

# **TPJ3M**

## **Healthcare Technology**

### **Human Skeletal System**

#### [Abstract](#)

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## Project Overview

(insert your school name here) administration and teachers encourage students to be responsible, inquisitive participants in their learning. With challenging instruction provided, students will have the opportunity to develop into lifelong learners, effective communicators, and competent decision makers. This will be reached through differentiated instruction projects such as the study of the human skeletal system where students will be able to define, describe, classify, compare and contrast the structures and functions of bones and joints.

### Project Challenge

Educational research proves that students learn in different ways. With this in mind, you will have an opportunity to select from various learning activities that best suit YOUR particular strengths and preferences as a student.

Using differentiated instruction, where you are able to choose from a menu of tasks, you will complete assignments that will reinforce and assess your mastery of learning regarding the Human Skeletal System.

Project Challenge:

- To clearly identify the key features of the skeleton
- To explain the form and function of parts of the skeleton
- To understand the functions of the skeleton
- To be able to explain various features of the skeleton
- To relate images of bones to diagrams and the body

### Connections

**Differentiated Instruction** - students will choose from a menu of items in order to satisfy the requirements of the project.

**Growing success** - "Students' interest in learning and their belief that they can learn are critical to their success. After reviewing the impact of testing on students' motivation to learn, Harlen and Deakin Crick (p.203) recommended the use of assessment for learning and as learning - including strategies such as sharing learning goals and success criteria, providing feedback in relation to goals, and developing students' ability to self-assess - as a way of increasing students' engagement in and commitment to learning" (p.29, Growing Success). Students will have optimum opportunities to be successful with this unit because they are able to choose how they would like to learn about the skeletal system by choosing assignments/projects that interest them. Student motivation increases with interest and choice such as provided in this unit.

**SEF Component 1: Assessment for, as and of Learning**

**Indicator 1.1** - Assessment is connected to the curriculum, collaboratively developed by educators and used to inform next steps in learning and instruction.

**SEF Component 3: Student Engagement Indicator 3.1** - The teaching and learning environment is inclusive, promotes the



intellectual engagement of all students and reflects individual student strengths, needs, learning preferences and cultural perspectives.

**SEF Component 4: Curriculum, Teaching and Learning**

**Indicator 4.3** - Teaching and learning in the 21st Century is collaborative, innovative and creative within a global context.

**Indicator 4.4** - Learning is deepened through authentic, relevant and meaningful student inquiry.

**Indicator 4.5** - Instruction and assessment are differentiated in response to student strengths, needs and prior learning.

**SHSM and ICE Focus TIP:**

This part of the project could be done as an ICE certification if you connect to an industry partner. Students may chose and will be encouraged to interact with a nursing home to complete some of the assignments.

Employer/sector partner involvement is essential to providing authentic challenges for SHSM students to develop skills and mindsets in healthcare. Sector partners are the most important resource that educators and students have and it is essential we reach out and connect with these companies. Industry partners help students get an understanding of the world outside the classroom, understand client needs, patient needs etc. through tours, interviews, and interacting as a volunteer.


**Ontario's Equity And inclusive Education Strategy**

This project is designed to reflect and promote the ideas set out in the Ontario Equity and Inclusive Education Strategy. In the healthcare field students will develop fundamental values regarding human rights (especially elder human rights), dignity and multiculturalism.

**Ontario Skills Passport**

Implement the Ontario Skills Passport at the beginning of the project



Project Criteria	Examples
<p>Each student will complete assignments that will reinforce and assess their mastery of learning and for learning regarding the Skeletal System. Assignments are divided into three categories:</p> <p>Level A (assessments-labs &amp; tests),</p> <p>Level B (assessments-project),</p> <p>Level C (practice-homework &amp; classwork).</p> <p>Items with ** indicate that those assignments are mandatory in each level.</p> <p>In addition to the mandatory assignments, student will select assignments that result in the total number of required points without going over for level C.</p>	<p><u>Level C</u> Skeletal system video (with questions, in appendix)- <a href="https://www.youtube.com/watch?v=UXtG052Klkg">https://www.youtube.com/watch?v=UXtG052Klkg</a></p> <p><u>Level B</u> Create and film an instructional makeup application video. The video should utilize anatomical terms as they relate to FACIAL BONES. Incorporate a combination of at least 10 bones and anatomical terms into your tutorial.</p> <p><u>Level A</u> Unit Test on Skeletal System.</p> 



