

MADAME BUTTERFLY

GIACOMO PUCCINI

Mathematics: Making a Living as a Composer

The student will

- Study budget sheets for information
- Complete charts with computations
- Make conversions between two forms of currency

Copies for each student: Activity Worksheets 1 and 2

Copies for the teacher: Answer Key for Activity Worksheets 1 and 2

Getting Ready

- Composer Biography
- Pens/Pencils
- Calculators

Instructional Time: One 45-minute class period

Introduction

Explain to the students that Puccini had not always been successful in his compositional endeavors. Before many of his 12 operas became some of the greatest works in the repertoire, he struggled to make a living as a composer. Like other composers, Puccini's survival depended on writing something that would earn money. Share this excerpt from "Giacomo Puccini" with the students.

"In 1890 Puccini wrote in desperation to his younger brother, Michele, who had moved to Argentina: If you can find work for me, I will come there. ... And send me some money. ... I have few hopes here. In a later letter to Michele he said, With disaster right around the corner, it's a miracle if I can get to the end of the month. ... And in September I have to move. ... They have thrown me out of here for playing the piano at night. ... If you are doing well where you are, I will come there too."

In this two-part lesson, the student will complete a sample of a composer's annual budget and income using a hypothetical exchange rate between two forms of currency: the U.S. dollar(\$) and the Euro(€).

Guided Practice

Give each student a copy of **Activity Worksheet 1**. Read the directions on **Activity Worksheet 1**. Have students calculate answers for #1 and #2 on **Activity Worksheet 1**. Assist students to make the conversions from euros to dollars and calculate the answers for #3 and #4.

Independent Practice

Depending on grade level and time constraints, you may choose to have students work as a whole class, in small groups, or individually. Have students complete **Activity Worksheet 1**. Students may then complete **Activity Worksheet 2**. Give time to check answers in class.

Evaluation

1. Were students able to complete **Activity Worksheet 1**?
2. Did students complete **Activity Worksheet 2**?
3. Did students understand Puccini's financial need to write operas?

If time allows

Have students consider the economic impact of a composer relocating to another country where the income for each performance of an opera is twice that of one of the samples given. If the income is twice for each performance, students may need to consider the cost of living in the other country since the cost of living may also be higher in that country

TEKS

Mathematics

6th Grade

- (2) Number, operation, and quantitative reasoning. B. C.
- (11) Underlying processes and mathematical tools. A.

7th Grade

- (2) Number, operation, and quantitative reasoning. A. B.
- (13) Underlying processes and mathematical tools. A.

8th Grade

- (2) Number, operation, and quantitative reasoning. A. B.
- (14) Underlying processes and mathematical tools. A.

9th – 12th Grades

- (1) Knowledge and skills. B. D.
- (2) Foundations for functions. C. D.
- (9) Quadratic and other nonlinear functions. A. D.
- (10) Quadratic and other nonlinear functions. A.

Correlates: Music

Gardner's Intelligences: Logical/Mathematical

Blooms Taxonomy: Application, Analysis, Synthesis, Evaluation

Online Resources:

Pacific Opera Victoria,. "Giacomo Puccini" 500-1815 Blanshard Street, Victoria, BC V8T 5A4. Accessed, 01 Aug. 2016. <http://pov.bc.ca/pdfs/Puccini.pdf>

www.oxfordmusiconline.com

Madame Butterfly

Our Composer, Giacomo Puccini

The Italian composer Giacomo Puccini (1858-1924) was the most successful follower of Verdi, continuing the line of Italian operatic composers into the 20th century. Born in Lucca on Dec. 22, 1858, into a family whose members had composed operas of local success for several generations, Giacomo Puccini learned the rudiments of music from the best local teachers, served as a church organist, and composed sacred choral works while still in his teens. A pension in 1880 from Queen Margherita made it possible for him to go to Milan for study at the conservatory. His most important teacher was the composer Amilcare Ponchielli, who encouraged him to write his first opera, *Le Villi*, in 1884. The work was entered in a competition sponsored by the Teatro Illustrato but received no recognition there; it was performed with such success at one of the smaller Milanese theaters that it was put on the stage at the famous La Scala opera house in 1885.

Edgar, which premiered at La Scala in 1889, was a failure. However, *Manon Lescaut*, which premiered four years later in Turin, was favorably received and soon became a popular work throughout Italy and abroad. Puccini's first spectacular triumph came in 1896 with *La bohème*, to a libretto by Giacosa and Illica, also premiered in Turin. Its touching portrayal of episodes in the lives and loves of students in Paris and the simplicity and accessibility of the music in joyous, romantic, and pathetic scenes excited and moved audiences from the first performance on, and its popularity has continued to the present day in all countries that enjoy opera. *Tosca*, yet another opera set to a libretto by Giacosa and Illica, premiered in Rome in 1900. This was a much more serious and melodramatic work, with relatively few moments of lyricism, but it was almost as successful and has also become a mainstay of the standard repertory. *Madama Butterfly*, set in Japan, was the first work in which Puccini used scales and melodies of non-Western music. It was poorly received at the first performance at La Scala in 1904, but has since become every bit as popular as *La bohème* and likely for the same reasons: there are long passages of lush and sentimental music, tunes that are easy to remember, effective scenes of pathos, and well-calculated bits of stage business. *Madama Butterfly* was also his last completely successful work.

