

Science 24 Course Outline 2019- 2020

Mayerthorpe JR SR High School
Room: 122

Mrs. Knott's Contact Information:
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About Science 24

Science 24 deals with energy use, safe driving, human health, defenses against disease, and fundamental chemistry.

Objectives

- To develop a critical sense of wonder and curiosity about scientific and technological endeavours.
- To use science and technology to acquire new knowledge and solve problems.
- To prepare students to critically address science-related societal, economic, ethical, and environmental issues
- To grow as scientifically literate citizens able to understand the world and contribute to it.

Units of Study

Units of study are based on the curriculum, to be approached through the use of the textbook Science Connect 2.

Unit A – Matter and Chemical Change (Chapters 1-4)

Chemical change is involved in every part of your daily life. In this unit, you will learn more about these chemical changes, and about the choices you can make to minimize chemical changes that damage the environment.

Unit B – Energy Transformations (Chapters 5-8)

You will investigate and describe energy transformations and conservation. You will investigate machines that generate electricity from other forms of energy. You will also study the importance of balancing the amount of food energy you take in against your energy requirements throughout your life.

Unit C – Disease Defense and Human Health (Chapters 9-12)

Today in Canada you can expect to live longer than your great grandparents. This was not always the case. In the past, many people died from widespread outbreaks of disease. This unit will examine what causes disease, how disease is spread and how the body protects itself from disease, as well as genetics and the role of public health.

Unit D – Safety in Transportation (Chapters 13-16)

In this unit you will explore speed and momentum as a knowledge of these will help you understand what happens during collisions.

Program Organization

Unit	Title	Field	Topics
A	Matter and Chemical Change	Chemistry	safety; WHMIS and HHPS; evidence of chemical change; types of chemical reactions
B	Energy Transformations	Earth Science	energy transformation; electricity generation; organisms as converters; fossil fuel formation
C	Disease Defense and Human Health	Biology	role of environmental factors; (non)communicable diseases; human defence systems; inheritance
D	Safety in Transportation	Physics	reaction time, speed, and safe following distance; collision duration; safety systems and regulations

Course Evaluation

Assignments, Projects and Labs..... 40%
Chapter Tests and Quizzes..... 40%
Final Exam 20%

Required Materials

- Pencil
- Eraser
- Calculator
- Binder with Lined Paper

Student Expectations

Students in Mrs. Knott's Science 24 class are expected to be responsible for their own work. Assuming students use class time wisely, they will not have homework in this class. If not, they may have homework. Regardless, classwork (assignments and labs) must be handed in on time. Any quizzes or tests missed must be made up on the students' own time, as missing class time will put them further behind in the class. Lastly, please ensure your footwear is clean so as to respect the cleanliness of both the classroom and the school.

Late Policy

Students must be on time for class. They are expected to be in class at the bell. Students that miss 25% of the class will be marked absent. (10 min for 40 min class, 20 min for 80 min class)

Students who are consistently late will receive contact home and possible meetings with administration, to ensure their success.

Attendance Policy

As per school policy, contact home will be made if there is a concern regarding missed classes. After the 11th absence, the student will be referred to administration.

Assessment

Assessment for Learning (Formative Assessment) is a systematic process of collecting information or evidence about student learning and is not assigned a grade/mark for the report card.

Assessment of Learning (Summative Assessment) is the judgment we make about the assessments of student learning based on established criteria and a mark/grade is recorded for the report card. The purpose of assessment is to improve student learning. This means that judgments of student performance must be criterion-referenced so that descriptive feedback can be given that includes clearly expressed next steps for improvement. Tools of varying complexity are used by the teacher to facilitate this. For the more complex evaluations, the criteria are incorporated into a rubric where levels of performance for each criterion are stated in language that can be understood by students. Where possible, students will be engaged in their own assessment through self-reflection and the construction of rubrics

Assessment is embedded within the instructional process throughout each unit rather than being an isolated event at the end. Often, the learning and assessment tasks are the same, with formative assessment provided throughout the unit. In every case, the desired demonstration of learning is articulated clearly and the learning activity is planned to make that demonstration possible. This process of beginning with the end in mind helps to keep focus on the expectations of the course curriculum outcomes. The evaluations are expressed as a percentage/mark/grade based upon levels of achievement.

When the teacher's professional judgment indicates the student is in a position to demonstrate learning on a summative assessment with greater success than the initial attempt, such as alternative or additional summative assessment will be provided at a time agreed upon by the student and the teacher.

Appeals Process

Should a situation arise where a student is not satisfied with an assessment outcome, first discuss the matter with the teacher outside of class time. If the teacher and student are unable to resolve the issue, then the teacher will approach another teacher to assess the assignment. (The teacher will not have prior knowledge of the student's name or the previous grade for the given assignment). If there

is still an issue, a meeting will be set up between the student, teacher, parents and administration to resolve the matter. The commencement of an appeal must occur in a timely manner; within 48 hours of receiving the marked assignment. In return, the appeal process will be completed as soon as possible.

The Final Mark/Grade

The evaluation for this course is based on the student's achievement of curriculum expectations and the demonstrated skills required for effective learning.

Grade Determination

Term grade determination: Grade will be based upon evaluations conducted throughout the course. This portion of the grade will reflect the student's most consistent level of achievement throughout the course, although special consideration will be given to more recent evidence of achievement.

Final grade determination: Grade will be based upon the accumulation of term grade evidence and a final examination administered at the end of this course, based on an evaluation of all units in the course. This grade will reflect the student's most consistent level of achievement throughout the course, although special consideration will be given to more recent evidence of achievement.

The final mark/grade represents the quality of the student's overall achievement of the expectations for Science 24 and reflects the corresponding level of achievement. Credit is granted and recorded for this course if the student's grade is 50% or higher.

This course outline is available online and no longer needs to be returned.

TEACHER:

Mrs. Shelley Knott

