

## “Lungers”

“Everyone comes here to die.” That is what residents of Arizona thought about many of the people who moved here in the late 1800s and early 1900s. Why would they think that? Many people who came to Arizona during this time came because they were told that the fresh, dry air, and warm temperatures would help them recover from, or at least ease their symptoms of, tuberculosis.

Tuberculosis, also called TB, is a highly contagious lung disease. One seventh to one fourth of all the people that died in the United States in the early 1900s died from tuberculosis. Inhaling the tuberculosis germ spreads TB. The germ is sent out into the air from an infected person coughing, sneezing, or even talking. At the time, there were no medications for tuberculosis, so most people who had the disease died. People suffered with tuberculosis. They ran high fevers, had severe coughs, and the sweats. However, the worst symptom was lesions in their lungs. Lesions are sores that split or blister and then bleed. So, when people with TB coughed, they would cough up blood. This symptom made it easy for other people to identify those who had tuberculosis. The name, “Lunger” came from this symptom. This was not a nice thing to call them, but many people did not like individuals who had tuberculosis. People were terrified they would get TB. As a matter of fact, there was so much fear that some cities had preventoriums. A preventorium was a place where groups of children who were at risk of catching TB were often sent, even if they did have it at the time.

During the tuberculosis epidemic, cities in Arizona advertised the state as an ideal place for treatment of TB. The population of Arizona began to increase due to all of the tuberculosis patients looking for a place to be treated and cured. There were many sanitariums in the state of Arizona. Sanitariums were the facilities where people were treated for serious and contagious diseases. They had doctors and nurses who used different methods of treating the patients and their diseases. All of the sanitariums stressed clean air, healthy food, and lots of rest. They were modeled after European resorts of the time. The sanitariums had beautiful buildings, courtyards, and individual rooms. Some sanitariums even offered cottages, tennis courts, and special treatments. They were very expensive.

Because TB was so contagious, the sanitariums were usually isolated from the cities. Each sanitarium was equipped to take care of about 120 people. Prescott had a sanitarium called The Pines. There were a few sanitariums in Phoenix. One in Sunnyslope held 100 people. But by far the greatest area for sanitariums was in Tucson. Tucson had over a dozen sanitariums. These sanitariums were like hotels.

By 1920, Tucson had 7,000 people who had come for treatment of tuberculosis. So many people came to the West that there was not enough housing for them all. Tent cities began to pop up in different areas. One of the people who lived in a tent city, Dick Hall, described it like this, “a place of squalor shunned by most citizens.” He described what it was like to live in a dwelling there in 1910, “possessed of a wood floor, steel roof, outside water faucet and a one-hole outhouse thirty-five feet to the rear . . . the nights were heartbreaking, as one walked along the dark streets, he heard coughing from every tent. It was truly a place of lost souls and lingering death. Sometimes life was too hard to bear and a victim would end it. He was soon replaced, however, by others who hoped for a cure.” Because people were so desperate to be cured and there was a shortage of housing, many slept in the desert (1).

People continued to die from this disease until a medication was developed in the 1940s. Arizona took care of people with TB for over 50 years before the medication was developed. However, the medication was only effective if the disease was diagnosed in its early stages.

(1) Sanitarium of the Southwest, *Seeking a Cure in The Arizona Sunshine* by W. Lane Rogers, The Catalina Foothills Community, The Desert Leaf, January 1992.

## What Do We Know?

We have very little data (mathematical information) about tuberculosis in the 1900s. At the time the federal government did not collect or keep information about why people died, nor did they keep very good records about large-scale diseases. Doctors and sometimes the state typically kept these records. Many cases were not reported to anyone collecting information. So the data we have are only of the people who were reported to the government. There may have been many, many more cases that went unreported. Here is a collection of data about TB in the early 1900s.

### National Statistics – Deaths from Tuberculosis

(Statistics are conjectures or educated guesses/statements made from examining data)

- 1.) In 1920 1/7<sup>th</sup> to 1/4<sup>th</sup> of all the people that died in the United States died from tuberculosis.
- 2.) In 1900-1904, tuberculosis was causing roughly 185 deaths per 100,000 a year in the United States.  
By 1944 the death rate was down to 43 per 100,000.
- 5.) In 1923, there were 500 deaths per 100,000 in Arizona.

