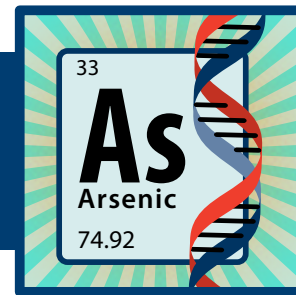


## Student Directions

### UNIT: DNA

### LESSON 1: ARSENIC AND EPIGENETICS: A DNA STORY

#### *Activity 1D: Walking in the Steps of an Epigeneticist*



TEXAS BIOMEDICAL  
RESEARCH INSTITUTE  
HEALTH STARTS WITH SCIENCE

Using data from the CDC (<https://nccd.cdc.gov/Toolkit/DiabetesBurden/Home/Index>), graph, evaluate, compare, and present their data to the class.

### Part 1: Graphing T2D Data

In this part, you will be graphing data about T2D in your state, using data from the Centers for Disease Control (CDC) website. The categories on the CDC website are:

- › Health Burden: Diabetes Prevalence
- › Economic Burden: Total Costs
- › Mortality: Number of Diabetes-Attributed-Deaths

Your teacher may assign you to work individually or in a group to graph a specific category. Write your specific instructions for Part 1 below. When making your graph, remember to include a title and labels for the X and Y axis. Include any units of measure in the labels!

### Specific instructions:

- › Group: \_\_\_\_\_
- › Assigned Category: \_\_\_\_\_
- › Assigned Subcategory (if applicable): \_\_\_\_\_

# Student Directions

## UNIT: DNA

### LESSON 1: ARSENIC AND EPIGENETICS: A DNA STORY

#### Activity 1D: Walking in the Steps of an Epigeneticist

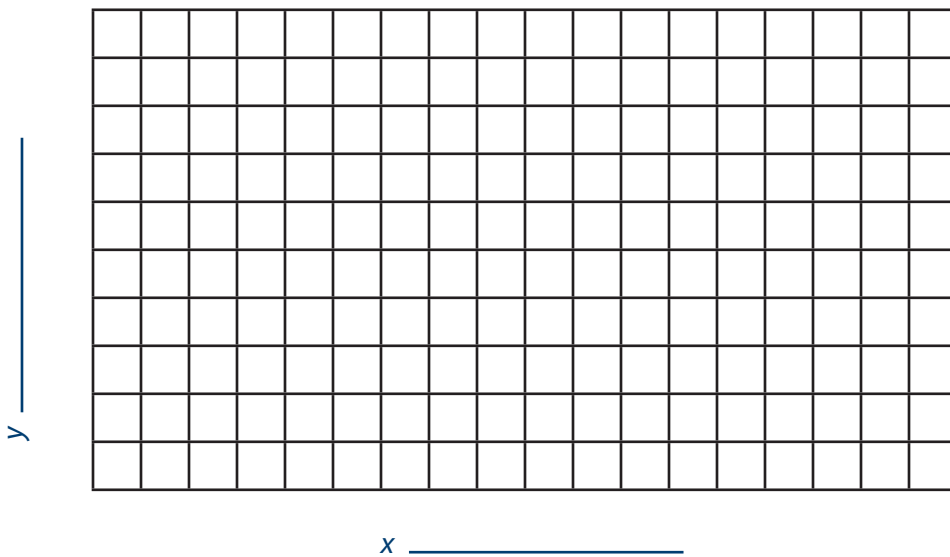


### Part 1: Graphing T2D Data

State: \_\_\_\_\_

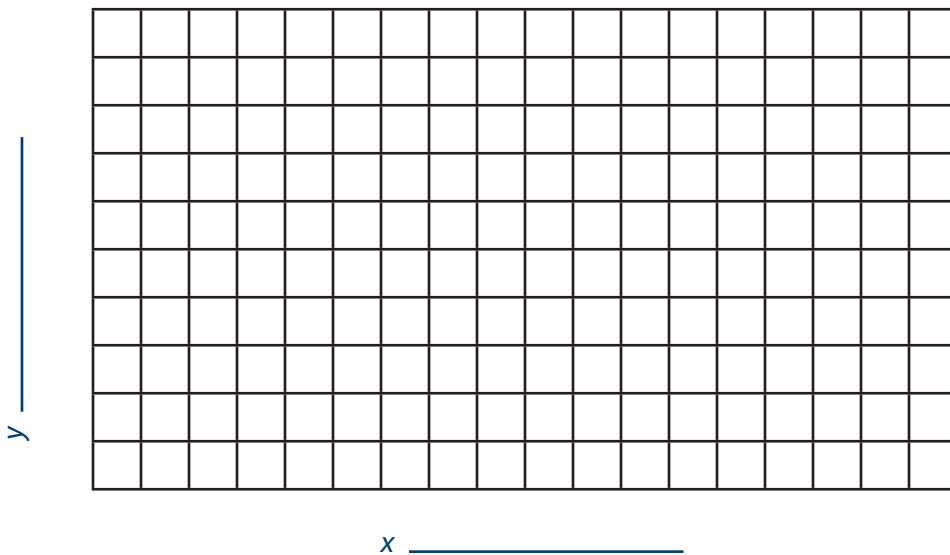
**Category:** Health Burden, Diabetes Prevalence

