Instructor's Guide: Eviction USA

Before you begin…

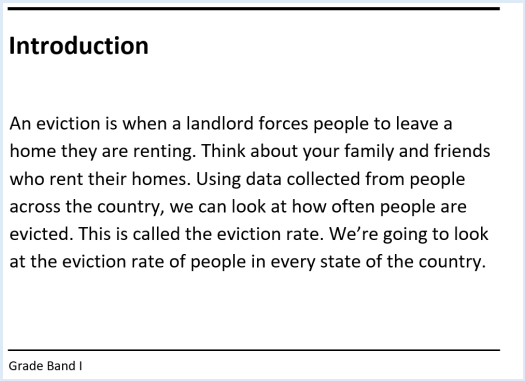
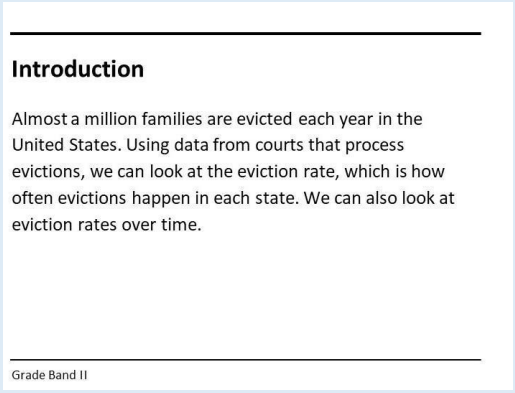
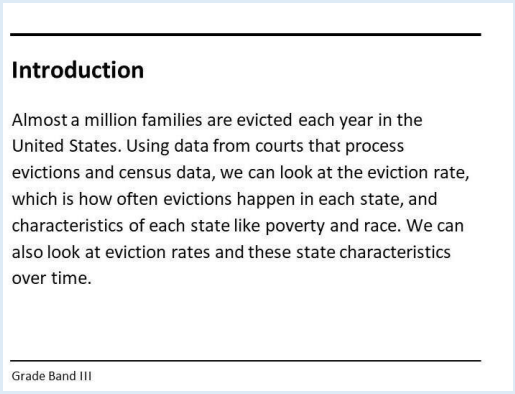
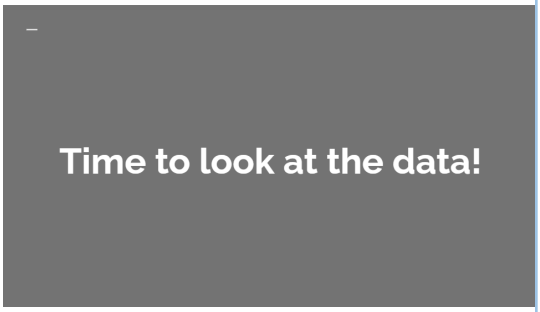
1. Identify which grade band your class belongs in:
    - *Grade Band I:* Grades 3 – 5 (elementary school)
    - *Grade Band II:* Grades 6 – 8 (middle school)
    - *Grade Band III:* Grades 9 – 12 (high school)

2. There are five subsections:
    - Data Question
    - Data Collection
    - Data Analysis
    - Data Visualization
    - Data Equity, Ethics, and Privacy

    Select one or two subsections as your *Learning Goal(s)* for your lesson. Each subsection has a *Learning Goal* and *Alternative Lesson*, where the "answer" is given in the latter. *We recommend that if you pick Data Question or Data Collection, you should pick both.*

    In this document, *Learning Goal(s)* are in the highlighted rows in the table below, whereas *Alternative Lesson(s)* are in the unhighlighted rows. The Google Slides have the *Learning Goal* slides with orange titles and subtitle marks on the bottom, whereas the other slides will be for the *Alternative Lesson* unless indicated or instructed otherwise in the **Instructor Notes** in the table below.

3. Read and follow the guide based on whether you picked a *Learning Goal* or not for each subsection. Within each subsection are further instructions for each Grand Band.