### Arizona Population of Tuberculosis Patients in the early 1900's

CITY	COUNTY	YEAR	POPULATION OF LUNGERS	GENERAL POPULATION	% OF LUNGERS IN THE CITY	# OF DEATHS DUE TO TB
Tucson	Pima	1920	7,000	20,053	34%	100
Sunnyslope	Maricopa	1930	*100	700	14%	4
Prescott	Yavapai	1913	120	5,010	2%	25
Cave Creek	Maricopa	1920	*30	(-) 100	30%	1/2
Castle Hot Springs	Yavapai	1920	10	(-) 100	10%	1/2
Tempe community	Maricopa	1920	*31	1,962	2%	10
Phoenix	Maricopa	1920	941	29,053	32%	145
Arizona		1920		334,162		1,671
New York		1920		10,385,227		10385
United States		1920		106,021,537		196140

(-) = Less than 100 people

\* Also included in Phoenix data

Name \_\_\_\_\_

### Lungers Lab Sheet

1. With your group, examine the tables on the “What Do We Know?” handout and the map of Arizona Cities with TB Statistics.
2. Answer the following questions on a separate sheet of paper. You may use your reading and the data tables.
  - a. If you look at the data for Cave Creek and Castle Hot Springs, it says 1/2 of a person died, how could a half of a person die?
  - b. If you had tuberculosis in the early 1900s, where would you live? Why?
  - c. If you had to pick Arizona or New York where would you live? Why?
  - d. Which data tells you the most? Why?
  - e. What do you think happened in 1944 that lowered the death rate so dramatically?
3. On a piece of chart or graph paper, make a visual representation that you think would help people decide where they might want to live in the 1920’s.
4. The Arizona Historic Society has museums and websites that people from all over the country visit to find out about our history. Write a letter to the Arizona Historic Society that explains the visual representation you made with your group. In your letter explain how this information would be important or helpful to other students learning about tuberculosis camps in Arizona. Make sure you use the map to help draw conclusions.
5. Answer the self-assessment questions on a separate piece of paper.

#### Self-Assessment:

- a. Did your group work as a team? Did you share the work?
- b. Were all your thoughts and writing complete?
- c. How well did your visual representation show your data show your data and make your point?
- d. After seeing other group's representations, would you change your visual representation? If so, what would you change? Why?

## Lunger Rubric

Check  
for  
yourself!

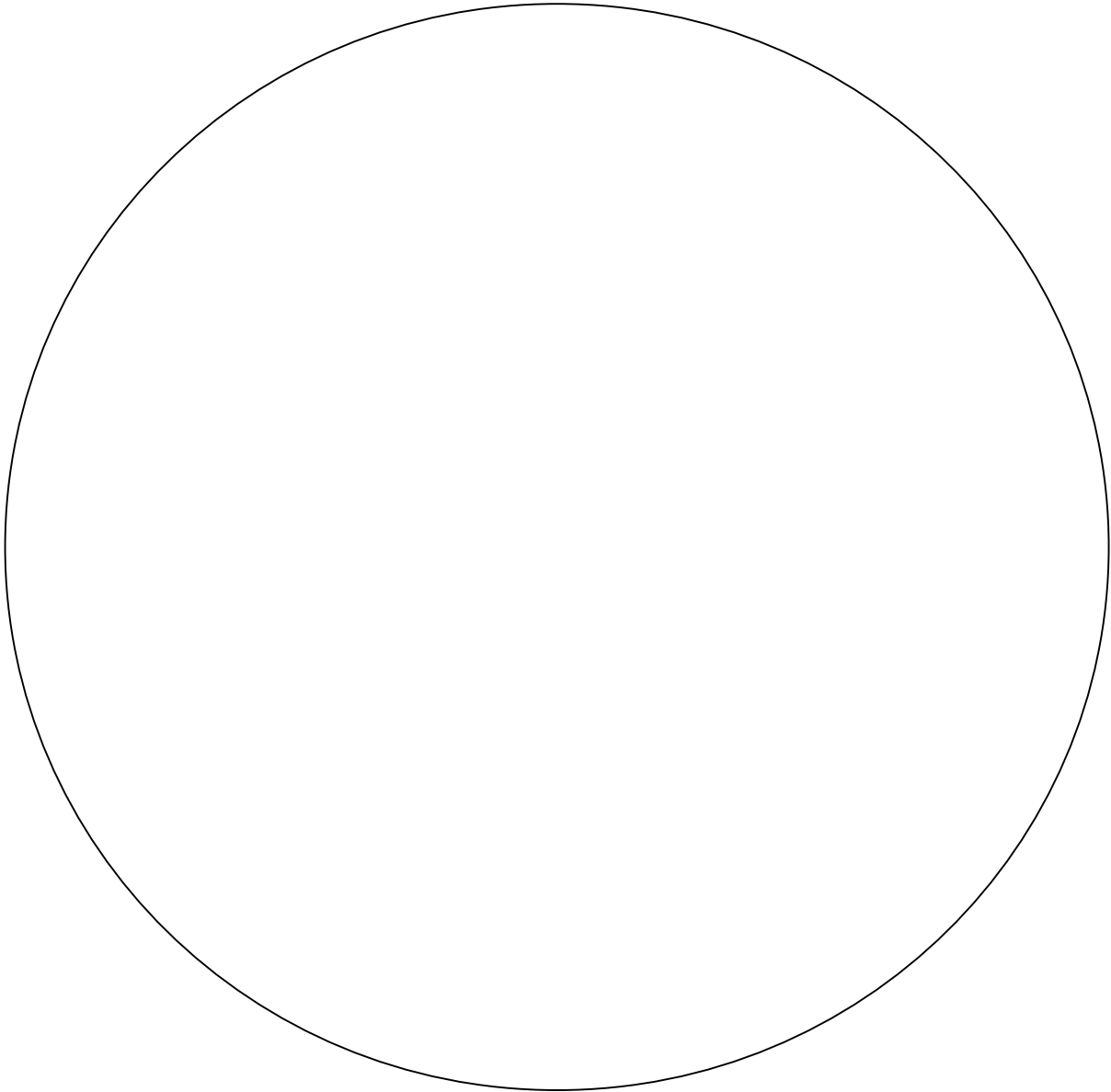
	<b>4 pts.</b>	<b>3 pts.</b>	<b>2 pts.</b>	<b>1 pt.</b>	<b>0 pts.</b>
<b>Presentation</b>	Rich demonstration showing the relationship of the data to the populations. (Oral or written)	Adequate demonstration showing the relationship of the data to the populations. (Oral or written)	Limited demonstration showing the relationship of the data to the populations. (Oral or written)	Lacking demonstration showing the relationship of the data to the populations. (Oral or written)	No presentation.
<b>Visual Representation</b>	Exemplary representation that clearly conveys and reflects the group's conjectures.	Effective representation that conveys and reflects the group's argument.	A representation that conveys and/or reflects the group's argument in a very limited manner.	A representation that does not convey and/or reflect the group's argument.	No representation.
<b>Data Analysis (During group work)</b>	Exemplary explanation of representation and conjecture that is based on the data.	Effective explanation of representation and conjecture that is based on the data.	Limited explanation of representation and conjecture that is based on the data.	Inability to explain the representation and conjecture based on the data.	No analysis.
<b><u>Totals</u></b>					<u>Combined Total</u>

