE. UNDERSTAND.

CONTACT INFORMATION

 Kristi Ann Aston
 Room 112
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 204-729-3900

ATTENDANCE

 If absent, have a parent/guardian call
204-729-3915 or
204-729-3900 (press 1).

Please give your name, date, and reason.

 Absences must be reported by 3:00 p.m. for parent approval.

EXTRA HELP

 Most days at lunch or by arrangement.

SCIENCE IS MORE THAN CONTENT

Throughout the year, you will investigate, experiment, collect and analyze data, solve problems, and communicate ideas.

We will also explore Nature of Science, STSE connections, Indigenous perspectives, and ways of knowing, relationships with the natural world, and science identity.

1

MOTION, FORCES & PRESSURE

~3 WEEKS

- Position, time, distance, displacement, speed & velocity
- Scalars, vectors & constant acceleration
- Newton's Three Laws: mass, inertia, acceleration & friction
- Pressure: force per unit area
- Pressure in solids, liquids & gases
- Factors affecting pressure: density, gravity, volume, temperature, depth & height



2

SPACE & COSMIC EVOLUTION

~3 WEEKS

- The size, contents & evolution of the universe
- The Big Bang & supporting evidence
- Galaxies & the expanding universe
- Formation & evolution of our solar system
- Star formation, life cycles & nuclear fusion
- Gravity & motion of celestial objects
- The search for evidence of life beyond Earth
- Cosmic evolution & the conditions that made life on Earth possible



3

CLIMATE & EARTH SYSTEMS

~3 WEEKS

- The ozone layer & its importance
- Ozone damage & global efforts such as the Montreal Protocol
- Factors that influence Earth's climate
- Natural resources & their extraction
- Human-induced climate change
- Greenhouse gas emissions & consequences of climate change



4

MATTER & CHEMICAL CHANGE

~4 WEEKS

- Chemical reactions & conservation of mass
 - Reaction equations & balancing equations
 - Electrons, bonding & properties of matter
 - Formation & properties of ionic compounds
 - Formation & properties of molecular compounds
 - Systematic naming of ionic & molecular compounds*
- *Basic naming is particularly important for students planning to continue into Grade 11 Chemistry.



5

ECOSYSTEMS & HUMAN IMPACT

~2 WEEKS

- Resilient ecosystems & biodiversity
- Food webs, ecological pyramids & biogeochemical cycles
- Carrying capacity
- Human impacts on healthy ecosystems
- Sustainable alternatives to harmful human activities
- How environmental change affects evolution
- How humans influence the evolution of species



GRADING

85%

COURSE WORK

Major & Minor Evidence of Learning
Tests • Investigations • Projects •
Check-ins • Applications

15%

FINAL EXAM

Cumulative final examination

HOW WE LEARN TOGETHER



RESPECT

People. Learning. Things.



People

Treat everyone with care and respect.



Learning

Give yourself and others the chance to learn.



Things

Take care of our classroom, equipment and materials.



SAFETY

Think. Follow. Act.



Think

Consider safety before you act.



Follow

Follow written and verbal safety instructions.



Act

Use equipment and materials safely and responsibly.



INTEGRITY

Try. Grow. Own it.



Try

Make an honest attempt using your own thinking.



Grow

Ask for help and use approved supports and feedback to improve.



Own it

Your work should reflect your own learning.
All use will be clearly identified when appropriate.

**Something isn't right?
Let me know.**

**Something feels unsafe?
Stop and tell me.**

**Is the work really yours?
Don't copy others' work —
or give others your work to copy.**



PHONE-FREE CLASSROOM

- Phones & smart devices stay in lockers.
- Phone brought to class? Home will be contacted.**
- Parents:** Call the main office to reach your child.
- School computers provided when needed.



Binder/notebook



Paper



Pens/pencils



Calculator



Ruler

COME PREPARED



**Leave hats, bags & jackets
in your locker.**

IMPORTANT INFORMATION



DEADLINES & LATE WORK

Meet deadlines.
If you're falling behind,
talk to me early.



MISSED CLASS?

Before your next class:

- 1
- 2
- 3

- Check Teams
- Check the Missed Class Station
- Check with a classmate



**Still unsure?
Check with me.**



COMMUNICATION

STUDENTS
Questions?
Talk to me in
class/help time
or message me
on Teams.

PARENTS/GUARDIANS
Questions or
concerns?
Email or
call me.



EVERYONE CAN DO SCIENCE

Science is for everyone.
Be curious. Ask
questions. Keep
learning.

