

Lesson Plan

Financial Literacy in Grade 4 Mathematics and Language

Planning a Pet Purchase

Students develop problem-solving skills and their understanding of money as they think about what it might cost to purchase and care for a pet. Using a read-aloud book as a minds on hook for the lesson, students reflect on concepts relating to money, value and hidden costs. They work together, then in small groups to do addition, subtraction and multiplication calculations and solve problems related to the costs associated with pet care. Students use manipulatives and discuss a range of strategies they might use to solve the problem. They consolidate their learning with a quick write to summarize their own reflections and point of view.

Curriculum Expectations

[Click here](#) to access expectations written out in full

Grade 4

Mathematics (2005)

Mathematical Process Expectations

- Problem Solving
- Reasoning and Proving
- Reflecting
- Selecting Tools and Computational Strategies

Number Sense and Numeration

Operational Sense

- solve problems involving the addition, subtraction, multiplication and division of single and multi-digit whole numbers, and involving the addition and subtraction of decimal numbers to tenths and money amounts, using a variety of strategies;
 - 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)

Language (2006)

Reading

1. read and demonstrate an understanding of a variety of literary, graphic, and informational texts, using a range of strategies to construct meaning;
- 1.6 Extending Understanding
- 1.8 Responding to and Evaluating Texts

Writing

2. draft and revise their writing, using a variety of informational, literary, and graphic forms and stylistic elements appropriate for the purpose and audience;
- 2.5 Point of View

Learning Goals

By the end of this lesson, students will be able to:

- generate strategies for solving a problem involving money amounts to determine if there is sufficient money to care for a pet
- decide whether or not it is a good idea to get a pet given the costs of pet care and express their point of view in writing

Sample Success Criteria to include when co-constructing success criteria for writing about their point of view on a pet purchase:

- choose words to show ideas clearly
- give reasons for ideas
- use sentences

Readiness

- Students must be familiar with addition and subtraction of money amounts to \$10.00
- Initial familiarity with simple money concepts e.g., what is money, where do you get money

Materials

- Read aloud book that includes a scenario with a pet purchase such as:
I Wanna Iguana © 2004 by Karen Orloff (Author), David Catrow (Illustrator) ISBN-13: 978-0399237171
- Examples of pet care costs (check the Internet for current and accurate information)
- Manipulatives to support calculating money amounts (e.g. currency manipulatives, base ten materials)

Additional Teacher Resource

For examples of suitable classroom animals and a classroom safety code see the Science Teachers' Association of Ontario (STAO) [Be Safe!](#) resource

Note that in one of the mathematics problems students discuss, they consider the costs of caring for a pet turtle – *at home*. The STAO guideline indicates that turtles are not a suitable pet for a classroom environment. In a second example, the students examine the costs of caring for a hamster as a classroom pet. Syrian hamsters are included on the list of suitable pets for a classroom.

Minds On

Whole Class – Read aloud and discussion

- Start a class discussion by reviewing the following questions:
 - What is money?
 - Where do we get money?
 - How do we know if we have enough money?
- Tell students they are going to be read a story about pets and they should be thinking about pets and the costs of caring for a pet.
- Read aloud a book that includes a scenario with a pet purchase such as *I Wanna Iguana*
- Discuss what Alex has promised and some of the costs of caring for a pet. Show a sample cost breakdown of the cost of caring for a pet.

Action!

Whole Class – Introduction of problem

- Introduce the following problem to the whole class:
It costs David \$5.25 each week to purchase food for his pet. It also costs him \$3.25 each week to purchase vitamins and materials for his pet's habitat. How much money will David need each month to care for his pet? Ask students to think about the information provided and what is required to answer the question.
- Clarify how many weeks are in one month.

Pairs – Solving the problem

- Once students understand the problem they work in pairs to collaboratively solve the problem and represent their thinking. Encourage students to use available manipulatives.

Extension

- Students could determine the cost for two, four or more months.

Connections

Guiding Questions:

- What are some of the things you need to consider when you have a pet?
- What do pets need?

Assessment as Learning (AaL)

- Observe students' understanding of introductory concepts connected to money management as they respond to discussion questions. Ask questions to determine their level of understanding.

Connections

Guiding Questions:

- What do you need to know in order to solve the problem?
- What length of time are we going to use to calculate the costs of owning a pet?

Assessment for Learning (AfL)

- Gather observational data about student thinking (e.g. strategies they used) for solving the problem. Determine which student solutions will be used in Consolidation.



