

# Science 9 Course Syllabus – Spring 2019

## Course Specifics

**Instructor:** Ms. Hilary Hayduk

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**Website:** [www.haydukscience.weebly.com](http://www.haydukscience.weebly.com)

**Textbook:** Pearson Saskatchewan Science 9

**Extra Help Hours:** Science Lab

Monday at 12:30-1:15 PM

Tuesday at 3:30-4:15 PM

Thursday at 7:00-8:15 AM

## Course Description

The aim of Science 9 is to provide exposure to topics in physical science, life science and earth and space science. Students will gain understanding of science concepts, develop scientific skills and literacy and practice critical thinking and reasoning. The course builds on previous topics from elementary-level science. Students will have the opportunity to participate in projects and hands-on activities to further their understanding of scientific concepts.

## Outcomes

1. Characteristics of Electricity (25%)
  - Demonstrate and analyze characteristics of static and current electricity.
  - Analyze the relationships that exist among voltage, current and resistance in parallel and series circuits.
  - Assess operating principles, costs and efficiencies of devices that produce or use electricity.
  - Critique impacts of past, current and possible future methods of electrical energy production and distribution in Saskatchewan.
2. Atoms and Elements (25%)
  - Distinguish between physical and chemical properties of common substances.
  - Analyze historical explanations of the structure of matter.
  - Demonstrate an understanding of the classification of pure substances, including the development and nature of the periodic table.
3. Reproduction and Human Development (25%)
  - Examine the process of and influences on the transfer of genetic information and impact of that understanding.
  - Observe and describe the significance of cellular reproductive processes.
  - Describe the processes and implications of sexual and asexual reproduction in plants and animals.
  - Analyze the process of human reproduction, including the influence of reproductive and contraceptive technologies.
4. Exploring our Universe (15%)
  - Inquire into the motion and characteristics of astronomical bodies in our solar system and the universe.
  - Analyze scientific explanations of the formation and evolution of our solar system and universe.
  - Examine how various cultures understand and represent astronomical phenomena.
  - Analyze human capabilities for exploring and understanding the universe, including technologies and programs that support such exploration.
5. Lab Skills Summative (10%)

## Assessment

All assessments will be categorized into one of the course outcomes. Grades will be entered in PowerSchool by units. Each unit has three or four outcomes, or learning goals.

The final exam is divided by outcome; all students will be expected to complete at minimum two units, and may choose more. The exam is worth the equivalent of a unit test for each outcome.

Student assignments, such as labs, projects and writing assignments, will be evaluated on a proficiency rubric. Scores are shown in the table below..

| Score                 | Abbreviation | Percentage |
|-----------------------|--------------|------------|
| Advanced              | A+           | 100%       |
| Proficient            | A            | 85%        |
| Functional            | B            | 70%        |
| Developing            | C            | 55%        |
| Insufficient Evidence | IE           | 0%         |
| Not Submitted         | NHI          | 0%         |

An assignment will be given a grade of IE for the following reasons:

| Reason   | Solution  |
|--|---|
| Missing significant parts of the assignment, or assignment has many major errors | Assignment must be redone and resubmitted, but will receive a late mark.  |
| Assignment was not submitted by the late deadline                                | Student may choose to do an alternate assignment for that grade, but will receive a late mark.  |
| Assignment was plagiarized (see below)   | For the first offense, the assignment must be redone and resubmitted, will receive a late mark and will be given the grade of the original assignment. For subsequent infractions, the assignment will be given a mark of zero (R). |

Quizzes, unit tests and the final exam will be marked using traditional point-based marking.

## Class Expectations

YOU ARE EXPECTED TO:

- Be in class every day.
- Be respectful at all times to other students, teachers, staff and yourself.
- Bring all of your supplies to every class and come dressed appropriately on lab days.
- Eat your breakfast/lunch/snack prior to entering the lab on ANY day. No food is allowed in the lab. Food is allowed in the classroom provided no mess is left behind.
- Do your homework, on time!
- Participate and ask questions in class. Ask for help when you need it.

## Class Policies

### Homework

Students should expect to have some homework every day. There are generally no marks for completed homework. There will be at least one quiz per week on the material from the previous week's homework, in addition to any labs or activities done in class.