Project Synopsis and Timelines					
Act #	Activity Title/Name	Time (hrs.)	Curriculum Expectations	Assessment & Evaluation	Connections?
1	Skeletal System Differentiated Instruction Level C (practice-homework & classwork).	6 hours	A2. demonstrate a basic understanding of human anatomy and physiology; A2.- Anatomy and Physiology A2.4 demonstrate a basic understanding of the musculoskeletal system	Peer assessment  Self assessment  Informal teacher assessment/ feedback  Assessment for learning	<ul style="list-style-type: none"> <li>Ontario Curriculum</li> <li>Growing Success</li> <li>DI</li> <li>SEF</li> <li>Differentiated Instruction</li> <li>Literacy</li> <li>Math</li> <li>Equity inclusive...</li> <li>Innovation, Creativity and Entrepreneurship</li> <li>FNMI</li> </ul>
2	Skeletal System Differentiated Instruction Level B (assessments-project)	4 hours	A2. demonstrate a basic understanding of human anatomy and physiology; A2.- Anatomy and Physiology A2.4 demonstrate a basic understanding of the musculoskeletal system	Teacher assessment using a rubric  Assessment as learning	<ul style="list-style-type: none"> <li>Ontario Curriculum</li> <li>Growing Success</li> <li>DI</li> <li>SEF</li> <li>Differentiated Instruction</li> <li>Literacy</li> <li>Math</li> <li>Equity inclusive...</li> <li>Innovation, Creativity and Entrepreneurship</li> <li>FNMI</li> </ul>
3	Skeletal System Differentiated Instruction Level A (assessments-labs & tests)	3 hours	A2. demonstrate a basic understanding of human anatomy and physiology; A2.- Anatomy and Physiology A2.4 demonstrate a basic understanding of the musculoskeletal system	Teacher assessment using categorical numerical marking (categories - Knowledge and understanding, thinking and inquiry, application and communication)  Assessment of learning	<ul style="list-style-type: none"> <li>Ontario Curriculum</li> <li>Growing Success</li> <li>DI</li> <li>SEF</li> <li>Differentiated Instruction</li> <li>Literacy</li> <li>Math</li> <li>Equity inclusive...</li> <li>Innovation, Creativity and Entrepreneurship</li> <li>FNMI</li> </ul>





## CONNECTIONS RESOURCE LIST

	The Ontario Curriculum, Grade 11-12, Revised 2009	<a href="http://www.edu.gov.on.ca/eng/curriculum/secondary/2009teched1112curr.pdf">http://www.edu.gov.on.ca/eng/curriculum/secondary/2009teched1112curr.pdf</a>
	Growing Success	<a href="http://www.edu.gov.on.ca/eng/policyfunding/growSuccess.pdf">http://www.edu.gov.on.ca/eng/policyfunding/growSuccess.pdf</a>
	Student Success: Differentiated Instructions Educator's Package, 2010(DI)	<a href="http://www.edugains.ca/resourcesDI/EducatorsPackages/DIEducatorsPackage2010/2010EducatorsGuide.pdf">http://www.edugains.ca/resourcesDI/EducatorsPackages/DIEducatorsPackage2010/2010EducatorsGuide.pdf</a>
	School Effectiveness Framework, 2013 (SEF)	<a href="http://www.edu.gov.on.ca/eng/literacynumeracy/SEF2013.pdf">http://www.edu.gov.on.ca/eng/literacynumeracy/SEF2013.pdf</a>
	Think Literacy	<a href="http://www.edu.gov.on.ca/eng/studentsuccess/thinkliteracy/">http://www.edu.gov.on.ca/eng/studentsuccess/thinkliteracy/</a>
	Leading Math Success	<a href="http://www.edu.gov.on.ca/eng/document/reports/numeracy/numeracyreport.pdf">http://www.edu.gov.on.ca/eng/document/reports/numeracy/numeracyreport.pdf</a>
	Ontario First Nations, Metis, and Inuit Education Policy Framework (FNMI)	<a href="http://www.edu.gov.on.ca/eng/aboriginal/fnmiFramework.pdf">http://www.edu.gov.on.ca/eng/aboriginal/fnmiFramework.pdf</a>
	Ontario's Equity and Inclusive Education Strategy	<a href="http://www.edu.gov.on.ca/eng/policyfunding/equity.pdf">http://www.edu.gov.on.ca/eng/policyfunding/equity.pdf</a>
	Ontario Skills Passport (OSP)	<a href="http://www.skills.edu.gov.on.ca/OSP2Web/EDU/DisplayEssentialSkills.xhtml">http://www.skills.edu.gov.on.ca/OSP2Web/EDU/DisplayEssentialSkills.xhtml</a>
	OCTE Resources: SafeDocs, SafetyNet	<a href="http://www.octelab.com/">http://www.octelab.com/</a>



