GRADE 5 MATH AND SOCIAL STUDIES: Our Own Farm

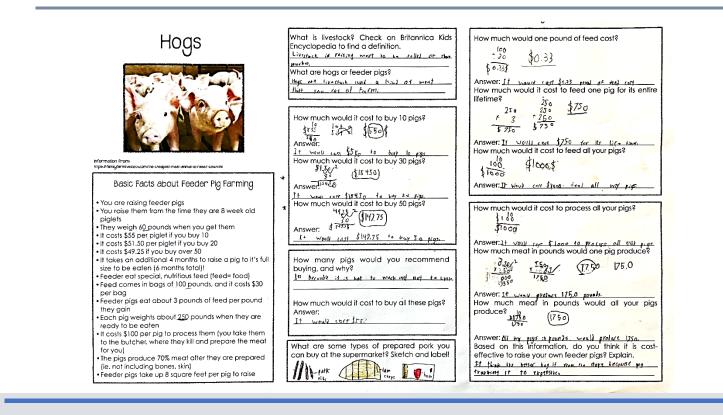
Summary of Learning Opportunity

As a class, we had been studying agriculture as a Canadian industry, and the relationships between farms and communities. After a fieldtrip to the supermarket to investigate different types of meat available and their costs, students were interested in finding out whether starting their own livestock farms to feed their families would be worth it. We used resources such as <u>BC Agriculture in the Classroom</u> and websites from local farmers who sell products to the community. In Math, we had also been learning about multiplying and dividing with decimals, area and dimensions, and financial literacy. This learning opportunity put these skills into context.

Curricular Competencies		
Curricular Content	Math 5	 Financial literacy — monetary calculations, including making change with amounts to 1000 dollars and developing simple financial plans Multiplication and division to three digits, including division with remainders
	Social Studies 5	Resources and economic development in different regions of Canada

Numeracy Connections	Instruction and Assessment	Competencies Developed, Practiced, and/or Assessed
NUMERACY: Interprets—Extracts relevant information NUMERACY: Interprets— Identifies parameters and limitations	Students worked in small groups to research the context of livestock farming. They extracted relevant information and identified the parameters and limitations of the context. Many students used <u>Family Farm Livestock</u> as a source of information.	Reasoning and Analyzing: Model mathematics in contextualized experiences
NUMERACY: Applies—Translates the scenario into a mathematical problem (mathematizes)	Students used a teacher-created worksheet as a guide for their contextual research. The students discussed the information extracted from their research before recording it on the research worksheet.	Understanding and Solving: Develop, demonstrate, and apply mathematical understanding through play, inquiry, and problem solving
NUMERACY: Communicates— Defends decisions and assumptions	The teacher assessed the learning process by observing students' research and discussion, and recorded anecdotal observations based on the numeracy and math curricular compentecies identified. The teacher also spoke with students one-on-one.	Communicating and Representing: Explain and justify mathematical ideas and decisions Connecting and Reflecting: Reflect on mathematical thinking

Proficient Student Work, Teacher Assessment, and Teacher Reflection



Teacher's Observations and Assessment

This student was **proficient** in extracting relevant information and parameters to help solve the problem: they carefully read the "facts" section on the worksheet out loud, underlined several key points, and discussed their internet research findings with their group. They read the information not solely to "find the answer", but out of interest, which helped to make sense of the problem in context.

The student commented "It's possible to raise pigs on cheaper food, which means the overall cost is cheaper". Other evidence of proficient mathematization includes estimating the weight of a pig. The student concluded "I think it's better to buy it [meat] from the store because pig farming is too expensive". In our one-on-one conversation, the student defended their decision by discussing limitations to farming such as the time and start up expenses needed to run a farm. They commented "It's easier to buy some meat for like, \$10. If you have a farm and are raising pigs, you need to have way more money to start with."

The student made several mathematical errors, both in terms of calculations and how to approach multi step questions and is **developing** in the curricular content.

Teacher's Reflection

The K-12 Learning Progressions helped me to develop critical thinking skills in addition to assessing my students' math skills. I developed some of the questions in the task which encouraged the students to think critically about this real-world situation. I can see that this student is very capable of extracting relevant information and conceptualizing the problem in order to work through the inquiry question.