Slide Content	Instructor Notes
	Introduction (no learning goal for this subsection) Read over the introduction paragraph provided on the slide.
	*Grade Band I:* An eviction is when a landlord forces people to leave a home they are renting. Think about your family and friends who rent their homes. Using data collected from people across the country, we can look at how often people are evicted. This is called the eviction rate. We're going to look at the eviction rate of people in every state of the country.
	*Grade Band II:* Almost a million families are evicted each year in the United States. Using data from courts that process evictions, we can look at the eviction rate, which is how often evictions happen in each state. We also look at eviction rates over time.
	*Grade Band III:* Almost a million families are evicted each year in the United States. Using data from courts that process evictions and census data, we can look at the eviction rate, which is how often evictions happen in each state, and characteristics of each state like poverty and race. We also look at eviction rates and these state characteristics over time.
	**Time to look at the data!** Show the class the data and give about 5 minutes for them to observe the data before moving onto the first subsection. Download the excel sheets here. Note 1: The Google Sheets does not render the data visualizations

	correctly (e.g., rescales axes), so download the sheets to see the correct visualizations. <u>Note 2:</u> For Grade Band I, you may use the online dashboard instead to show the data. https://evictionlab.org/map/
Data Question - Notice What do you notice about the data? Start by saying, "I notice that..." • To be filled • To be filled • To be filled • To be filled • To be filled • To be filled Learning Goal: For all Grade Bands **Data Question - Wonder** What do you wonder about the data? Start by saying, "I wonder if...", "I wonder why...", or "I wonder how..." • To be filled • To be filled • To be filled • To be filled • To be filled • To be filled Learning Goal: For all Grade Bands	**Data Question** – What do we notice and wonder about the data? Students should formulate broad and general questions about a topic of interest (preferably from among those provided within the Data Story). <u>*For all Grade Bands (I, II, III):*</u> Ask your students: • What do you notice about the data? Have them answer the question by saying, ○ "I notice that…" • What do you wonder about the data? Have them answer the question by saying, ○ "I wonder if…" ○ "I wonder why…" ○ "I wonder how…" As you ask your students to answer questions, fill in the slide with their responses (i.e., type in the responses in the "To Be Filled" parts).
On the slides, select one of the questions and remove the rest.	**Data Question** Data questions for each grade band are provided. <u>Select one to try and answer.</u> The text in the brackets and in blue are the answers to the questions.
Grade Band I: **Data Question** • Which state has the highest eviction rate in 2016? • Which state has the lowest eviction rate in 2016? • Which state has the most change in eviction rate over time? • Which state has the least change in eviction rate over time? • Which state has an eviction rate of 4.07% in 2016? • Is the 2016 eviction rate in your state higher than the nation's 2016 rate? Grade Band I	*Grade Band I:* • Which state has the highest eviction rate in 2016? [South Carolina at 8.87%] • Which state has the lowest eviction rate in 2016? [Minnesota at 0.59%] • Which state has the most change in eviction rate over time? [Michigan and Nevada tie at 3.97 percentage points of change] • Which state has the least change in eviction rate over time? [Montana at 0.52 percentage points of change]

