**Name: Fatima Ahmed Cohort: A1**

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| **Lesson Plan** | | | | |
| **Lesson Title:** Calculating per person cost of field trip and writing a report after the trip **Grade:** 4 **Date:** Feb 6, 2019  **Subject/Strand**: Science & Math/Developing Investigation and Communication Skills  **Unit:** Understanding life systems habitats and communities & Number Sense and Numeration  **Location:** Lakehead University **Times:**  9.40 am - 11.10 am | | | | |
| **Lesson Plan Description** (What are you teaching? How does it fit into the context of the unit? What are the big ideas/essential/enduring understandings?) | | | | |
| Through this lesson, students will calculate the per person cost of embarking on a field trip to the Cambridge Butterfly Conservatory. Students will also practice using scientific vocabulary in oral and written communication. | | | | |
| ***STEP 1 : CURRICULUM CONNECTIONS*** | | | | |
| **Ontario Curricular Overall Expectations** (numbers from documents and details) | | | | |
| (Science) O.E. 2 2. Investigate the interdependence of plants and animals within specific habitats and communities  (Math) O.E. Operational Sense | | | | |
| **Ontario Curricular Specific Expectations and Achievement Chart Categories**  (Numbers from documents and details) selected & listed from the Ont. Curriculum, (refined when necessary): realistic number of expectations (1 or 2), connect to assessment. Indicate category in brackets beside specific expectation :Knowledge and Understanding( K ) Thinking (T); Communication (C); Application(A) | | | | |
| (Science) S.E. 2.5 Use appropriate science and technology vocabulary, including habitat, population, community, adaptation, and food chain, in oral and written communication  (Math) S.E. Add and subtract money amounts by making simulated purchases and providing change for amounts up to $100, using a variety of tools (e.g., currency manipulatives, drawings) | | | | |
| **Learning Goals Discuss with students: *What will I be learning today?*** (Clearly identify what students are expected to know and be able to do, in language that students can readily understand.) | | | | |
| I will properly use the following vocabulary in a post-visit summary: habitat, population, community, adaptation, and food chain  I will calculate the per student cost of the field trip to the Cambridge Butterfly Conservatory | | | | |
| ***STEP 2: ASSESSMENT*** | | | | |
| **Purpose of the lesson *(indicate purpose for this lesson/assessment)* [ x] *FOR* [ x] *AS* [ ] *OF*** | | | | |
| **Success Criteria Discuss with students: *How will I know I have learned what I need to learn?*** (Clearly identify the criteria to assess student’s learning: evidence of learning students will provide to demonstrate their knowledge, skills and thinking, in language that students can readily understand). Indicate the Achievement Chart criteria. | | | | |
| I can write a paragraph that presents a summary of the visit  I can visit the Cambridge Butterfly Conservatory website to investigate the per person cost.  I can uses expenses and individual discount to calculate the per student cost of this trip. | | | | |
| **Assessment Mode- *Written, Oral, Performance (Write, Say, Do*)**  Write, Say, Do | **Assessment Strategy and Task for Students-**  ***What are the students doing to show their learning?***  Students will peer-review the calculations performed by other students. Thus, this is assessment “as” learning. The one-paragraph summary written by students will be handed in to the teacher who will use it to gauge and decide which terms the educator needs to further teach so that the meaning of that scientific vocabulary can be better understood. The vocabulary being assessed is: habitat, population, community, adaptation, and food chain. Thus this is assessment “for” learning. | | | **Assessment Tool - Instrument used to assess; Record Keeping format**   * Written paragraph handed in by students * Checklist that confirms students properly used the key words during the oral minds-on exercise |
| ***STEP 3: CONSIDERATIONS FOR PLANNING*** | | | | |
| **Prior Learning: Prior to this lesson, students will have**  Students will know how to add and subtract decimal numbers.  Students will understand that scientific community uses science and technology vocabulary to communicate | | | | |
| **I.E.P. program implications: Accommodations, Modifications**  Not Applicable | | | | |
| **Differentiation: Content, Process, Product, Environment, Assessment**   * Process: Students will choose which role to adopt as they embark on their illustrations * Assessment: Students will choose which peer will review their mathematical calculation * Content: Students will choose the methodology and process they use to make the mathematical calculations * Product: Students will choose the length and detail of the hand-written paragraph * Content: Students will choose which prompt to respond to while composing their hand-written paragraph * Environment: Students will choose where to sit in class as they finish the assigned paragraph * Product: Students will choose if they want to produce a supplementary piece of writing that may help them achieve a level 4. | | | | |
| **Learning Skills/Work Habits:** [x ] responsibility, [x ] organization, [ x] independent work, [ ] collaboration, [ ] initiative, [ ] self-regulation | | | | |
| **Vocabulary:** (for word wall addition or reference and/or to develop schema for this lesson. To be addressed in lesson)  Expenses  Habitat  Population  Community  Adaptation  Food chain  Discount | | | | |