## Activity 1 - Skeletal System Level C

### Minds On (Engaging Prior Knowledge)

#### Activity 1 Project Research and Information Gathering

Activity Description:

Students will learn about the human skeletal system by differentiated instruction. Students will choose from a menu of items (homework and classwork assignments) each with an assigned point value.

#### Activity 1 Criteria and Instructions

Students must have a total of 120 points in this category. Assignments marked with "\*\*\*" are mandatory. Mandatory assignments are worth a total of 60 points and therefore, students will pick other assignments that will also total 60 points for a grand total of 120 points.

#### Activity 1 Prior Knowledge

- working in pairs/groups.
- Google research skills.
- knowledge from SNC2D biology unit.
- knowledge from physical education health would be an asset.

#### Connections

**Creativity** - students have prior experience with the creative process through subjects like Art, Music, Drama

**Collaboration** - students will have prior experience working in groups/pairs



	<p><b>Research</b> - students will have experience with research skills (Google search, references etc.)</p>
<p>Activity 1 Planning Notes</p>	<p>Connections</p>
<p>Assignment (Daily Work) - All illustrations should be in colour. All drawings should be on lineless paper. All tables, charts, etc. should be original in design... do not copy tables or charts from the textbook. Include the proper heading.</p> <p>Ensure textbooks are available.</p> <p>Ensure computers can be used by students.</p> <p>Be aware of your school's mission and vision.</p> <p>Understand and be aware of your school board's equity statement.</p> <p>Be aware of any IEP's.</p> <p>Ensure students are able to form groups/pairs if the assignment states.</p>	<p><b>Ontario Skills Passport</b> Implement the Ontario Skills Passport at the beginning of the project</p> <p><b>SEF Component 2: School and Classroom Leadership.</b> <b>Indicator 2.5 -</b> Staff, students, parents and school community promote and sustain well-being and positive student behaviour in a safe, accepting, inclusive and healthy environment.</p> <p><b>Innovation, Creativity and Entrepreneurship</b></p> <ul style="list-style-type: none"> <li>- provide opportunities for students to solve their own problems, through support, encouragement and an inclusive learning environment, AND this goes back to empathy and need finding that is part of the ICE templates</li> <li>- give students the opportunity to define their own problems through empathy and NEED finding, incorporate a NEED finding exercise prior to at least one unit, use the <a href="#">ICE templates to accomplish this.</a></li> </ul>