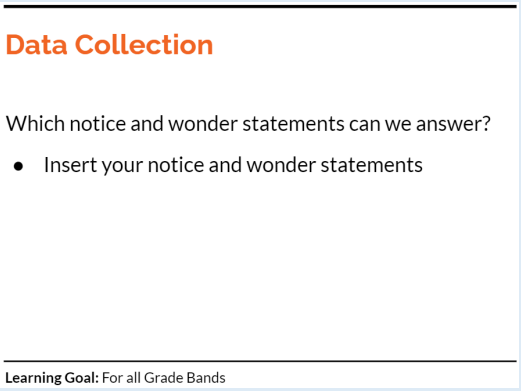
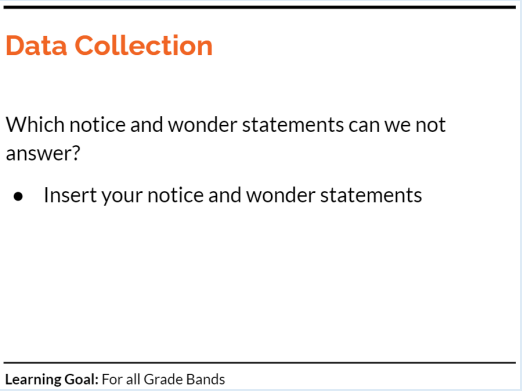
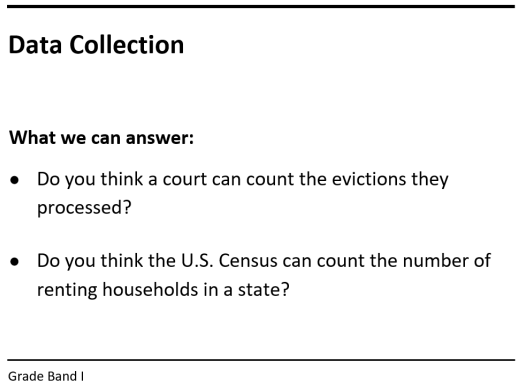
	• Which state has an eviction rate of 4.07% in 2016? [Indiana] • Is the 2016 eviction rate in your state higher than the nation's 2016 rate? [Depends on the state; nationwide rate was 2.99%]
Grade Band II: **Data Question** • Which states had the highest and lowest eviction rates in 2016? • Which states had the highest and lowest eviction rates in 2000? • Which states were above the national eviction rate in 2016? • Which states were above the national eviction rate in 2000? • Were there more states above the national eviction rate in 2016 than 2000? Grade Band II	*Grade Band II:* • Which states had the highest and lowest eviction rates in 2016? [South Carolina at 8.87% and Minnesota at 0.59%] • Which states had the highest and lowest eviction rates in 2000? [Nevada at 7.25% and Minnesota at 0.01%] • Which states were above the national eviction rate in 2016? [South Carolina (8.87), Virginia (5.12), Delaware (5.10), Georgia (4.71), North Carolina (4.61), Oklahoma (4.24), Indiana (4.07), Mississippi (3.96), West Virginia (3.52), Ohio (3.49), Nevada (3.41), Michigan (3.28), New Mexico (3.18), Rhode Island (3.07)] • Which states were above the national eviction rate in 2000? [Nevada (7.25), Virginia (6.17), Georgia (5.67), North Carolina (5.67), Michigan (5.56), Delaware (5.27), New Mexico (4.92), Colorado (3.65), Wisconsin (3.18), Mississippi (3.11), Pennsylvania (3.03), Indiana (2.87), Florida (2.85)] • Were there more states above the national eviction rate in 2016 than 2000? [Yes, there were 13 in 2000 and 14 in 2016.]
Grade Band III: **Data Question** • What census variables are most associated with eviction rate? • What census variables are least associated with eviction rate? • Why are some census variables associated with eviction rate and some not? Are there surprises? • How well can we predict eviction rate with the most associated census variable? • Should we predict eviction rate with census variables? Grade Band III	*Grade Band III:* • What census variables are most associated with eviction rate? [The primary census variables associated with eviction rate are the percentage of the population that identifies as white (pctwhite) and Black (pctafam). Secondary associated variables are the percent of people who identify as Asian (pctasian) and the median gross rent (mediangrossrent), followed by the percent of people who identify as Hispanic (pcthsipanic), median gross rent as a percent of household income (rentburden), the poverty rate (povertyrate), population (population), and the

percent of the population that identifies as Native Hawaiian or Pacific Islander (pcthpi).]

- What census variables are least associated with eviction rate?
  [percent of households that are renter-occupied a(pctrenteroccupied), median household income (medianhouseholdincome), median property value (medianpropertyvalue), percent of the population that identifies as American Indain or Alaskan Native (pctamind), percent of the population that identifies as two or more races (pctmultiple), percent of the population that identifies as a race not specifically captured in the survey (pctother)]
- Why are some census variables associated with eviction rate and some not? Are there surprises?
  [It is surprising that race variables seem to be more strongly associated with eviction rate than wealth variables like income, rent, and property values.]
- How well can we predict eviction rate with the most associated census variable?
  [We can explain 22.5% of the variance in eviction rate using the percent of people who identify as Black (pctafam) alone in a linear regression.]
- Should we predict eviction rate with census variables?
  [It is important to consider multiple issues.