Welcoming the opportunity to visit America, Puccini wrote a new work for the Metropolitan Opera in New York City, *La fanciulla del West*. The first performance, in 1910, was received with the expected enthusiasm, but the opera was not so well-received later and is rarely performed today. Puccini endeavored to capture the local color of the American West with this opera through scenes of gambling and saloons; an attempted lynching, and he even attempted to have some of the tunes sound like American songs. However, in the end, the music sounds just like classic Puccini, and according to the opinions of some, not classic Puccini at its best. His comic opera, *La Rondine*, premiered in Monte Carlo in 1917, has not held the stage as much either.

The following year Puccini wrote three one-act operas, *Il trittico*, designed to be done together as an evening's entertainment, and premiered in New York. The first, *Il tabarro*, is melodramatic, much in the style of parts of *Tosca*; *Suor Angelica*, set in a convent and written for women's voices, is lyric and subdued; and *Gianni Schicchi*, the most successful and often done separately, is his best comic work, rapid-paced with some fine moments of contrasting lyricism.

Madame Butterfly

Our Composer, Giacomo Puccini *continued...*

Death took Puccini before he could complete his last work, *Turandot*. He was nearing the end of the work when he was stricken by throat cancer and taken for an operation to Brussels, where he died on Nov. 29, 1924. The opera was completed by Alfano and first performed at La Scala, conducted by Arturo Toscanini, in 1926. It has some fine lyric and unusually effective dramatic moments, and in some places it makes more effective use of such pseudo-Oriental devices as pentatonic scales than *Madama Butterfly*. But the work as a whole has not been as perennially popular as some of his earlier operas.

Puccini's strengths are his delicate and sensitive handling of both voices and orchestra in lyric and pathetic scenes and occasionally in lively scenes as well and his ability to write melodies that audiences learn quickly and apparently never tire of hearing. His best scenes are those for one or two characters; ensemble writing in his operas rarely approaches the excitement common in the works of such predecessors as Gioacchino Rossini and Giuseppe Verdi.

Music was undergoing dramatic stylistic changes in the last decades of Puccini's life with the works of such men as Igor Stravinsky, Arnold Schoenberg, and Béla Bartók. Puccini clung to the harmonic and melodic language of the late 19th century. The problem of reconciliation between radical changes of musical language and the venerable form of opera has been a thorny one. It should be noted that the last operas to be truly successful in terms of wide acceptance by audiences and retention in the repertory are those of Puccini and Richard Strauss, two men who remained on the periphery of the widespread innovation so characteristic of the first decades of the 20th century.

Madame Butterfly

Activity Worksheet 1

Sample Annual Budget

<u>Category</u>	<u>(€)Euro</u>	<u>(\$)U.S. Dollars</u>
Wife's weekly allowance (55 euro per wk, for a year).....	_____	_____
Meals outside the home (18 euro per wk, for a year)	_____	_____
Furniture.....	<u>837</u>	_____
Rent (45 euro per month, for a year).....	_____	_____
Travel.....	<u>486</u>	_____
Coal and wood.....	<u>354</u>	_____
Household help (30 euro per month, for a year).....	_____	_____
Gifts.....	<u>338</u>	_____
Clothing.....	<u>355</u>	_____
Composing supplies.....	<u>185</u>	_____
Medical.....	<u>224</u>	_____
Music copying.....	<u>112</u>	_____
Legal services.....	<u>50</u>	_____
Entertainment.....	<u>36</u>	_____
Insurance.....	<u>32</u>	_____
Books and newspapers.....	<u>27</u>	_____
Taxes.....	<u>34</u>	_____
Other.....	<u>322</u>	_____
Total.....	€ _____	\$ _____

Directions: Study the sample budget above. Use the Euro(€) and the U.S. dollar(\$) to answer the following questions.

