

Math Lesson – Applying for a Job

Outcomes or Learning Goals

- Use literacy skills (reading, writing, listening and speaking) to obtain and communicate information about money sense. (9)
- Interpret numerical information drawn from the media or through conversation and explain its significance, using familiar references (9)
- Solve problems involving estimating the totals of money values found in real contexts (9)
- Communicate, orally and in writing, the solutions to money problems and the results of investigations, using appropriate terminology, symbols and form. (9/10)
- Solve problems involving rates (e.g. you make \$7/hour. How long will you have to work to make a purchase worth \$150? (9)
- Investigate and identify possible part-time jobs, determine hourly rates of pay, and calculate possible weekly, monthly and yearly total incomes (10)

Grade Levels 7 - 10

MAT1LZ – Locally Developed Math grade 9

MAT2LZ – Locally Developed Math grade 10

Context & Rationale

When students go looking for part-time jobs, they need to recognize that many factors can affect their earning capacity. Rate of pay, number of hours worked, transportation needs and “perks” or disadvantages can impact their decisions when choosing a job. Many newcomer students seek employment so they can have their own money or help support their families. Understanding the factors which affect their earnings and lifestyle will help them achieve greater academic success and financial stability.

Related Topics/Units

The story “Applying for a Job” introduces the concept of planning for employment and models possible conversations and approaches when applying for a job. This text provides a scaffold for developing skits or role plays about how to apply for jobs. The financial literacy focus for the problem is on comparing different jobs to determine which job might be the best fit for students. Factors to consider include rate of pay, number of hours to work, location, etc. Students should be encouraged to consider the more subtle issues such as: *Can they work the required number of hours and be successful in school? How much will transportation cost each time they work, etc.*

Note: Students at a lower level of proficiency may not be able to calculate some of the negative consequences, but will benefit from class and group discussions about them. A grade 10 student who is particularly adept might be encouraged to calculate the wages earned and then calculate the cost of transportation and subtract the two.

Number Sense and Numeration Skills from the *Ontario Elementary Mathematics Curriculum* that link well to this lesson:

- Estimate, count, and represent (using the \$ symbol) the value of a collection of coins and bills with a maximum value of \$10 (Gr. 3) and \$100 (Gr. 4)
- Count forward by 1's, 2's, 5's, 10's, 25's, and 100's from various starting points (Gr. 3)
- Add and subtract money amounts by making simulated purchases and providing amount for change up to \$100 (Gr. 4) \$1000 (Gr. 5)
- Demonstrate an understanding of simple multiplicative relationships involving unit rates (Gr. 4)
- Add and subtract decimal numbers to hundredths, including money amounts, using concrete materials, estimation, and algorithms (Gr. 5)
- Multiply decimal numbers by 10, 100, 1000 (Gr. 5)

Process Expectations:

- Problem solving: develop, select and apply problem-solving strategies as students pose and solve problems and conduct investigations to help deepen mathematical understanding learning tools and appropriate computational strategies to investigate mathematical ideas and to solve problems
- Selecting Tools and Computational Strategies: select and use a variety of concrete, visuals and electronic

Useful Resources

Ministry of Education Ontario: Guides to Effective Instruction in Mathematics, Grade 4-6:

- Volume 1: ***Big Ideas*** for an explanation of the key concepts in number sense and numeration across the junior grades, as well as appropriate models and tools that support students in understanding these concepts
- Volume 2: ***Addition and Subtraction*** – addresses key concepts, computational strategies, estimation and addition and subtraction of decimals. It also contains sample lessons
- Volume 3: ***Multiplication*** – addresses understanding of multiplicative situations, learning basic facts, multiplying by multiples of 10, computational strategies, strategies for multiplying decimals. It also includes instructional strategies and sample learning activities

Minilessons for Early Multiplication and Division; by W. Uittenbogaard, C. Fosnet---This resource provides short 10-15 minute lessons which support students acquiring basic facts and mental computational skills.

