

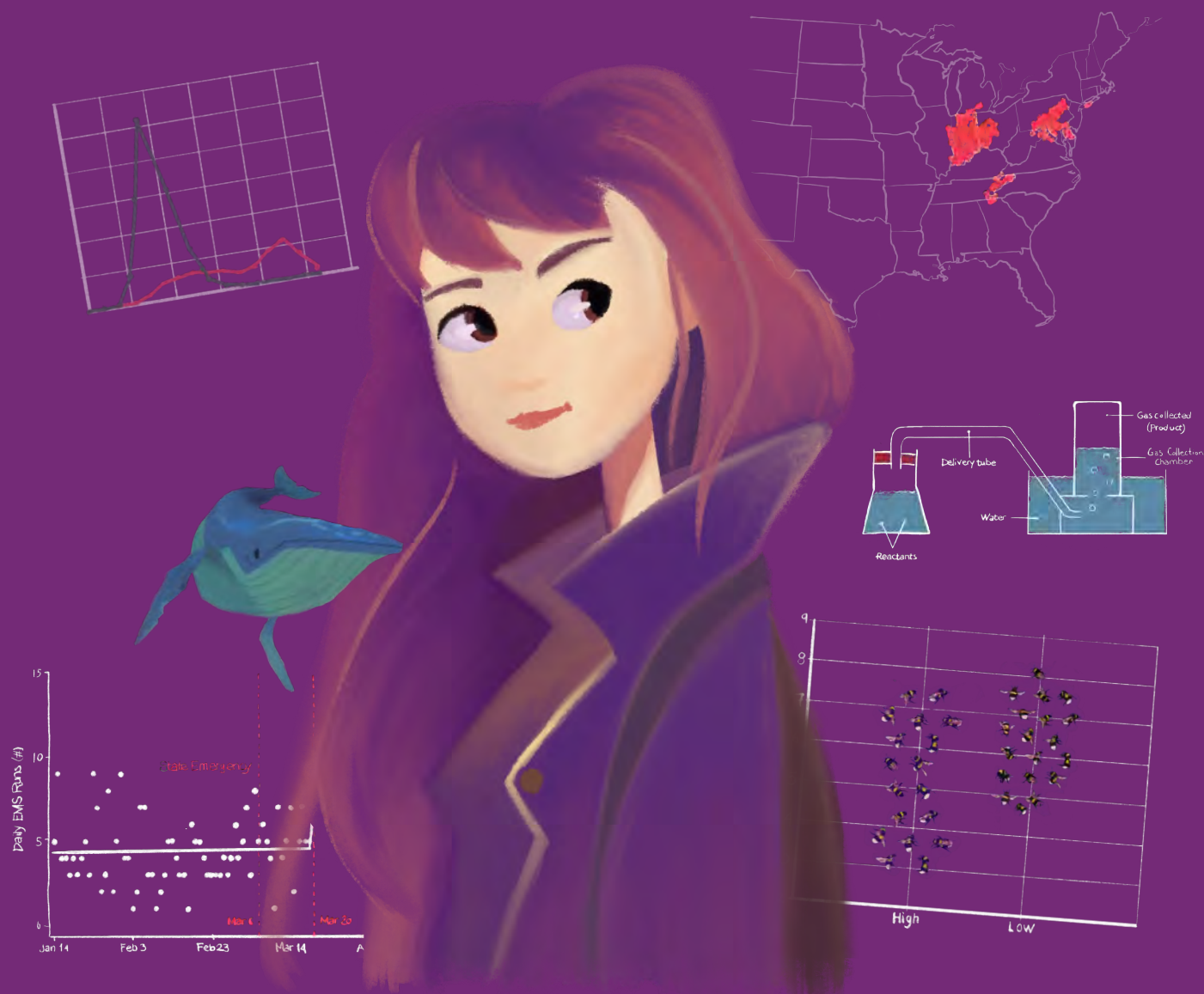
Data Classroom



**Data will help solve the big
problems of tomorrow...**

Prepare your students today.