  We do not expect race to intrinsically be causing evictions; rather we expect race to be associated with other causes of evictions. For example, it may be that local laws favor evictions more in areas that are high in the share of people who identify as Black (pctafam). If so, the local laws are causing a higher eviction rate. If similar unmeasured variables are causing evictions, our predictions will not be correct in the future if those variables change.

  It is important to look for and focus on variables that we can change. Otherwise, we will miss out on possibilities to reduce the eviction rate. For example, both the median gross rent as a percentage of household income (rentburden) and the poverty rate (povertyrate) have stronger effects on eviction rate than the share of people who identify as Black (pctafam) (per percentage point),

	and those are variables we can potentially change through policy.]
 	**Data Collection** – What goes into gathering and selecting data? Students should identify the kinds of questions they can answer with the data at hand. Going further, they should identify the kinds of data they could collect or find to answer those questions. *For all Grade Bands (I, II, III):* Have the students label which **notice** and **wonder** statements that they came up in the previous subsection and be answered or not answered. For the statements that they cannot answer, ask them what additional information or data they need to answer those statements.
	Data Collection A list of questions for each grade band are provided that can and cannot be answered by the data.
Grade Band I: 	*Grade Band I:* What we can answer: • Do you think a court can count the evictions they processed? • Do you think the U.S. Census can count the number of renting households in a state? What we cannot answer: • Can we say how many people were in each evicted family? • Can we say why a family was evicted?

Data Collection

What we cannot answer:

- Can we say how many people were in each evicted family?
- Can we say why a family was evicted?

Grade Band I

Grade Band II:

Data Collection

What we can answer:

- Do you think it's better to compare states by their number of evictions or by their eviction rate?
- Do you think that evictions are counted the same way in different states?

Grade Band II

Data Collection

What we cannot answer:

- Why do some states have higher eviction rates than others?
- Why do eviction rates change over time?

Grade Band II

Grade Band III:

Data Collection

What we can answer:

- Why is the poverty rate an imperfect predictor of eviction rate?
- What are some things to consider with the data about race?

Grade Band III

Grade Band II:

What we can answer:

- Do you think it's better to compare states by their number of evictions or by their eviction rate?
- Do you think that evictions are counted the same way in different states?

What we cannot answer:

- Why do some states have higher eviction rates than others?
- Why do eviction rates change over time?

Grade Band III:

What we can answer:

- Why is the poverty rate an imperfect predictor of eviction rate?
- What are some things to consider with the data about race?

What we cannot answer:

- What data do we not have that would be better for predicting eviction rate?
- Why are some variables associated with eviction rate?

Data Collection

What we cannot answer:

- What data do we not have that would be better for predicting eviction rate?
- Why are some variables associated with eviction rate?

Grade Band III

Data Analysis

Data are often "messy," such as missing values and in the wrong units (e.g., feet vs. inches).

Time to look at a "messy" version of the data and identify what parts of the data are messy!

Learning Goal: For all Grade Bands

Data Analysis – What goes into preparing or "wrangling" data?

Students should learn that unstructured or incomplete data cannot be analyzed. Use the "messy" data version and see notes on how the data are messy (wrong units on a column, wrong units on part of a column, zeros for data that is actually missing rather than zero).

Note: Make sure to isolate the parts of the data that matches the cleaned data for your specific *Grade Band*.

Insert the selected visualization on the blank slide.

Data Analysis

Insert the selected visualization.

Grade Bands I and II

Data Analysis

Alternative I: Recommended for Grade Bands I and II
Use the "clean" data that are prepared for visualization. Data are filtered and aggregated into separate tabs with the visualization for your use.

Select one of the tabs and visualizations. Show the student the specific tab and have them answer how they would analyze that data before showing them the visualization.