Title \_\_\_\_\_



**Category:** Economic Burden, Total Costs

Title \_\_\_\_\_

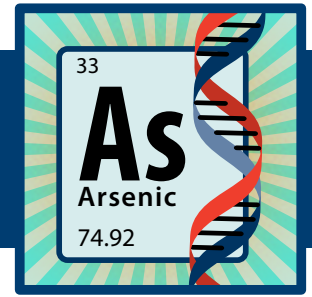


# Student Directions

## UNIT: DNA

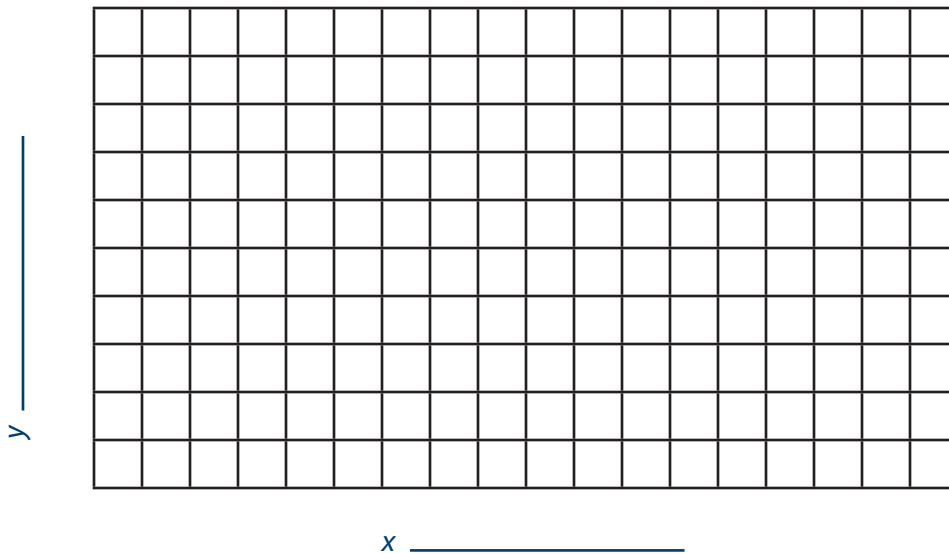
### LESSON 1: ARSENIC AND EPIGENETICS: A DNA STORY

#### Activity 1D: Walking in the Steps of an Epigeneticist



**Category:** Mortality, Number of Diabetes-Attributed Deaths

Title \_\_\_\_\_



### Part 2: Epigenetic and T2D Trends

Review the transformed article, *Arsenic – The Silent Toxin That Keeps On Giving*. This study focused on the indigenous peoples in the Western states: North Dakota, South Dakota, Oklahoma, and Arizona. The study sought to evaluate the epigenetic impact of arsenic, an identified toxin in the drinking water, on offspring. What the scientists found is a correlation between the incident of T2D in adult offspring whose mothers were exposed to arsenic during their pregnancies.

You and your group will be assigned one of the states from the original study. Within each group are specific categories: Health Burden, Economic Burden, or Mortality. Members of your group may be assigned different sub-categories to graph. Put your specific instructions below.

- Group: \_\_\_\_\_
- Assigned Category: \_\_\_\_\_
- Assigned Subcategory: \_\_\_\_\_

If multiple groups are working on the same state and category, but different sub-categories, the groups need to come together and evaluate their final graphs. Looking at the group's graphs, generate a claim regarding the impact of T2D. Support your claim data evidence. Be prepared to share your claim/reasoning with your group and your class.

