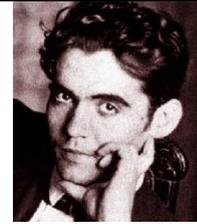


Lorca and his times

Subject Mathematics

Title *Lorca and Mathematics*

Year group 1º ESO, 3º ESO



Language Level __

Skills: Reading B1 /Writing B1 /Speaking B1 /Listening B1

Timing 2 working sessions

Individual work / Pair work X / Groupwork X

Goals

- Develop skills in searching information
- Work with percentages
- Know different unit systems and how to convert measurements from one to another

LORCA AND MATHEMATICS

After the loss of Cuba and Puerto Rico in 1898, Spain lost all of its sugar production in the Caribbean, and new business opportunities appeared.



Azucarera San Isidro (Granada) at the turn of 20th century
(source: anonymous)

Lorca's father, Federico García Rodríguez, was a landowner in the fertile vega surrounding Granada who took the opportunity and saw his fortunes rise with a

boom in the sugar industry. But he wasn't really good at maths, so we must help him with some numbers.



Lorca's family summer house at Huerta de San Vicente in La Vega de Granada
(source: Fundación García Lorca)

1. In 1900, Lorca's family business produced a max of 5480 tonnes of sugar. However, due to the lack of rain, the following years they saw how production decreased rapidly. In pairs calculate how much sugar was produced each of the following years below and the total percentage change during these years

- 1901: 95% of the amount produced in 1900.
- 1902: 63% of the amount produced in 1901.
- 1903: 114% of the amount produced in 1902.
- 1904: 98% of the amount produced in 1903.



After the drought, 1905 was a really good year for agriculture, allowing Lorca's family to almost recover to 1900 levels of production. This year, they achieved to get to 5200 tonnes. In pairs discuss: "What was the percentage of change between 1904 and 1905?"

2. The tonne is a metric unit of mass equal to 1,000 kilograms. It was converted from a previous non-metric unit of measure, but it is not the official mass unit of the International System of Units, an artificial system that was created to create a global system for measuring, making it easier to trade goods and share scientific knowledge. In pairs discuss and find out:

- 1- How many kg the Lorca family produced in total and each year
- 2- the possibility of using any other multiple of grams to express the amount

3. Did you know that in some other countries non-metric units are still used? What a mess! Can you convert the grams obtained from the previous exercise to British pounds or Chinese catties? Investigate further about tonnes, kilos, pounds and catties, describe their origin and the factor of conversion to each other. Did you know that recently the Chinese Government changed the value of a chatty from 604.79g to 600g to make it easier to convert to International System units? It will help a little bit for sure!



One Pound weight (1 lb) and One Arroba weight (1 @)
(source: customized from www.todocoleccion.net and www.ingenierojsh.com)

4. In Spain we also used to have our own units (and they were different even between the old medieval kingdoms of Castile and Aragon!). In pairs do some research about Spanish customary units, gathering information about vara, arroba, fanega and legua.



One Fanega and half Celemín
(source: customized from www.todocoleccion.net)

5. Did you know that in the UK they are still using their “old system”. It is called the Imperial System and it is totally different from the International System of Units. Find information about the units of mass, volume, length and area, their conversion to international units and the countries where they are used.



Reflect on your learning and click....

CRITERIA	MY LEARNING		
			
<i>Speaking- I can discuss and get to agreements on unit system and conversion of measurements</i>			
<i>Reading -I can research and find specific information on this topic</i>			
<i>Writing - I can spell without any difficulty the units and conversion of measurements, and the countries in which they are used.</i>			