Data Analysis

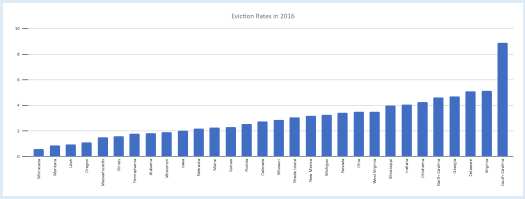
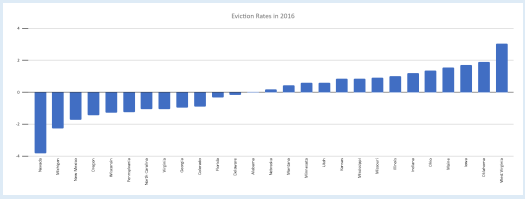
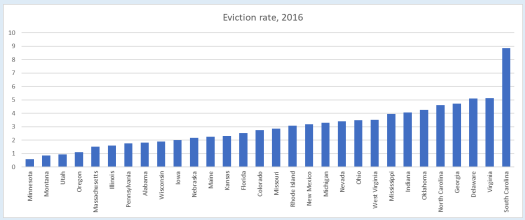
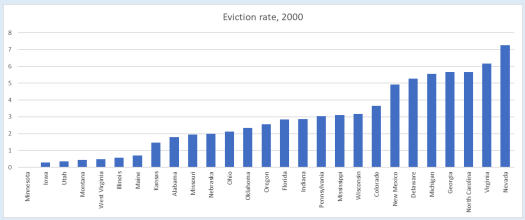
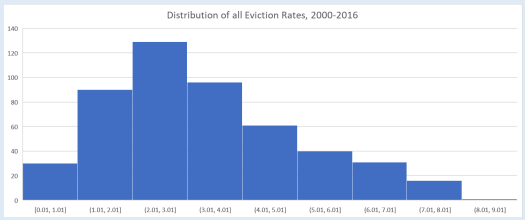
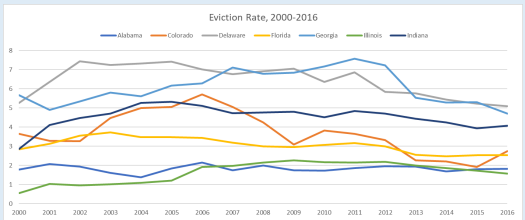
Time to analyze the data! Follow these steps:

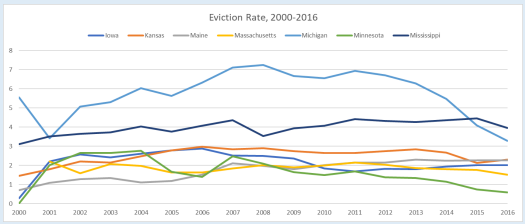
1. Create a correlation matrix in Excel.
2. Use conditional formatting to color the positive and negative correlations.
3. Compare variables that are highly correlated with eviction rate.

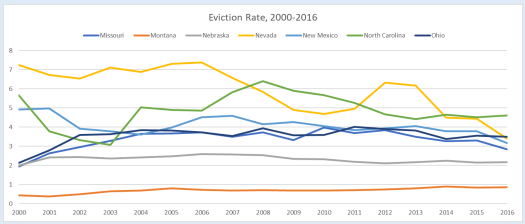
Grade Band III

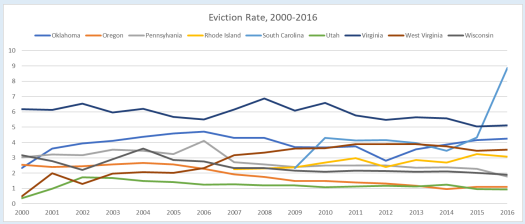
Alternative II: Recommended for Grade Band III
Students should learn to aggregate the data to better visualize the data. Use the "clean" data that are not prepared for visualization.

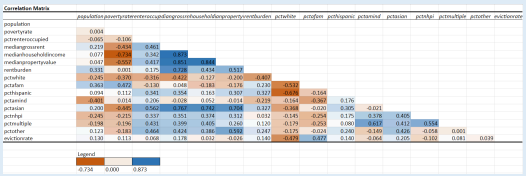
- Ask the students to create a correlation matrix in Excel.
- Use conditional formatting to color the positive and negative correlations.
- Compare variables that are highly correlated with eviction rate.