| **Resources and Materials /Technology Integration:** List ALL items necessary for delivery of the lesson. Include any attachments of student worksheets used and teacher support material that will support communication of instruction. Include the use of Information Technology (ICT) in your lesson plan where appropriate.  Tablets to access Cambridge Butterfly Conservatory website | | | | |
| **Three Part Lesson** | | **Identify what the students are expected to think about or do.** | | |
| **What Teachers Do: Write the lesson description with enough detail that another teacher could replicate the lesson without a personal discussion. Prompts and guiding questions are required in each section.** | | | **What Students do: Identify what the students are expected to *think about or do* (in terms of learning processes).** | |
| **Minds on: Motivational Hook/engagement /Introduction (**5-15 min)  Establish a positive learning environment, connect to prior learning, set the context for learning, pre-determine key questions to guide lesson. | | | | |
| Time: 15 mins (Indicate time breakdown of instructional elements)  Introduce success criteria and learning goals for the lesson:  **Today I will…**   * properly use the following vocabulary in a post-visit summary: habitat, population, community, adaptation, and food chain * calculate the per student cost of the field trip to the Cambridge Butterfly Conservatory   **I will know I can do this when…**   * I can write a paragraph that presents a summary of the visit * I can visit the Cambridge Butterfly Conservatory website to investigate the per person cost. * I can uses expenses and individual discount to calculate the per student cost of this trip.   The students are being prepared to use appropriate vocabulary to summarize their visit to the Cambridge Butterfly Conservatory. Students will stand in a circle. They will number of from 1 to 5. Each student that was assigned the number 1 will compose one verbal/oral sentence which includes the word “habitat”. Each student that was assigned the number 2 will compose one verbal/oral sentence which includes the word “population”. Each student that was assigned the number 3 will compose one verbal/oral sentence which includes the word “community”. Each student that was assigned the number 4 will compose one verbal/oral sentence which includes the word “adaptation”. Each student that was assigned the number 5 will compose one verbal/oral sentence which includes the word “food chain". | | | Students will listen to and understand what is expected of them during the lesson.  Students will compose a oral/verbal sentence that contains their assigned word. | |
| **Action: During /Working on it** (time given for each component, suggested 15-40 min)  Focus is on student interactions with task/peers/teacher. Identify students/groups receiving teacher direction. | | | | |
| Time: 45 mins (Indicate time breakdown of instructional elements)  Students will be given access to tablets so that they can research the expenses associated with visiting the Cambridge Butterfly Conservatory. The expenses they are expected to find are the per person entrance cost. The teacher will provide the per person transportation cost. The students will also be encouraged to find out the per person group discount mentioned on the website. Using these three figures, the students will be encouraged to calculate what the per person cost is for this field trip. They will also be required to calculate the change returned if a student paid with a $100 dollar bill. Students will make these calculations individually, and share their calculation with a peer on their left; the peer will assess if the calculation was performed correctly.  Students will write a paragraph that responds to some of the following prompts:   * What did you learn at the Butterfly Conservatory? * How will you respond if someone asks you about butterflies and how their community survives? * Why should the habitat be maintained in order for the population to survive? * What essential components of the food chain does the Butterfly Conservatory provide for the butterflies? * How have the butterflies adapted to their environment at the Cambridge Butterfly Conservatory?   For those students seeking a level 4, they are welcome to write a supplementary paragraph that responds to the following prompts:   * How is the Butterfly Conservatory finding the resources to sustain the butterflies’ habitat? * If you were the financial manager of the Cambridge Butterfly Conservatory, how much more or less would you charge your visitors? Would you continue to offer group discounts? | | | Students will show responsibility and ability to stay on-task as they are required to research expenses using the tablet. Students will show fluency with addition and subtraction by adding the expenses and subtracting the discounts.  Students will demonstrate ownership for their learning by conscientiously completing the assigned seatwork. Students will demonstrate fluency with the five key terms (population, habitat, community, adaptation, food chain) emphasized during this lesson, and will demonstrate awareness of the fact that these terms are emphasized for the duration of the lesson. | |
| **Consolidation & Connection (Reflect and Connect)** (5-15 min.)  Help students demonstrate what they have learned, provide opportunities for consolidation and reflection. Close the assessment loop. | | | | |