Lesson Sequence

Part 1 Minds on/Prior Learning (15 - 20 minutes)	What to Prepare
<p style="text-align: center;">Activity</p> <p>Ask – if anyone in the class has a job.</p> <ul style="list-style-type: none">• If students are comfortable, have them share the number of hours they work/week and their rate of pay. Have the student identify any benefits or drawbacks to their jobs. (<i>late hours, time away from study, cost of transportation, etc.</i>)• Next/ or if no one shares, have a student briefly recap the text “Applying for a Job”• Tell them that Nay Moo was hired at the Sports store. Nay Moo works 9 hours/ week and gets paid \$10.50/hr. Have students work with an elbow partner to calculate what Nay Moo earns in a week. (or a month if students are able)• Tell students that Htee Gre was also hired. He makes \$10.25/hr and works 10 hrs/wk, but he has to take the bus to work• In pairs have students work together to figure out which student earns more?• Which job would they rather have? Why? Discuss the problem with your elbow partner• Consider providing visuals for this such as a calendar to show the two work shifts for the week or a clock to show the hourly wage	<ul style="list-style-type: none">• Copy of “Applying for a Job” book• Students in pairs• Base ten materials, hundreds charts, paper, pens and/or markers to display calculations• Calculators based on class needs <p>Prior Knowledge Needed:</p> <ul style="list-style-type: none">• Understanding of vocabulary (<i>earns, paid, per/wk, pros, cons</i>)• Adding/multiplying sums of money with decimals• Writing money with \$ and decimal points• Using a calculator (if calculators provided)
<p style="text-align: center;">Assessment For Learning</p> <p>Observe student partners to see how readily they perform the task.</p> <ul style="list-style-type: none">• Listen to the discussion. Are they using appropriate terminology? Do they consider all aspects of the problem or just the calculations?• Which students use the manipulative materials? (Which type do they prefer?)• Are the calculations correct? If not, what is causing the difficulty? Do students multiply or use repeated addition?• Choose a couple of groups to share (ideally with different job choices)	<ul style="list-style-type: none">• Note which students/ pairs need support and which are comfortable• Look for pairs who choose different jobs – prompt and elicit reasons from them during discussion so that they can share with the class

Part 1 Minds on/Prior Learning (15 - 20 minutes)	What to Prepare
Part 2 – Work on it (25 - 30 minutes)	
<p style="text-align: center;">Activities During Work Period</p> <ul style="list-style-type: none"> • Display the Poster – Which Job is Best for Me? (spaces have been provided so teachers can choose a jobs that suit the interests of their students) • Briefly recap Minds On discussion re: benefits and disadvantages • Tell students – “You can have one of these jobs. Which one would you choose? Why?” • Work with your group to calculate how much you would earn • Talk about the pros and cons of each job and then pick the best job for you. Be prepared to explain your choice to your group and the class 	<ul style="list-style-type: none"> • “Which Job is Best for Me?” • Students in groups (2-4)
<p style="text-align: center;">Assessment</p> <p>Allow students time to get started and then move around the room to observe each group. Listen to the discussions.</p> <ul style="list-style-type: none"> • Are students participating equally? Are they using appropriate terminology? • How do students approach solving the problem? Do they consider all aspects, or just the “math”? • Are students making the calculations correctly? Do they require technology/concrete materials, do they use mental math or written algorithms? 	<ul style="list-style-type: none"> • Record observations

Part 3 – Conclude and Share Solutions (15 - 20 minutes)	What to Prepare
<p style="text-align: center;">Activity</p> <p>Bring class back together.</p> <ul style="list-style-type: none"> • Survey the class to see who chose each job. Record in tally form • Invite students to share their group discussion re: pros and cons for each job. Why did students choose the job they did? 	<ul style="list-style-type: none"> • Premade tally chart record student choices
<p style="text-align: center;">Follow up</p> <p>Distribute BLM-Which Job is Best for Me? (all factors are the same except the hours worked) * <i>This can be changed if students require a greater challenge.</i></p> <ul style="list-style-type: none"> • Students work independently to complete the activity in their math workbooks or journals 	<ul style="list-style-type: none"> • BLM-Which Job is Best for Me
<p style="text-align: center;">Assessment</p> <p>Check student results for the Follow up activity.</p> <ul style="list-style-type: none"> • Which students have understood the concept, and which will need further practice? • Are the calculations correct? Do their reasons make sense? • Are students using appropriate terminology and symbols in their responses? 	<p>Note any common errors or misconceptions to be reviewed.</p>

Resources

Which Job is Best for Me? Poster

BLM Which Job is Best for Me? – student work sheet

Which Job is Best for Me?

Job:	Job:	Job:
\$10.25/hr	\$11.50/hr	\$10.75/hr
16 hours/week	12 hours/week	14 hours/week
some late nights	weekends only	nights and weekends
need to take the bus	need to take the bus	close to home

- Calculate the wage you would be making and think about the **pros** (good things) and **cons** (bad things) about each job.
- Which job would you choose? Discuss your choice with your group and explain your reasons for making it.

BLM-Which Job is Best for Me?

The image displays three job options, each presented in a light blue rounded rectangle. Each job is described by four blue buttons with white text, stacked vertically. Job 1: \$10.25/hr, 15 hours/week, some late nights, need to take the bus. Job 2: \$11.50/hr, 11 hours/week, weekends only, need to take the bus. Job 3: \$10.75/hr, 13 hours/week, nights and weekends, close to home.

Job	Hourly Rate	Hours/Week	Shift	Transportation
Job 1	\$10.25/hr	15 hours/week	some late nights	need to take the bus
Job 2	\$11.50/hr	11 hours/week	weekends only	need to take the bus
Job 3	\$10.75/hr	13 hours/week	nights and weekends	close to home

- Calculate the wage you would be making and think about the **pros** (good things) and **cons** (bad things) about each job.
- Which job would you choose? Explain your reasons.