## Action (Introduce or Extend Learning)

Activity 1 Instructional Strategies	Connections
<p>Begin the introduction to the unit by showing a short educational video of the human skeletal system (<a href="https://www.youtube.com/watch?v=J8x6tZI2hVI">https://www.youtube.com/watch?v=J8x6tZI2hVI</a>).</p> <p>Introduce the unit to the students. Explain how the menu selection works and how the point system works. Students will chose from a variety of assignments/tasks (some of the assignments are mandatory). Assignments and tasks are given a point value. Students are responsible to ensure they satisfy the total point requirement as indicated on assignment menu sheet (hand-out). See appendix (<a href="#">level c appendix 1</a>).</p> <p>Show examples of previous students completed work as exemplars.</p>	<p><b>Motivation</b> - after viewing the introductory video and listening to the teacher speak about the human skeletal system the students will be intrigued and inspired to learn more which will help motivate them through this unit.</p> <p><b>Differentiated Instruction</b> - students will be able to choose which assignments they would like to complete to achieve success.</p> <p><b>Mathematics Literacy</b> - students will need to calculate the appropriate amount of points for each section to ensure they have satisfied the activity requirements.</p> <p><b>SEF Component 3: Student Engagement Indicator 3.3</b> Students are partners in dialogue and discussions to inform one another by performing activities in the classroom and school that represent the diversity, needs and interests of the student population. In the classroom: ❖ A positive learning environment is established to support student engagement and belonging. Students: ❖ Contribute ideas and identify their needs and interests in relation to school and classroom activities.</p> <p><b>OCTE SAFETY Docs and PASSPORT TO BE SIGNED FOR:</b> -ergonomics -computer literacy -electronics</p>



	<p><b>Think Literacy</b> - provides student with an opportunity to focus on english literacy during any writing assignments. - 'Making Notes' strategy is also applicable for this activity.</p>
<p>Activity 1 Assessment and Evaluation</p>	<p>Connections</p>
<p>Assessment for learning</p> <p>Self assessment</p> <p>Peer assessment</p> <p>Teacher feedback - teacher must always be circulating and interacting with the students during this time. The teacher will provide informal feedback as required and as often as required to individual students. A mini (informal) lesson/review may be taught if the teacher feels the class would benefit from this.</p>	<p><b>Growing Success</b> - students have a menu of assignments that they may choose from to allow them to successfully learn the human skeletal system. They may choose based on their individual strengths and interests. These opportunities provide ASSESSMENT FOR LEARNING as students have choice and the opportunity to master their skills/knowledge by redoing any assignment.</p> <p><b>FNMI</b> - medicine wheel teaching assignment (homeostasis). Students will have the opportunity to learn/embrace First Nations, Metis, Inuit culture through the completion of the mandatory medicine wheel assignment.</p> <p><b>SEF Component 1: Assessment for, as and of Learning</b>  <b>Indicator 1.7:</b> Describe what students are expected to learn. Provide students a clear vision.</p> <p><b>SEF Component 1: Assessment for, as and of Learning</b>  <b>Indicator 1.1</b> Assessment is connected to the curriculum, collaboratively developed by educators and used to inform next steps in learning and instruction.</p> <ul style="list-style-type: none"> <li>❖ ❖ Student learning is regularly documented to inform educator and student next steps.</li> <li>❖ ❖ Multiple and varied opportunities are provided for students to demonstrate, communicate and refine their learning.</li> </ul>



Activity 1 Accommodations	Connections
<p>Follow any IEP accommodations/modifications.</p> <p>Ensure that you know your students well enough to identify if a student may need help finding a group to work with. Use assigned grouping.</p> <p>Students with reading difficulties may work in groups/pairs (assigned by teacher) to go through the note taking together.</p> <p>Hard copies of any notes could also be created for re-reading by those students that are second language students of have reading difficulties.</p> <p><b>Teaching Strategies for students with special needs may include:</b></p> <ul style="list-style-type: none"> <li>• grouping design teams with varied abilities to allow for peer support. The teacher may choose or modify the teams depending on individual strengths and weaknesses</li> <li>• providing a list of websites that will assist with finding specific research materials</li> <li>• pairing experienced students with those who are not yet familiar with the techniques</li> <li>• the use of a support staff to assist students in reaching their IEP goals</li> </ul>	<p><b>Growing success</b> - all students must have the opportunity to be successful.</p> <p><b>Inclusivity and FNMI - SEF 3 Indicator 3.1</b> The teaching and learning environment is inclusive, promotes the intellectual engagement of all students and reflects individual student strengths, needs, learning preferences and cultural perspectives.</p> <p><b>SEF Component 1 Assessment for, as and of Learning</b></p> <p><b>Indicator 1.2</b> - A variety of relevant and meaningful assessment data is used by students and educators to continuously monitor learning, to inform instruction and to determine next step.</p> <p><b>SEF 4- Curriculum, Teaching and Learning</b></p> <p><b>Indicator 4.7</b> - Timely and tiered interventions, supported by a team approach, respond to individual student learning needs and well-being.</p>

