

Math-in-CTE Lesson Plan Template

Lesson Title: Earning Potential and Work Ethic		Lesson # 4
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Occupational Area: Food Service		
CTE Concept(s): Hourly Wage, Work Ethic, and Career Advancement		
Math Concepts: Computation, decimals, fractions, estimation, time, money		
Lesson Objective:	To see the connection between hours worked, hourly wage, and year to date earnings, and promotional opportunities	
Supplies Needed:	Paper, pencil, calculator	

THE "7 ELEMENTS"	TEACHER NOTES (and answer key)
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<p>1. Introduce the CTE lesson.</p> <p>How to maximize your earning potential, and move up the career ladder to better pay and job security. Using basic math skills of estimation and computation we will investigate the relationship of work ethic to hours worked and compensation earned for that work.</p> <p>Front of House/ Back of House-</p> <p>Front= Dining room</p> <p>Back= Kitchen</p> <p>Check for student awareness of these terms, then define and discuss these terms, perhaps even getting out of seats and walking to each of the locations.</p> <p>List or explain briefly the different jobs available in each of the areas and the different pay scales for each job</p> <p>Experience</p> <p>How much time has to pass for one to claim they have experience in a certain area?</p> <p>Motivation Level</p> <p>What does the word motivation mean?</p> <p>What does apathy mean?</p> <p>Discuss levels of effort and how it might relate to work load and pay scale. Sometimes workload may be heavier or more demanding than a person is prepared to work. That is normal, but how a person reacts to the demand is up to the individual. Generally, better pay follows the one who is willing and able to step up to a higher more demanding level of production.</p> <p>Professionalism</p> <p>Ask students for their definition of this word. When can one consider themselves a professional?</p>	<p>Pay scale of industry- entry level minimum wage, yearly salary, pay scale of the different types of food service establishments and different employment opportunities in each.</p> <p>Front of house vs Back of house- Define these terms and different expectations for each. Compensation varies- Dining room workers typically earns tips, therefore a lower hourly wage. Kitchen (back of house) typically do not receive tips requiring a higher hourly wage. Dining rooms where the check average per person is higher than casual dining, is naturally going to make better tips because the tip is based on a percentage of the amount of the guest check.</p> <p>Experience- As one gains experience and is able to execute tasks more rapidly and more complicated tasks, they generally earn more money and responsibility - “the more you learn the more you earn”. Increased responsibility and supervision of others deserves increased compensation (a raise in pay)</p> <p>Motivation level- Showing up on time ready to begin work is essential. Some people arrive 10 minutes or more before their shift is to begin in order to have the time to make the mental transition from home, or driving, and to change into the appropriate clothing for being in the work mode. Completing a task quickly and efficiently and asking for what’s next , is a sign the employee is motivated and understands the connection of time and money.</p> <p>Professionalism- Similar to motivation, acting like a professional is a reflection of ones dedication to quality work. Focusing on a task with a minimum of side chatter with others, not wandering or taking smoke breaks, maintaining a clean and orderly appearance, treating coworkers with respect and consideration, giving the employer ones all, are all forms of professionalism which may result in promotions and new opportunities leading to better hours and increased pay.</p>
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<p>2. Assess students' math awareness as it relates to the CTE lesson.</p> <p>Have you had a job you were paid to do?</p> <p>Do you know the difference between hourly wage and salary?</p> <p>Do you /did you know how you could get a raise or promotion?</p> <p>Estimations- The student needs to know how to look at their pay stub and be able to estimate if it is accurate or at least close.</p> <p>Do you know how to calculate how much they will make at the end of the week based on hours worked and hourly wage? Multiplication.</p> <p>Can they take a years salary and break it down to an hourly wage? Division</p> <p>Gross Pay vs. Net Pay</p> <p>Discuss taxes, insurance and other deductions that result in a paycheck that has less on it than they may have expected based on the simple hrs worked x wage earned Subtraction</p>	<p>Students expectations of compensation? Check for student awareness of basic living expenses of people who support themselves. Can you live on minimum wage? How long will you be happy with that level?</p> <p>Other forms of compensation?</p> <p>Discounts, vacation, time off, bonuses, free meals, tips, commission</p> <p>Estimate- an approximate number that is close to the desired number</p> <p>Negative consequences of non professional or apathetic job performance. Undesirable shifts, minimal shifts, stagnant pay level, eventual termination of employment</p> <p>"No call, No show, No job !"</p> <p>Gross pay vs. Net Pay may be a discussion put if your students are ready for it, and if some of your students already have jobs and receive a weekly pay check, so they understand the distances.</p>
<p>3. Work through the math example embedded in the CTE lesson.</p> <p>As an entry level employee, just starting out in the industry, you should be prepared to be paid minimum wage. Thats \$7.50 per hour. As a high school student under 18 you can only work 20 hours per week. If you do a good job your employer may work you that full 20 hours, meaning you can earn \$150/ wk.</p> <p>What if you can only work 10 hours or 6 hours?</p> <p>If you are only allowed to work 20 hours and want to earn more, you can do that is by doing a really good job and being paid more per hour. Working harder/ quicker/ high quality/ positive attitude, all attributes that lead to more hours which will equal more money.</p>	<p>While discussing hourly wage with the students use these examples for illustrating the financial impact of not working</p> <p>\$7.50 per hr x 20 hours=\$150</p> <p>\$7.50 per hr x 10 hrs= \$75.00</p> <p>\$7.50 per hr x 6 hrs= \$45.00</p> <p>Ability to work could be effected by many factors- participation in Sports, theatre, reliable transportation, family demands. Discuss how choices may impact ones options and end up limiting earning capacity.</p>