## **Late Work**

Due dates for assignments are on the Google Calendar on the class website. Students are expected to hand in work by the due date. Work that is submitted within five school days of the due date will be given a "late" in PowerSchool, if the student has not made arrangements in advance for an extension.

The late deadline for an assignment is five school days after the due date, at the beginning of class. Graded work will be handed back on the day of the late deadline. At this point, that assignment will no longer be accepted. Students may be given the option to complete an alternate assignment to earn credit for the missing assignment, if it is reasonable to provide that option. All missing work must be submitted by the Monday prior to exams.

## **Graded Work**

Students may schedule time with Ms. Hayduk to review corrected assignments and tests; however, the mark for an assessment as it was originally submitted (with the exception of marking errors) will stand.

## **Missed Classes**

Make-up labs must be scheduled within one week of the original lab date, and cannot be completed during class time. Due to the nature of the shared lab space, lab equipment cannot be reserved for extensive periods of time. Students are responsible for scheduling a time for their make-up lab.

Missed tests and quizzes must be written the day a student returns to school, unless alternate plans were made in advance. Missed tests and quizzes must be written outside of class time.

## **Attendance Incentive**

As with all other classes, students earn the attendance incentive in this class by having:

- No unexcused absences and seven or fewer excused absences;
- Three or fewer lates;
- No missing assignments and three or fewer late assignments; and,
- All assignments completed in a satisfactory manner (no zeroes).

For the purposes of this class, an assignment will be considered to be completed in a satisfactory manner if they have demonstrated, at minimum, a developing level of proficiency on the assessment.

## **Helping Yourself**

See above for Ms. Hayduk's extra help availability. If you cannot make these times, please ask.

It is much easier for Ms. Hayduk to help you if you come with specific questions. There is no limit on questions (but keep in mind that, "I don't get it," is not a question)!

If you are struggling with a whole topic or unit, please make use of the many resources on the course website, as often a different explanation may help to get you on track. Keep in mind that learning new things can be a "mentally uncomfortable" process; it may take some time, effort and many strategies before something clicks.

Please plan to come in well before the deadline of an assignment if you are having trouble.

## Proficiency Rubric

| <p style="text-align: center;"><b>ADVANCED</b></p> <p>Fully meeting grade level expectations, with enriched understanding</p>  | <p style="text-align: center;"><b>PROFICIENT</b></p> <p>Fully meeting grade level expectations</p>  |
|--|---|
| <b><i>Phrases and descriptors often associated with these levels...</i></b>  |   |
| <p><i>With great insight...</i><br/> <i>You show a deep and well-developed understanding...</i></p> <ul style="list-style-type: none"> <li>• Consistently applies concepts to new situations</li> <li>• Extends ideas beyond and draws connections to real world situations</li> <li>• Thoroughly explains concepts and consistently demonstrates a deep understanding of the concept or skill</li> <li>• Demonstrates understanding of interconnected details by drawing complex connections to other concepts and models</li> <li>• Can teach the concept to other students</li> <li>• Works independently or works confidently and collaboratively in groups</li> <li>• Consistently uses established skill set for problem solving and selects the most appropriate tools/strategies for the situation and can explain why (justify) this method was chosen</li> <li>• Solves problems in multiple ways</li> <li>• Describes and analyzes topics with detailed and insightful supporting evidence</li> <li>• Not only clearly understands the outcome but begins to assess the impacts and challenges on self, the class, society and the environment</li> <li>• Consistently reflective and solution-oriented</li> <li>• Engages in a variety of contexts and accurately uses new vocabulary</li> <li>• Problem solving is an integral part of your work and discussions with the teacher include reflective discussion on what worked or didn't and why</li> </ul> <p><i>The teacher might hear phrases like:</i><br/>           These are the strategies/attempts/examples that I tried and here's what I learned... and why I used it...<br/>           Here is how I justify my thinking/reasoning/choices...</p> | <p><i>On your own ...</i></p> <ul style="list-style-type: none"> <li>• You are becoming confident in applying the concept to new situations</li> <li>• You explain concepts with detail and consistently demonstrate an understanding of the concept or skill</li> <li>• You demonstrate an understanding of interconnected details by drawing connections</li> <li>• Key elements of the essential learning goals are included and demonstrated</li> <li>• Few refinements are needed</li> <li>• You work independently or collaboratively when required</li> <li>• You have an established skill set</li> <li>• You can analyze relevant information and convey your own thoughts and connections to the outcome/concept</li> <li>• You can ask strong questions and support analysis with relevant details and examples</li> <li>• When problem solving with a teacher, you come with questions and possible solutions. You are looking for a conversation which asks you questions to help you think through the assessment. The work submitted after the discussion is original to you (i.e. you have considered the discussion and made a decision that reflects how you can best demonstrate your knowledge.)</li> </ul> <p><i>The teacher might hear phrases like</i><br/>           I'm wondering about this aspect. Here are a few ideas that I have...<br/>           I think this is a possible solution because...<br/>           I wonder if...</p> |
| <p style="text-align: center;">In general:<br/>           Excellent job. Perfect. You totally got it, and you were able to explain it really well.</p>   | <p style="text-align: center;">In general:<br/>           You get it, but you made a few minor errors. You might have missed part of the explanation, or had a mistake in your explanation, reasoning or calculations.</p>  |