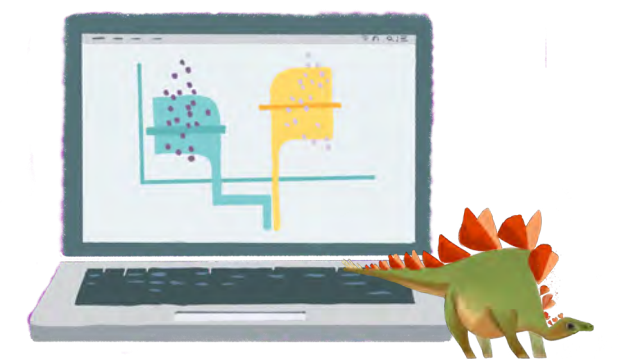
On A Mission To Teach Data Skills In Math And Science

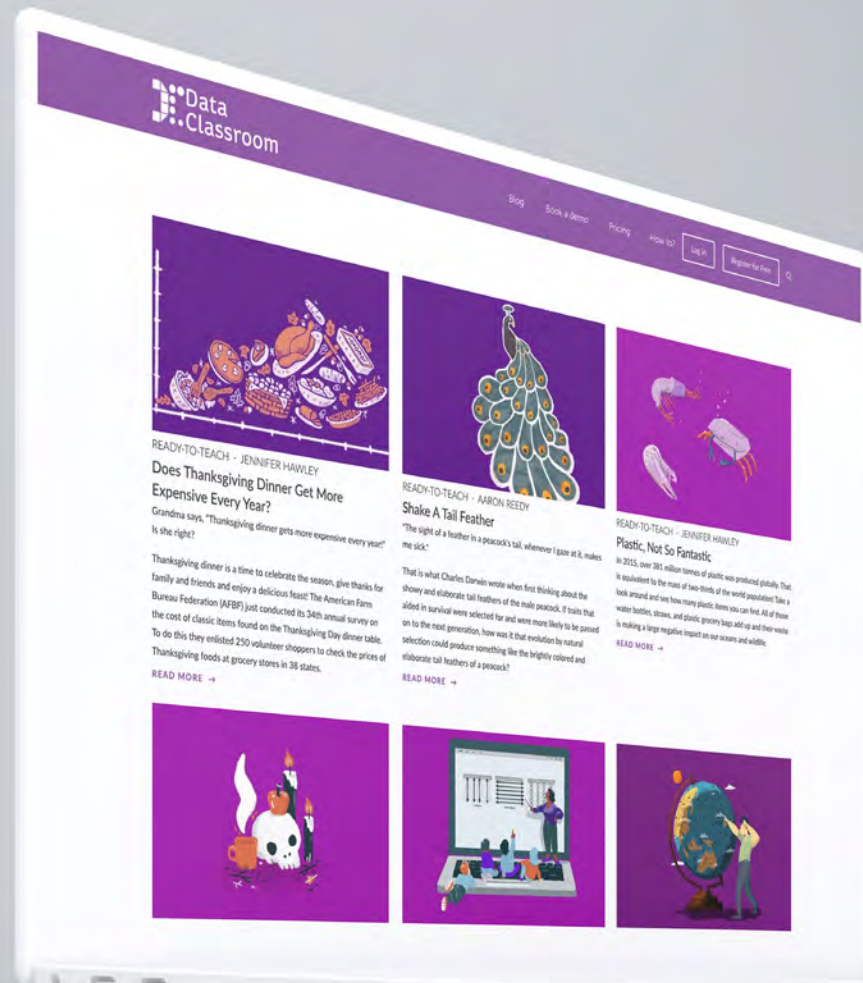


DataClassroom is designed by teachers for teachers with pedagogy in mind - plenty of built-in explanations and informative messaging to support the teacher and student in the learning process.

Data skills are key to solving the biggest problems of tomorrow.

DataClassroom is a web-app for graphing, statistics, and data analysis in the grade 6-12+ science and math classroom. The tool runs on any device that can access the internet. And it can integrate with learning management systems such as Schoology, Clever, and Google Classroom! The tool has been designed by teachers to provide the opportunity to integrate next-generation data skills seamlessly with the learning experiences they are already creating.





Ready-to-Teach Lesson Plans

Writing new lessons to bring data analysis skills into middle school and high school classrooms is time consuming and hard. Ready-to-Teach lessons make it easy for teachers to engage students in real world datasets to investigate the trends and insights data have to offer.