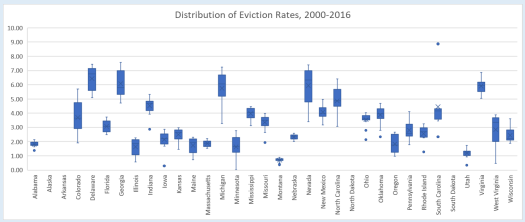
All data visualizations are on the slides.	**Data Visualization** – Which data visualization is best to tell the story? Students should learn how to read and interpret roughly 3 to 5 graphs and charts (i.e., read, create, and share data visualizations).
 	*Grade Band I:* Bars Charts ● Eviction rate in 2016 ● Change in eviction rate over time (2000 - 2016)
   	*Grade Band II:* Bar, line charts, and histograms ● Eviction rate in 2016 ● Eviction rate in 2000 ● Distribution of all Eviction Rates, 2000 - 2016 ● Eviction rate over time by state (4 images)











Grade Band III: Correlation Plots and Box-and-Whisker Charts

- Correlation matrix/heatmap
- Boxplot of eviction rates across states

See slides in previous row.

Data Visualization

A set of visualizations are prepared for you to select. Please review the interpretation of each one described in the *Learning Goal* section and select one that best matches the Data Question your class picked.

Data Equity, Ethnics, and Privacy

For this subsection, there is no specific *Learning Goal*. Instead, select “Data Equity,” “Data Ethics,” or “Data Privacy” to wrap up this data story.

Data Equity - Who is represented in the data?

- Are you represented in the data?
- Are you family members represented in the data?
- Are your friends represented in the data?
- Are people in your community represented in the data?
- Do the data reflect your experiences?

For all Grade Bands

Data Equity – Who is represented in the data?

For all Grade Bands (I, II, III): Ask your students the following questions:

- Are you represented in the data?
- Are you family members represented in the data?
- Are your friends represented in the data?
- Are people in your community represented in the data?
- Do the data reflect your experiences?

Students should learn that failing to account for representation, such as having race and ethnicity breakdown, in the data could result in an inaccurate story and cause further inequalities.

Data Ethics - How should we report the data?

Suppose we published our data analysis and data visualization.

- What would the title be?
- What information, key concepts, and takeaways would be included in the article?

For all Grade Bands

Data Ethics - How should we report the data?

Now, to evaluate our answers from the previous questions.

- What conclusions would someone make from the title alone?
- Does the content of the article match the title?
- Does the article credit who collected, analyzed, and/or visualized the data?
- Would it be important to know the answer to the previous question? Why or why not?

For all Grade Bands

Data Ethics – How should we report the data?

For all Grade Bands (I, II, III): Prompt your students that suppose they decided to publish their data analysis and data visualization as a news article. Ask your students the following questions:

- What would the title be?
- What information, key concepts, and takeaways would be included in the article?

Next, have the students evaluate their answers with the following questions:

- What conclusions would someone make from the title alone?
- Does the content of the article match the title?
- Does the article credit who collected, analyzed, and/or visualized the data?
- Would it be important to know the answer to the previous question? Why or why not?

Students should learn how they report the data story could cause unintended ethical issues, such as misleading titles, and how important it is to report the sources of the data collection, analysis, and visualization.

Data Privacy - Are we telling the right data story?

- Suppose the data were collected at the state region level (Northwest, West, Southwest, Mid-West, Southeast, Mid-Atlantic, and Northeast). Would the answer to the data question change? Why or why not?
- Suppose the data were reported at the city level. Would the answer to the data question change? Why or why not?

For all Grade Bands

Data Privacy - Are we telling the right data story?

- If your information was part of the data, would you be more comfortable with the data being reported at the state region level or city level? Why or why not?
- At what geographic level would answer the data question while protecting your personal information?

For all Grade Bands

Data Privacy – Are we telling the right data story?

For all Grade Bands (I, II, III): Ask your students the following questions:

- Suppose the data were collected at the state region level (Northwest, West, Southwest, Mid-West, Southeast, Mid-Atlantic, and Northeast). Would the answer to the data question change? Why or why not?
- Suppose the data were reported at the city level. Would the answer to the data question change? Why or why not?
- If your information was part of the data, would you be more comfortable with the data being reported at the state region level or city level? Why or why not? (Note: Students should realize that smaller geographies make it easier to find someone.)
- At what geographic level would answer the data question while protecting your personal information?

Students should learn the data story could change and be potentially inaccurate depending on how the data are reported due to data privacy concerns.