| Time: 20 mins (Indicate time breakdown of instructional elements)  Review success criteria and learning goals for the lesson:  **Today I will…**   * properly use the following vocabulary in a post-visit summary: habitat, population, community, adaptation, and food chain * calculate the per student cost of the field trip to the Cambridge Butterfly Conservatory   **I will know I can do this when…**   * I can write a paragraph that presents a summary of the visit * I can visit the Cambridge Butterfly Conservatory website to investigate the per person cost * I can uses expenses and individual discount to calculate the per student cost of this trip.   As a full class activity, students will share with others the amount of change given to a student who paid for the trip with a $100 dollar bill. Individual students will be invited to the front of the class, and they will use play money to demonstrate what configuration of change could be returned to the student (such as, one $20 bill or two $10 bills, or four $5 bills).  The students will once again number off from 1 to 5, and each group will be assigned one of the five terms. The challenge for each group is to collaboratively create a drawing or sketch that illustrates the term assigned to them. The terms assigned to each group will be one of the following: habitat, population, community, adaptation, and food chain. The class will go on a gallery walk after the groups have completed their sketches. | | | Students will demonstrate their mathematical thinking to their classmates.  Students will work collaboratively to illustrate a term, thus conveying their comprehension of the term through a drawing or sketch. | |
| **Extension Activities/Next Steps** (where will this lesson lead to next) | | | | |
| Instead of being provided the per person transportation cost, the class could be given the total transportation cost and required to perform division to calculate the per person transportation cost of going on this field trip. | | | | |
| **Personal Reflection - Choose at least one question from each area that best allows you reflect on this lesson. Questions should vary over the week and specific plans.** | | | | |
| **Learner Empowerment**   1. *How did students show understanding of expectations?* 2. *How did my lesson transform students from “passive listeners” to “active participants”?* 3. *Was my behavior management technique effective? Why?* 4. *Were students able to transition to the next activity successfully?* 5. *How does the lesson provide a meta-cognitive opportunity for students to address their own learning?* | |  | | |
| **Instructional Strategy**   1. *Was my motivational technique (hook) effective? Why?* 2. *What will I do to improve questions? Was a balance between teacher and student talk evident?* 3. *How did the task provide a Rich Performance opportunity or other way of actively demonstrating knowledge?* 4. *How did I provide modeling, guided &/or independent practice?* 5. *Was my behavior management technique effective? Why?* 6. *Were students able to transition to the next activity successfully?* | |  | | |
| **Professional Educator**  *1. What factors may have influenced the success of this lesson? Did I note and respond to these elements appropriately?*  *2 How might I improve the effectiveness of my teaching for my next lesson?*  *3 What additional proactive management step(s) should be considered for subsequent lessons? Why?*  *4 What did I learn from this lesson about my own effectiveness as a teacher (strengths and areas for future improvement of communication, planning, differentiation, implementation and classroom organization, management, assessment)?*  *5 How is my growth as a professional being demonstrated?* | |  | | |

Science Lesson Rubric

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| Area/Mark | 80-100%  5/4 | 70-79%  3 | 60-69%  2 | 50-59%  1 |
| Learning goals and success criteria connect to curriculum(S.C more detailed) | Exceptional, above expectations | Very good to good, meets expectations | Satisfactory, at or below average | Below expectations |
| Minds on is engaging and introductory | Exceptional, above expectations | Very good to good, meets expectations | Satisfactory, at or below average | Below expectations |
| Action section connects both curriculum expectations and is clear | Exceptional, above expectations | Very good to good, meets expectations | Satisfactory, at or below average | Below expectations |
| Consolidation wraps up lesson and learning for students | Exceptional, above expectations | Very good to good, meets expectations | Satisfactory, at or below average | Below expectations |
| Lesson exhibits inquiry learning, hands on science, outdoor activities or other creative effort | Exceptional, above expectations | Very good to good, meets expectations | Satisfactory, at or below average | Below expectations |
| Writing, mechanics  engagement | Exceptional, above expectations | Very good to good, meets expectations | Satisfactory, at or below average | Below expectations |

Fatima, your lesson idea was well-thought out. I think students would have a lot of fun participating in your activity. The curriculum expectations, learning goals, and success criteria aligned with one another. Your three-part-lesson discussed and reviewed the success criteria. In the future think about something that will grasp the students attention in the minds-on. For your success criteria, think about using quantity this makes it measurable and easier to assess. Also, a bit of consideration of the answers to your questions for students would be helpful. 78%