## Consolidation & Connections (Provide Opportunities for Reflection)

Activity 1 Reflection Paper/Exit Card	Connections
<p>By research - determine the curriculum standards that correspond to this unit. Write or type them including the number and statement.</p> <p>Student Feedback Survey - students will answer the following questions:</p>	<p>Students:</p> <ul style="list-style-type: none"> <li>❖ ❖ Provide explicit feedback about their engagement and learning to educators.</li> <li>❖ ❖ Advocate for what they need as learners.</li> </ul>



1. List three things you learning about the human skeletal system.
2. What was your favourite activity?
3. What was your least favourite activity?
4. What type of activity would you like to be added next time.

**Differentiated Instruction**

Teaching strategies may need to be changed based on student feedback. **Literacy connection** - students will use proper writing conventions (paragraph structure, grammar, spelling etc.) to complete exit card.

**SEF Component 1: Assessment for, as and of Learning Connections**

**Indicator 1.2** - A variety of relevant and meaningful assessment data is used by students and educators to continuously monitor learning, to inform instruction and to determine next steps.

## Materials, Tools and Resources

### Activity 1 Websites

Educational video of the human skeletal system (<https://www.youtube.com/watch?v=J8x6tZl2hVI>).  
Child skeleton printout - <http://eskeletons.org/sites/eskeletons.org/files/files/resources/000646791.pdf>  
Video quiz - <https://www.youtube.com/watch?v=UXtG052Klkg>  
Ministry of Education - <http://www.edu.gov.on.ca/eng/curriculum/secondary/2009teched1112curr.pdf>

### Activity 1 Publications

Diversified Health Occupations, 6th Edition, Louise Simmers, M.Ed.  
ISBN-10: 1401814565 | ISBN-13: 9781401814564, Previous Editions: 2001, 1998, 1993, © 2004 |  
Published

### Activity 1 Computer Software

Microsoft Suite (Word etc.)  
Internet

### Activity 1 Human Resources



Teacher  
Peers  
Educational Assistant

Activity 1 Other

Activity 1 Appendices

[level c appendix 1](#)  
[level c appendix 2 Juicy Jargon](#)  
[level c appendix 3 Skeletal System Portfolio Required Video Quiz Questions](#)





## Activity 2 - Skeletal System Level B

### Minds On (Engaging Prior Knowledge)

#### Activity 2 Project Research and Information Gathering

Activity Description:

Students will continue their learning of the human skeletal system by completing projects/assignments for assessment. Students will choose from a menu of items (assignments/projects) each with an assigned point value. The projects/assignments will be submitted and graded using a rubric (assessment as learning).

#### Activity 2 Criteria and Instructions

Students must have a total of 200 points in this category. The mandatory assignment marked with "\*\*\*" will be completed in class. Students will choose one other assignment in this category.

#### Activity 2 Prior Knowledge

- Google research skills.
- knowledge from SNC2D biology unit.
- knowledge from physical education health would be an asset.

#### Connections

Creativity  
Research



Activity 2 Planning Notes	Connections
<p>Students will complete a total of 2 projects in this level for a total of 200 points. One project is mandatory (skeleton system t-shirt) and the other project will be chosen by the student from a menu.</p> <p>Ensure textbooks are available.</p> <p>Ensure computers can be used by students.</p> <p>Be aware of your school's mission and vision.</p> <p>Understand and be aware of your school board's equity statement.</p> <p>Be aware of any IEP's.</p>	<p><b>SEF Component 2: School and Classroom Leadership.</b>  <b>Indicator 2.5</b> - Staff, students, parents and school community promote and sustain well-being and positive student behaviour in a safe, accepting, inclusive and healthy environment.</p> <p><b>SAFETY TIP:</b>            Ensure you use Safety Passports and cover all necessary OCTE SAFETY DOCS.</p> <p><b>SEF Student Engagement TIP:</b>            Hands on learning is important in this stage so in order to keep students engaged and learn from doing.</p>