<p>4. Work through <i>related, contextual</i> math-in-CTE examples.</p> <p>This is when you hand out the worksheet and introduce the real meat of the lesson.</p> <p>Estimate the amount of money earned each week in these 6 examples. Based on your estimates- what do you notice? Does a higher hourly wage always translate into more money? Which one makes the most at the end of the week? Which one the least?</p> <p>1) \$7.50 per hr \diamond 20 hours= 2) \$8.00 per hr \diamond 20 hours= 3) \$8.50 per hr \diamond 15 hours= 4) \$7.85 per hr \diamond 16 hours= 5) \$8.95 per hr \diamond 14.5 hours= 6) \$9.25 per hr \diamond 16 1/4 hours=</p> <p>Calculate the exact amounts earned. Are there any surprises? Who actually earns the most and the least?</p>	<p>Estimate- an approximate number that is close to the desired number</p> <p>Discuss the equations with the students. Can they do these in their heads? Have them estimate each of the equations. Looking at all of these which one earns more/ less at the end of the week. Discuss the results and any unexpected answers.</p> <p>ANSWERS</p> <p>1) \$150.00 2) \$160.00 3) \$127.50 4) \$125.60 5) \$129.78 6) \$150.31</p> <p>Most=#2 Least=#4</p>
<p>5. Work through <i>traditional math</i> examples.</p> <p>Compute the following equations.</p> <p>1) $7.50 \diamond 20 \diamond 52$ =_____ 2) $8.00 \diamond 20 \diamond 52$ =_____ 3) $8.50 \diamond 20 \diamond 52$ =_____ 4) $7.85 \diamond 16 \diamond 52$ =_____ 5) $8.95 \diamond 14.5 \diamond 50$ =_____ 6) $9.25 \diamond 12 \frac{1}{4} \diamond 26$ =_____</p>	<p>The students should be working these out on their own. Allow them to use a calculator if necessary. Perhaps pairing students with strong skills with ones of less ability.</p> <p>ANSWERS</p> <p>1) 7800.00 2) 8320.00 3) 8840.00 4) 6531.20 5) 6488.75 6) 2946.13</p>

<p>6. Students demonstrate their understanding.</p> <p>Lets say you do such a good job, your boss gives you a raise at the end of the school year and wants you to work full time over the 9 weeks of summer.</p> <p>1)How much would you make for the 9 weeks at \$7.50 per hour?</p> <p>How much would you make each week if you get a raise to:</p> <p>2) \$9.00 per hour _____</p> <p>3) \$9.50 per hour _____</p> <p>How much would you make each year ?</p> <p>Remember, you can only work 20 hours/ week during the school year and 40 hours during the 9 weeks of summer.</p> <p>4) How much more each week did you make at \$9.50 per hour than at \$7.50 per hour?</p> <p>5) How much more money did you earn over the summer?</p>	<p>This is where the students abilities will become clear. Critical thinking, estimating</p> <p>1) \$300.00 per week \$2700 for 9 weeks</p> <p>2) \$360.00 per wk \$3240 for 9 weeks</p> <p>3) \$380 per wk \$3420 for 9 weeks</p> <p>4) \$80.00 / wk</p> <p>5) \$720 for the summer</p>
<p>7. Formal assessment.</p> <p>Here is the offer from an employer- they offer you \$12,000 yearly salary, typical 40 hour work week with 9 weeks off each year. Another factor is that this job is working for a nationally famous very accomplished chef and this could really boost your career. Do you want the job? What are your considerations? Is it just money or do you do it for the experience no matter how it works out financially?</p> <p>Do you understand the connection between dedication or apathy and appropriate compensation?</p> <p>Discuss-</p> <p>Money is a good motivator. When it is hard to get to work on time or you would rather stay home or go to the lake than work, remember how being a devoted hard worker translates into better earnings, job security, and potential job advancement up the career ladder.</p>	<p>This works out to \$7.00 per hour. Some folks might find this preposterous to work for that wage however, you may be working for one of the most famous biggest names in the industry which could give you the experience to catapult your career. Its an investment in oneself. There is no right or wrong answer, its what is right for the individual.</p> <p>Summarize the days discussions and discoveries. This lesson should illuminate how each person is responsible for ones own career path. They have the power and the ability to direct their own future.</p>