Datasets in the Resource Library include large datasets on current topics to small datasets from classic middle and high school lab activities. Each lesson plan is fully customizable and includes Background information, explanations of the Variables and the Dataset, and a detailed Activity section to make it easy for teachers to bring each lesson to their classroom with little to no prep.

Looking for a meaningful lesson for a hard to reach student? In need of material to strengthen a weak area? Our lesson library is searchable by grade, subject, skill, and topic so educators can quickly find exactly what they're looking for.



Title: Epidemic in a pandemic: What effect might COVID-19 be having on the opioid crisis in the US?

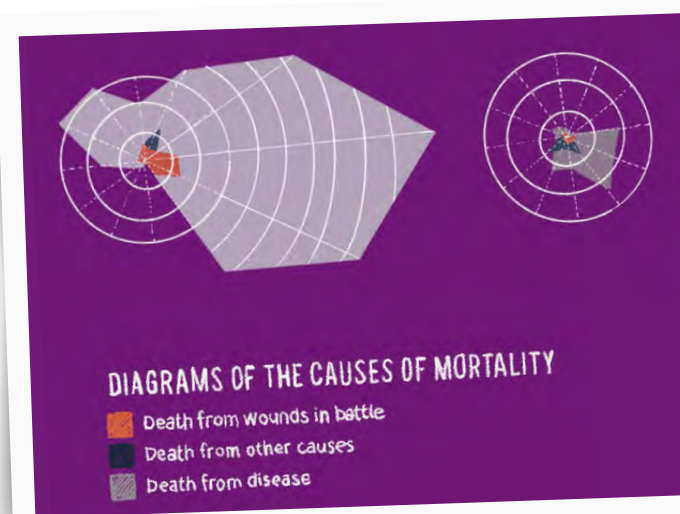
Dataset Source: Drug and Alcohol Dependence. September 2020.

Skills: Graphing, Data Analysis, Line of Best Fit, Linear Regression

Title: Do you have to pay to be a winner? MLB payroll and performance data

Data Source: fueledbysports.com, usatoday.com

Skills: ANOVA, t-test, descriptive statistics



Title: Florence Nightingale: Data Visualization Pioneer

Data Source: Britannica, American Statistical Association

Skills: box and whiskers, scatter plot, coxcomb plot, data visualization

The Resource Library contains curated datasets and lesson plans for use in grades 6-12+ across physical, life, and social sciences as well as current events and additional content from our partners at Data Nuggets.

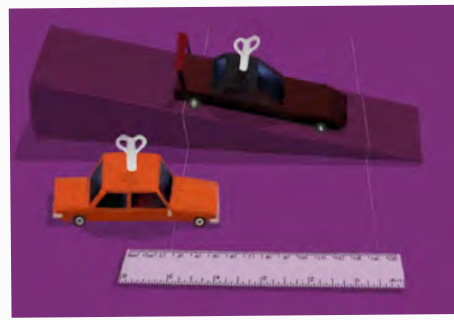
DATA *Nuggets*



Title: Antibiotic Use and Resistance
Skills: correlation, line of best fit, linear regression
Subject: Biology, Math



Title: Reaction Rate Lab
Skills: modeling, line graph
Subject: Chemistry



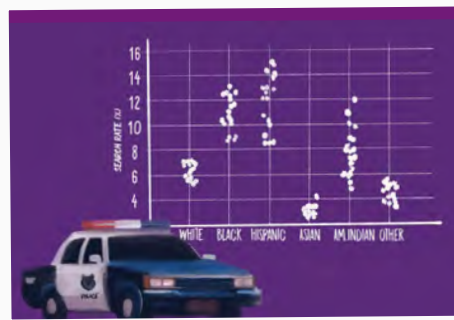
Title: Car and Ramp labs
Skills: line graph, scatter plot, acceleration, modeling
Subject: Physics



Title: Potato Osmosis Lab
Skills: anova, average, box and whiskers, box plot, line of best fit
Subject: Life Science, Biology, AP Biology



Title: A Cure for Covid? Testing Hydroxychloroquine
Skills: bubble plot, chi-square, frequency plot
Subject: Current Events, Statistics, Biology



Title: Driving While Black or Brown
Skills: dot plot, line graph, scatterplot
Subject: Social Science, Current Events, Statistics