| <p align="center"><b>FUNCTIONAL</b></p> <p align="center">Mostly meeting grade level expectations</p>   | <p align="center"><b>DEVELOPING</b></p> <p align="center">Marginally meeting grade level expectations</p>  | <p align="center"><b>INSUFFICIENT EVIDENCE</b></p> <p align="center">Not meeting grade level expectations</p>  |
|---|--|--|
| <p><i>With assistance/help you can...</i></p> <ul style="list-style-type: none"> <li>• Demonstrate a basic understanding of the concept but need more practice to apply</li> <li>• Key elements of the concept are left out of the explanation.</li> <li>• Begin to examine, describe, or explain concepts or skill but more attention to detail is required to fully demonstrate understanding of the topic.</li> <li>• Show a developing skill set</li> </ul> <p>When problem solving with a teacher, you are looking for answers to general questions. The work submitted after the discussion is improved based only on the teacher's ideas.</p> <p><i>The teacher might hear phrases like:</i></p> <p>I don't understand....<br/>Do you think this is what I should say?<br/>Is this right? Am I on the right track?<br/>How do I do this?</p> <p><i>You may need to improve on...</i></p> <ul style="list-style-type: none"> <li>• Making connections to texts, self and others need to be explored</li> <li>• Asking questions and supporting your analysis with details and examples</li> <li>• Seeking assistance only as needed and working toward increasing independence</li> </ul> | <p><i>Even with assistance you are struggling to...</i></p> <ul style="list-style-type: none"> <li>• Identify key elements of the concept</li> <li>• Demonstrate an understanding of the topic</li> <li>• Go beyond an emerging skill set</li> <li>• Interpret the context or meaning of the problem</li> </ul> <p><i>The teacher might hear phrases like</i></p> <p>I don't get it.<br/>Where do I start?<br/>I don't understand what this means.<br/>I can't do this. This is too hard.</p> <p><i>You probably need to...</i></p> <ul style="list-style-type: none"> <li>• Revisit this topic to develop your understanding of the concept</li> <li>• Pay more attention to detail</li> <li>• Talk with your teacher about strategies to try</li> <li>• Learn or relearn some things before you begin or redo this assessment</li> </ul> | <p><i>Even though you submitted an assignment, you have...</i></p> <ul style="list-style-type: none"> <li>• Misunderstood the intent of the assessment, or failed to respond based on the Essential Learning goals</li> <li>• Missed key elements of the assessment that are needed to demonstrate your understanding of the concept</li> <li>• Made major errors that make it difficult to determine your level of proficiency</li> <li>• Not completed the work independently or plagiarised your responses</li> </ul> <p><i>You need to...</i></p> <ul style="list-style-type: none"> <li>• Talk with your teacher about the next steps you need to take</li> </ul> |
| <p align="center">In general:<br/>Mostly good, but you made some errors that show you might not completely understand. You might have missed an important part of the explanation.</p>  | <p align="center">In general:<br/>Not so good – you made some big mistakes or your explanation does not show that you know what you're talking about. You had some good parts, but other parts weren't great.</p>  | <p align="center">See the table on why you may have received an IE!</p>  |