

Contextualized Learning Activities (CLAs)
Hospitality and Tourism

Contact Information	
Board	Waterloo Catholic District School Board
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Specialist High Skills Major	<i>Hospitality and Tourism</i>
Course code and course title	SBI3U Biology – University
Name of contextualized learning activity/activities	<i>Eat Well, live well!</i> <i>Planning a Nutrient Rich Menu</i>
Brief description of contextualized learning activity/activities	Students will learn about nutrients and complete a virtual lab using Gizmo that will deal with testing for nutrients. They will learn about the process of digestion for particular nutrients. Students will use this knowledge to complete an assignment based on menus and food choices. The assignment will also require the students to identify functions of the nutrients for the body and analyze the quantities of nutrients within the specific foods.
Duration	6 hours
Overall expectations	<i>E3. Demonstrate an understanding of animal anatomy and physiology and describe disorders of the respiratory, circulatory and digestive systems.</i>

Specific expectations	<i>E3.2 explain the anatomy of the digestive system and the importance of digestion in providing nutrients needed for energy and growth (e.g., the body's mechanical and chemical processes digest food, which provides the proteins needed to build muscle and the fibre, water, vitamins and minerals needed to regulate body processes)</i>
Catholic graduate expectations (if applicable)	<ul style="list-style-type: none"> - applies effective communication, decision-making, problem-solving, time and resource management skills;
Essential Skills and work habits	<p><i>Essential Skills</i></p> <ul style="list-style-type: none"> • Reading Text • Writing • Document Use • Computer Use • Oral Communication <p>Numeracy</p> <ul style="list-style-type: none"> ○ <u>Measurement and Calculation:</u> ○ <u>Data Analysis:</u> <p>Thinking Skills</p> <ul style="list-style-type: none"> ○ <u>Job Task Planning and Organizing</u> ○ <u>Decision Making</u> ○ <u>Problem Solving .</u> ○ <u>Finding Information</u> <ul style="list-style-type: none"> • Working Safely • Teamwork • Reliability • Working Independently • Initiative • Self-advocacy

Instructional/Assessment Strategies

Teacher's notes

This activity has been designed for Grade 11 University Biology students who are currently enrolled in the Hospitality & Tourism Specialist High Skills Major program. Students should have prior knowledge on labs and writing lab reports. It is expected that students will require 6 class hours to complete all components of this activity; however it may take up to 10 hours to complete the CLA.

If copy budget is limited much of this CLA can be adapted to your preferred teaching style.

- Set up login for Gizmos (www.explorellearning.com) for teacher and students.
- Book computer lab or obtain laptop and projector
- Make copies of Student Exploration (Gizmos) sheet for students to complete
- Make copies of Vocabulary sheet (Gizmos) for handout
- Go over Gizmo teacher notes to ensure teacher is comfortable with the activity
- Make copies of student checklist for formative evaluation
- Make copies of Food Cards (see link)
- Make copies of Food Card Activity
- **Have own notes on Digestion** (see below for details)**
- Make copies of digestion diagram
- Make copies of the video worksheet
- Ensure availability of TV and DVD/VCR
- Make copies of the Digestion jigsaw activity
- Make copies of the Quiz
- Make copies of the final summative assignment
- Book computer lab time to allow students to work on assignment

Context

This learning unit is contextualized specifically for students in a food service environment by emphasizing the necessity of the knowledge of nutrients and digestion in menu planning. Students then can use this knowledge to create a specific menu focusing on the nutrients and proper nutrition.

Strategies

Day 1 – Teacher directed class Discussion on Nutrients (10 mins.)

What do they know? Canada's Food Guide?

Go over Vocabulary sheet as part of the discussion

Gizmos (www.explorellearning.com) "Identifying Nutrients Activity" (Select: Browse Gizmos→Grades 9-12→Biology→Human biology, anatomy, and health→ "Identifying Nutrients"). It is suggested the teacher explore the website and become familiar with it before showing to the students. The teacher guide is included and offers a set of instructions for teaching the lab. If time permits you can follow the guide or modify the lab to your own timelines. If a computer lab is available students can complete the lab on their own.

If none is available teacher can go through the lab on a laptop/projector.

Students will complete the online lab using the Student Exploration handout that has been copied.

Day 2 – Class discussion to take up Student Exploration handout.