## Action (Introduce or Extend Learning)

Activity 2 Instructional Strategies	Connections
<p>This level will be introduced by showing the students exemplars of various levels (level 2, 3 and 4). They will be provided with all necessary materials to complete the projects.</p> <p>Teacher will be circulating and give informal feedback as frequently as possible.</p>	<p><b>Differentiated Instruction</b> - students will be able to choose which assignments they would like to complete to achieve the best possible learning.</p> <p><b>Growing Success</b>            This activity provides an opportunity for students to interact in groups and develop the ability to relate to others, cooperate, work in a team and develop skills sets to manage and resolve conflict. Guide students through this and whenever possible encourage the group work option.</p> <p><b>SEF Component 3: Student Engagement</b>  <b>Indicator 3.1</b>            The teaching and learning environment is inclusive, promotes</p>



	<p>the intellectual engagement of all students and reflects individual student strengths, needs, learning preferences and cultural perspectives.</p> <p>Students:</p> <ul style="list-style-type: none"> <li>❖ ❖ Try new tasks, take risks and share learning with others.</li> </ul> <p><b>Indicator 3.4</b> Students demonstrate a wide range of transferable skills, such as teamwork, advocacy, leadership and global citizenship.</p> <p>In the classroom:</p> <ul style="list-style-type: none"> <li>❖ Creative, innovative and diverse perspectives are encouraged and nurtured.</li> </ul> <p><b>SEF Component 5: Pathways Planning and Programing</b> EXPERIENTIAL LEARNING and guest Speaker Opportunity and/or trip to McMaster (or other post secondary location) Doctor/Physiotherapist as a Guest Speaker.</p> <p><b>Indicator 5.2</b> Opportunities for authentic learning experiences and experiential learning exist in all classrooms and programs.</p> <p><b>OCTE SAFETY Docs and PASSPORT TO BE SIGNED FOR:</b> -ergonomics -computer literacy -electronics</p>
<p>Activity 2 Assessment and Evaluation</p>	<p>Connections</p>
<p>Assessment as learning</p> <p>Projects will be assessed using a rubric (see e.g., skeletal t-shirt rubric in appendix)</p>	<p><b>Growing success - ASSESSMENT AS LEARNING.</b> “Teachers engage in assessment as learning by helping all students develop their capacity to be independent, autonomous learners who are able to set individual goals, monitor their own progress, determine next steps, and reflect on their thinking and learning” (p.29, Growing Success). Students will work on projects where they are able to make changes as they progress. Modifications will be made as they work in order to</p>



	<p>perfect their projects. Be flexible, make suggestions, and work as a team.</p> <p><b>Levels of Achievement</b>          Level 1 represents achievement that falls much below the provincial standard.          Level 2 represents achievement that approaches the provincial standard.          Level 3 represents the provincial standard for achievement.          Level 4 identifies achievement that surpasses the provincial standard.</p> <p><b>SEF Component 1: Assessment for, as and of Learning Connections</b></p> <p><b>Indicator 1.4</b> - During learning, timely, ongoing, descriptive feedback about student progress is provided based on student actions and co-constructed success criteria.          ❖ Student learning and progress is clarified throughout the learning process (e.g., through interviews, conferences and learning conversations with small groups, pairs and/or individual students).</p>
<p>Activity 2 Accommodations</p>	<p>Connections</p>
<p>Follow any IEP accommodations/modifications.</p> <p>Ensure that you know your students well enough to identify if a student may need help finding a group to work with. Use assigned grouping.</p> <p>Students with reading difficulties may work in groups/pairs (assigned by teacher) to go through the note taking together.</p> <p>Hard copies of any notes could also be created for re-reading by those students that are second language students of have reading difficulties.</p>	<p><b>Growing success</b> - all students must have the opportunity to be successful.</p> <p><b>SEF Component 1: Assessment for, as and of Learning Connections</b></p> <p><b>Indicator 1.2</b> - A variety of relevant and meaningful assessment data is used by students and educators to continuously monitor learning, to inform instruction and to determine next step.</p> <p><b>SEF Component 4: Curriculum, Teaching and Learning</b>  <b>Indicator 4.7</b> - Timely and tiered interventions, supported by a team approach, respond to individual</p>