1. Calculate the missing amounts in the first column for the euro in the sample budget above.
2. What is the total amount of the household expenses for the euro? € _____
3. Complete the second column for U.S. dollars. Calculate all categories for the sample budget in U.S. dollars as if €1.00 were equal to \$0.76.
What is the total amount in U.S. dollars? \$ _____
4. If one dollar from the time period of the chart equals \$118 today, what would the total budget for one year of expenses in Euro and U.S. dollars?
€ _____ \$ _____

Activity Worksheet 1**Sample Annual Budget**

Category	(€)Euro	(\$)U.S. Dollars
Wife's weekly allowance (55 euro per wk, for a year).....	<u>2860</u>	<u>\$2173.00</u>
Meals outside the home (18 euro per wk, for a year)	<u>936</u>	<u>711.36</u>
Furniture.....	<u>837</u>	<u>636.12</u>
Rent (45 euro per month, for a year).....	<u>540</u>	<u>410.40</u>
Travel.....	<u>486</u>	<u>369.36</u>
Coal and wood.....	<u>354</u>	<u>269.04</u>
Household help (30 euro per month, for a year).....	<u>360</u>	<u>273.60</u>
Gifts.....	<u>338</u>	<u>256.88</u>
Clothing.....	<u>355</u>	<u>269.80</u>
Composing supplies.....	<u>185</u>	<u>140.60</u>
Medical.....	<u>224</u>	<u>170.24</u>
Music copying.....	<u>112</u>	<u>85.12</u>
Legal services.....	<u>50</u>	<u>38.00</u>
Entertainment.....	<u>36</u>	<u>27.36</u>
Insurance.....	<u>32</u>	<u>24.32</u>
Books and newspapers.....	<u>27</u>	<u>20.52</u>
Taxes.....	<u>34</u>	<u>25.84</u>
Other.....	<u>322</u>	<u>244.72</u>
Total.....	<u>€8088</u>	<u>\$6146.88</u>

Directions: Study the sample budget above. Use the Euro(€) and the U.S. dollar(\$) to answer the following questions.

1. Calculate the missing amounts in the first column for the euro in the sample budget above.
2. What is the total amount of the household expenses for the euro? €8088
3. Complete the second column for U.S. dollars. Calculate all categories for the sample budget in U.S. dollars as if €1.00 were equal to \$0.76.
What is the total amount in U.S. dollars? \$6146.88
4. If one dollar from the time period of the chart equals \$118 today, what would the total budget for one year of expenses in Euro and U.S. dollars?
€1,255,742.88 \$725,331.84

Madame Butterfly

Activity Worksheet 2

Sample Annual Income

Directions: Find the totals for each of the empty blanks for the income chart. Total the income for Opera A and B. Remember to include the honorariums.

Opera A

Honorarium	<u>200</u> euro
Performance Fees in the first city: 55 performances	
100 euro for each of the first 40 performances	_____ euro
75 euro for each additional performance	_____ euro
Performance fees in a second city: 48 performances	
75 euro for each of the first 40 performances	_____ euro
50 euro for each additional performance	_____ euro
Total Income for Opera A:	_____ euro

Opera B

Honorarium	<u>150</u> euro
Performance Fees in the first city: 35 performances	
100 euro for each of the first 40 performances	_____ euro
75 euro for each additional performance	_____ euro
Performance fees in a second city: 52 performances	
75 euro for each of the first 40 performances	_____ euro
50 euro for each additional performance	_____ euro
Total Income for Opera B:	_____ euro

If the composer makes the above income for a year for two different operas and his expenses are that of *Activity Worksheet 1*, how much money will the composer have left if 3/4 of his expenses are paid during Opera A and the remaining 1/4 during Opera B?

	<u>Opera A</u>		<u>Opera B</u>
Income:	_____ euro	Income:	_____ euro
Expenses:	- _____ euro	Expenses:	- _____ euro
Remaining money:	_____ euro	Remaining money:	_____ euro

Total Remaining (money that can be used for investments, savings, and other expenses) = € _____

Activity Worksheet 2

Sample Annual Income

Directions: Find the totals for each of the empty blanks for the income chart. Total the income for Opera A and B. Remember to include the honorariums.

Opera A

Honorarium	<u>200</u> euro
Performance Fees in the first city: 55 performances 100 euro for each of the first 40 performances 75 euro for each additional performance	<u>4000</u> euro <u>1125</u> euro
Performance fees in a second city: 48 performances 75 euro for each of the first 40 performances 50 euro for each additional performance	<u>3000</u> euro <u>400</u> euro
Total Income for Opera A:	<u>8725</u> euro

Opera B

Honorarium	<u>150</u> euro
Performance Fees in the first city: 35 performances 100 euro for each of the first 40 performances 75 euro for each additional performance	<u>3500</u> euro <u>0</u> euro
Performance fees in a second city: 52 performances 75 euro for each of the first 40 performances 50 euro for each additional performance	<u>3000</u> euro <u>600</u> euro
Total Income for Opera B:	<u>7250</u> euro

If the composer makes the above income for a year for two different operas and his expenses are that of *Activity Worksheet 1*, how much money will the composer have left if 3/4 of his expenses are paid during Opera A and the remaining 1/4 during Opera B?

	<u>Opera A</u>		<u>Opera B</u>
Income:	<u>8725</u> euro	Income:	<u>7250</u> euro
Expenses:	- <u>6066</u> euro	Expenses:	- <u>2022</u> euro
Remaining money:	<u>2659</u> euro	Remaining money:	<u>5228</u> euro

Total Remaining (money that can be used for investments, savings, and other expenses) = €7887