Differentiated Instruction:

- Use scaffolding questions for students as needed:
How can you represent the information you know from the problem? How can you determine how much it will cost David for one week?

Consolidation

Pairs – Discussion of strategies to solve the problem

- Students share how they solved the problem. Give students an opportunity to turn and talk with their partner to consolidate their thinking before sharing with the class.

Whole Class – Discussion of strategies to solve the problem

- Post a few student solutions and facilitate a discussion about the strategies students used to solve the problem. Solutions may be sorted based on similarity of solution (e.g., *students may have added \$5.25 and \$3.25 and then multiplied by 4 to find the amount for one month; other students may have multiplied \$5.25 by 4, and \$3.25 by 4 and added the amounts together*).
- Continue with the rest of the problem. Pose the following question to students: David gets \$10 each week for his allowance. How much allowance does he get in a month? Will he have enough money to take care of his pet? Explain how you know.

Pairs – Discussion about if buying a pet is a good idea

- Ask students to consider if buying a pet is a good idea and have them explain their reasoning. Give students an opportunity to discuss in small groups before sharing with the larger group.
- Prompt students with questions as needed to guide their discussion. Sample questions: David will be spending most of his allowance to care for his pet. Do you think he realized how much it would cost for pet care? Do you think it's worth it? If he decides to buy the pet, how much money will he have left over? Do you think that's enough to cover other things he might spend his money on like saving, buying other things, making donations to charity?

Independent work – Problem Solving

- Students work independently to solve the following problem: David's class has two hamsters for pets. It costs \$6.75 per week for hamster food and \$4.75 for shavings. How much will it cost the class to care for the hamsters for one month?

Independent work – Quick Write

- Ask students to write a response to the following question: If you are David, is it a good idea to buy the pet?

Connections

Guiding Questions:

- What did you do to start to solve the problem?
- How did you decide which operation to use?

A_{for}L Assessment for Learning (A_{for}L)

- Make notes recording student thinking, e.g., "We can solve money problems using different operations."

A_{of}L Assessment of Learning (A_{of}L)

- Assess students' use of problem solving skills and expression of their point of view based on established success criteria co-constructed with the students for the Quick Write question



Differentiated Instruction:

- Support students with guiding questions, prompts and use of manipulatives as needed.

Curriculum Expectations

Financial Literacy in Grade 4 Mathematics and Language

Planning a Pet Purchase

Grade 4

Mathematics (2005)

Mathematics

Problem Solving

- develop, select, and apply problem-solving strategies as they pose and solve problems and conduct investigations, to help deepen their mathematical understanding;

Reasoning and Proving

- develop and apply reasoning skills (e.g., classification, recognition of relationships, use of counter-examples) to make and investigate conjectures and construct and defend arguments;

Reflecting

- demonstrate that they are reflecting on and monitoring their thinking to help clarify their understanding as they complete an investigation or solve a problem (e.g., by comparing and adjusting strategies used, by explaining why they think their results are reasonable, by recording their thinking in a math journal);

Number Sense and Numeration

Operational Sense

- solve problems involving the addition, subtraction, multiplication and division of single and multi-digit whole numbers, and involving the addition and subtraction of decimal numbers to tenths and money amounts, using a variety of strategies;
 - 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)

Language (2006)

Reading

1. read and demonstrate an understanding of a variety of literary, graphic, and informational texts, using a range of strategies to construct meaning;

Extending Understanding

- 1.6 extend understanding of texts by connecting the ideas in them to their own knowledge, experience, and insights, to other familiar texts, and to the world around them

Teacher prompts: “Are there personal connections that you can make to the events in the text?” “How are other books by this author similar to the one we are reading?” “Which other books/movies/articles/online texts share a similar topic/theme/point of view?”

Responding to and Evaluating Texts

- 1.8 express opinions about the ideas and information in texts and cite evidence from the text to support their opinions

Teacher prompts: “Do you agree with the decisions made by the main character in the story?” “What is your opinion of this newspaper article? What evidence in the text supports your opinion?”

Writing

2. draft and revise their writing, using a variety of informational, literary, and graphic forms and stylistic elements appropriate for the purpose and audience;

Point of View

- 2.5 identify their point of view and other possible points of view on the topic, and determine whether their information sufficiently supports their own view

Teacher prompts: “Have you included enough details that support your point of view? What facts or details that you have left out would challenge your point of view?”