<p><b>Teaching Strategies for students with special needs may include:</b></p> <ul style="list-style-type: none"> <li>• grouping design teams with varied abilities to allow for peer support. The teacher may choose or modify the teams depending on individual strengths and weaknesses</li> <li>• providing a list of websites that will assist with finding specific research materials</li> <li>• pairing experienced students with those who are not yet familiar with the techniques</li> <li>• the use of a support staff to assist students in reaching their IEP goals</li> </ul>	<p>student learning needs and well-being.</p>
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## Consolidation & Connections (Provide Opportunities for Reflection)

Activity 2 Reflection Paper/Exit Card	Connections
<p>Students will be given the opportunity to reflect but this will be done informally throughout the work period by conferencing with the students.</p>	<p><b>Growing Success - ASSESSMENT FOR LEARNING.</b> Students through reflection may make modifications to their project to allow their best possible work to be submitted.</p> <p><b>SEF Component 3: Student Engagement</b></p> <p><b>Indicator 3.1</b> The teaching and learning environment is inclusive, promotes the intellectual engagement of all students and reflects individual student strengths, needs, learning preferences and cultural perspectives. Students: ❖ ❖ Willingly participate in feedback processes to refine thinking and learning.</p> <p><b>Differentiated Instruction</b> Teaching strategies may need to</p>



	be changed based on student feedback.
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## Materials, Tools and Resources

Activity 2 Websites
Activity 2 Publications
Activity 2 Computer Software
Microsoft suite (including Publisher) Internet access using safari, explorer, firefox etc.
Activity 2 Human Resources
Teacher Peers Educational Assistant



Activity 2 Other

Activity 2 Appendices

[level b appendix 1](#)

[level b appendix 2](#)



## Activity 3 - Skeletal System Level A

### Minds On (Engaging Prior Knowledge)

#### Activity 3 Project Research and Information Gathering

Activity Description:

Students will demonstrate their learning by completing two assessments. The first assessment is a lab practical (hands-on) and the second assessment is an end of unit test. Students will complete the two mandatory items (assignment - assessment of learning) each with an assigned point value.

#### Activity 3 Criteria and Instructions

Students can score a maximum total of 200 points in this category. Both assessments in this category are mandatory.

#### Activity 3 Prior Knowledge

The assessments in the category will be used to assess the students prior learning in this unit.

#### Connections

**SEF Component 3: Student Engagement**  
**Indicator 3.4** - Students demonstrate a wide range of transferable skills such as teamwork, advocacy, leadership and global citizenship.





Activity 3 Planning Notes	Connections
<p>Provide students with a test review and a bone identification list (prior to assessment).</p> <p>Allow sufficient time for students to study and prepare for assessments.</p>	<p><b>SEF Component 2: School and Classroom Leadership.</b>  <b>Indicator 2.5 - School and Classroom Leadership.</b> Staff, students, parents and school community promote and sustain well-being and positive student behaviour in a safe, accepting, inclusive and healthy environment.</p>

## Action (Introduce or Extend Learning)

Activity 3 Instructional Strategies	Connections
<p>Provide instruction and expectations for lab practical assessment.</p> <p>Provide instruction regarding the end of unit test. Ensure students know where to place their answers (scantron etc.).</p>	<p><b>Communication - SEF Component 1: Components, Indicators, Evidence.</b>  <b>Indicator 1.7 -</b> Ongoing communication about learning is in place to allow students, educators and parents to monitor and support student learning.</p> <p><b>SEF 4- Curriculum, Teaching and Learning</b>  <b>Indicator 4.1</b>  A culture of high expectations supports the belief that all students can learn, progress and achieve.  In the classroom:  ❖ ❖ Realistic and ambitious learning goals are set and regularly reviewed with students.  ❖ ❖ Multiple and varied opportunities are provided for students to demonstrate learning.  ❖ ❖ Ongoing monitoring and moderation of student work informs instruction to ensure that each student learns, progresses and achieves stated goals.</p> <p><b>Indicator 4.5</b>  Instruction and assessment are differentiated in response to student strengths, needs and prior learning.  ❖ Work in groups and follow</p>