Checklist is available and can be done by the students as peer assessment (formative) or Teacher can use the checklist to complete a formative assessment.

Food Cards are available for printing at <http://www.foodafactoflife.org.uk/attachments/6dcad34c-3a43-403ee21127ee.pdf> (for first time use it is recommended the teacher print and laminate a class set of food cards)

Using the food cards the students in small groups will attempt to complete the worksheet and answer the questions.

Class discussion to take up worksheet with class input

If time allows - Video – National Geographic – Digestion or short videos on the Process of Digestion taken from www.foodafactoflife.org.uk

Video worksheet for the National Geographic video is provided
(if time is short video can be moved to Day 3 or 4)

Day 3 – Digestion

Teacher directed discussion/brainstorm on digestion (10 mins.)

Why we need to eat? What organs are used? What is digestion?

Teacher directed lesson on Digestion. ******(Teachers should provide their own ideas/notes on how this will be done. Can use anatomical model, Socratic lesson, etc.)

Students will label the digestion diagram with teacher's help

- Begin Digestion Jigsaw Activity

Refer to Teacher Instruction on how to complete jigsaw activity

Students should complete Part 1 of the activity (Expert Groups)

Day 4 – Completion of Digestion Jigsaw Activity

Refer to Teacher Instruction on how to complete the jigsaw activity

Students should complete Part 2 of the activity (Sharing Groups)

Teacher follow-up discussion to Jigsaw Activity

Day 5 & 6 – Complete the formative quiz on Nutrition and Digestion

- Summative Assessment – Planning a Nutrient Rich Menu

Book computer lab to allow students time to work on the Summative Assignment

The assignment is geared to those in the Hospitality & Tourism SHSM; however, could be beneficial to all students.

If this assignment is not chosen for all students another assignment should be given in its place at the teacher's choosing.

****Additional time may be required depending on the class/student** Adjust timing as needed.**

Assessment and Evaluation of Student Achievement

Strategies/Tasks	Purpose
1.Student Exploration Activity – Peer or Teacher Checklist	Formative Assessment
2. Class Discussion	Diagnostic Assessment
3. Food Card Worksheet	Diagnostic Assessment
3. Digestion Diagram	Diagnostic Assessment
4.Nutrition and Digestion Quiz	Formative assessment
5.Final Culminating Assignment	Summative assessment
Assessment tools <i>Peer review - checklist, rubrics, written review, quiz</i>	

Additional Notes/Comments/Explanations

The following may be used as add-ons or “Reach Ahead” options to add interest or additional information for students.

Teacher could consider bringing in a guest speaker – Nutritionist to help deliver the material. Guest speakers can be booked through www.bused-partnership.com

Further research or class discussion on diabetes, celiac disease or organic growing.

Further research on food borne illness.

Resources

Print

Ritter, Adam-Carr, Fraser. *Biology 11*. Nelson Thomson Learning, 2002. Chapter 6, pg. 202
 Ellis, Muller, Panayitou, Sharp, Webb. *BiologySource*. Pearson Canada, 2011. Chapter 10, pg. 276
 Putignano, Wilson. *Food & Nutrition Science*. McGraw-Hill Ryerson, 2005. Pg. 5

Video

National Geographic – Digestion
 The Process of Digestion available at www.foodafactoflife.org.uk

Websites

www.explorellearning.com
www.foodafactoflife.org.uk
www.kitses.com
www.dieticians.ca
www.hc-sc.gc.ca

Other

Accommodations

For students who require accommodations or have an IEP or other identified exceptionalities, it is recommended that the teacher administering this CLA refer to the student's IEP for recommended accommodations or seek the assistance of the Special Education department.

List of Attachments

Student Info

Student Exploration Worksheet (Gizmos)
Vocabulary sheet (Gizmos)
Peer Assessment Checklist (Gizmos)
Food Cards Worksheet
Digestion Diagram
Jigsaw activity – Digestion
Video worksheet
Nutrition and Digestion Quiz
Digestion and Nutrition Assignment – SHSM specific
Assignment Rubric

Teacher Info

Teacher Guide (Gizmos)
Student Exploration Answer Sheet (Gizmos)
Digestion Diagram answers
Jigsaw Teacher instructions
Jigsaw activity answers
Nutrition and Digestion Quiz answers
Menu Exemplar for Assignment