## Lungers Lab Sheet –Answer Key

1. With your group, examine the tables on the “What Do We Know?” handout.  
*As the students are working on #1- 4, move between the groups and ask questions. This time can be used to make some informal assessments about the students’ understanding of the data. This is also a time to question students’ methods and thoughts, and to help them clarify their reasoning.*
  
2. Answer the following questions on a separate sheet of paper; you can use your reading and the data tables.
  - a. If you look at the data for Cave Creek and Castle Hot Springs it says 1/2 of a person died, how could a half of a person die?
  - b. If you had tuberculosis where would you live? Why? *Answers will vary. Prompt the students to support their answers from the data or story.*
  - c. If you had to pick Arizona or New York where would you live? Why? *Answers will vary. Prompt the students to support their answers from the data or story.*
  - d. Which data tells you the most? Why? *Answers will vary. Prompt the students to support their answers from the data or story.*
  - e. What do you think happened in 1944 that lowered the death rate so dramatically?  
*Medications were discovered to treat tuberculosis.*
  
3. On a large piece of chart paper, make a visual representation that you think would help people decide where they might want to live in the 1920’s. *Responses will vary, but may include bar graphs, circle graphs, and some restructured tables. See the rubric provided.*
  
4. The Arizona Historic Society has museums and webs sites that people from all over the country visit to find out about our history. Write a letter to the Arizona Historic Society that explains the visual representation you made with your group. In your letter explain how this information would be important or helpful to other students learning about tuberculosis camps in Arizona. Make sure you use the map to help draw conclusions. *The letter to the Arizona Historical Society should contain facts relating to the statistics and the Arizona map (20 points) and why this information is important for students to know (5 points). Mastery will be considered 20 points or higher.*
  
5. Answer the self-assessment questions on a separate piece of paper. *These can be used as an additional assessment. Questions C and D are excellent tools to see if the students view on the data or representing the data shifted.*

### Self-Assessment:

- a. Did your group work as a team? Did you share the work?
- b. Were all your thoughts and writing complete?
- c. How well did your visual representation show your data show your data and make your point?
- d. After seeing other group's representations, would you change your visual representation? If so, what would you change? Why?



Circle graph blackline