	<p>collaborative group norms.</p> <ul style="list-style-type: none"> <li>❖ ❖ Have opportunities to identify their learning preferences and/or environment (e.g. individually, in a quiet location away from others, in an active area of the room, as part of a group).</li> </ul> <p><b>Growing Success</b> This project provides student opportunities to interact in groups and develop the ability to relate to others, cooperate, work in a team and develop skills sets to manage and resolve conflict.</p>
<p>Activity 3 Assessment and Evaluation</p>	<p>Connections</p>
<p>Lab practical - Bone Identification - students will be identifying bones they were provided previously. Teacher will mark students using a checklist (1 mark per correctly identified bone - COM).</p> <p>Unit test - students will be marked according to the marking scheme identified on the unit test. A percentage mark will be recorded and entered in the student record.</p>	<p><b>Growing success - ASSESSMENT OF LEARNING.</b> “Assessment of learning is used to record and report what has been learned in the past” (p.30 Growing Success). The students learning throughout the unit will be assessed and represented by a numerical grade for the categories knowledge and understanding, thinking and inquiry, application and communication.</p> <p><b>Ontario curriculum - A2.</b> demonstrate a basic understanding of human anatomy and physiology; A2.- Anatomy and Physiology A2.4 demonstrate a basic understanding of the musculoskeletal system</p> <p><b>SEF Component 1: Components, Indicators, Evidence 1.7</b> - Ongoing communication about learning is in place to allow students, educators and parents to monitor and support student learning.</p> <p><b>SEF Component 1: Components, Indicators, Evidence Indicator 1.6</b> Assessment of learning provides relevant and meaningful evidence to evaluate the quality of student</p>



	achievement at or near the end of a cycle of learning and to determine next steps.
Activity 3 Accommodations	Connections
Follow any IEP accommodations/modifications.	<p><b>Growing success</b> - all students must have the opportunity to be successful.</p> <p><b>SEF Component 1: Components, Indicators, Evidence</b></p> <p><b>Indicator 1.2</b> - A variety of relevant and meaningful assessment data is used by students and educators to continuously monitor learning, to inform instruction and to determine next step.</p> <p><b>SEF Component 4: Curriculum, Teaching and Learning</b></p> <p><b>Indicator 4.7</b> - Timely and tiered interventions, supported by a team approach, respond to individual student learning needs and well-being.</p> <p><b>Equity:</b> Learning experiences are engaging, promote collaboration, innovation and creativity (i.e. are clear, meaningful, challenging, productive and include problem solving and critical thinking on a variety of issues). Students see themselves, their values, culture and interests reflected in their learning environment.</p>



## Consolidation & Connections (Provide Opportunities for Reflection)

Activity 3 Reflection Paper/Exit Card	Connections
<p>Students will provide written feedback regarding what they would do differently next time. Suggest one improvement to this unit.</p>	<p><b>SEF Component 3: Student Engagement</b> <b>Indicator 3.1</b> The teaching and learning environment is inclusive, promotes the intellectual engagement of all students and reflects individual student strengths, needs, learning preferences and cultural perspectives. Students: ❖ ❖ Willingly participate in feedback processes to refine thinking and learning.</p> <p><b>Differentiated Instruction</b> Teaching strategies may need to be changed based on student feedback.</p>

## Materials, Tools and Resources

Activity 3 Websites
Activity 3 Publications



## Activity 3 Computer Software

## Activity 3 Human Resources

Teacher  
Peers  
Educational Assistant

## Activity 3 Other

## Activity 3 Appendices

[level a appendix 1](#)

[level a appendix 2 Skeletal System- Minimum Structures to Identify](#)

[level a appendix 3 \\*\\*Example Test](#)