Title: Coin Flip Chi-Square
Skills: categorical bubble plot, chi-square, frequency plot, probability, statistics
Subject: Statistics, Math, AP Biology



Title: NBA Salary Data: Mean or Median?
Skills: box and whiskers, mean, median, scatter plot
Subject: Math, Current Events, Statistics



Title: Plastic. Not so fantastic
Skills: bubble plot, chi-square, frequency plot
Skills: Environmental Science, Social Science



What is an insect?
 All insects are members of the phylum Arthropoda. They have three pairs of legs, two pairs of antennae, and a segmented body. The head is at the front, the thorax is in the middle, and the abdomen is at the back. They also have a variety of structures, including wings, gills, and tails. They can move in many ways, including flying, crawling, and swimming. Most of the insects you see are in the phylum Arthropoda. Some are in the phylum Mollusca, and some are in the phylum Annelida. Insects are the most diverse group of animals on Earth. There are over 1 million species of insects, and they live in almost every part of the world.

Insect Groups

MAYFLIES Order: Zygoptera. Three pairs of legs with a single hook at the end. Three pairs of wings. They live in freshwater streams and rivers. They are the only insects that have gills as adults. They are the only insects that have gills as adults. They are the only insects that have gills as adults.	STONEFLIES Order: Plecoptera. Three pairs of legs with two hooks at the end. Two pairs of wings. They live in freshwater streams and rivers. They are the only insects that have gills as adults. They are the only insects that have gills as adults. They are the only insects that have gills as adults.	CADDISFLY LARVAE Order: Trichoptera. Three pairs of legs with two hooks at the end. Two pairs of wings. They live in freshwater streams and rivers. They are the only insects that have gills as adults. They are the only insects that have gills as adults. They are the only insects that have gills as adults.
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AQUATIC WORMS
 Phylum: Annelida. Segmented bodies. They live in freshwater streams and rivers. They are the only insects that have gills as adults. They are the only insects that have gills as adults. They are the only insects that have gills as adults.

LEECHES
 Phylum: Annelida. Segmented bodies. They live in freshwater streams and rivers. They are the only insects that have gills as adults. They are the only insects that have gills as adults. They are the only insects that have gills as adults.

Ready-to-Teach datasets come complete with activities, supplemental materials, and links to resources that allow students to explore the world through real world data.

Scan the code for an introduction to our full Resource Library of datasets and lesson plans:



Graphing Made Easy

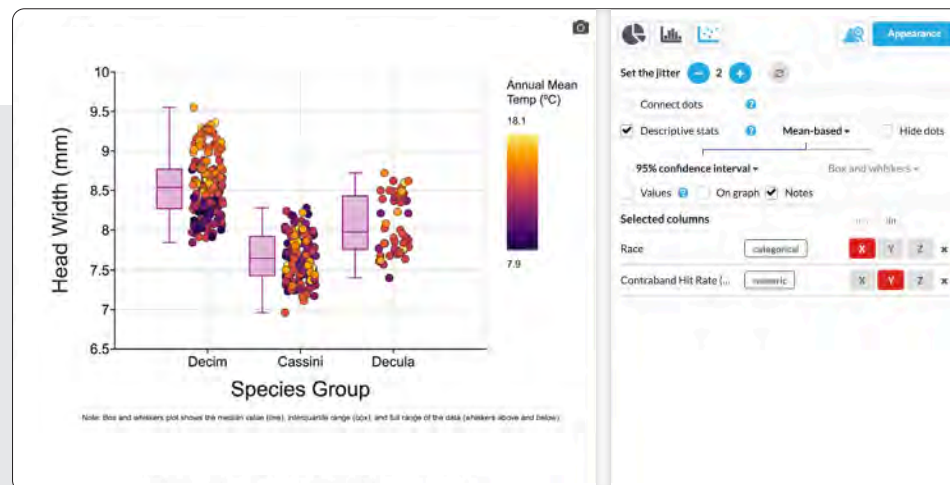
In any classroom, instructional time is a valuable resource. When students spend less time making graphs, they have more time to focus on the stories that data can tell. This leaves more time for the kinds of discussions that form lasting connections to the material. DataClassroom walks you through graph-making every step of the way so your students can focus on higher order thinking.

Graph Wizard: Helping you select how to visualize your data

- Proportions**
Do you want to show how data are distributed among different categories?
E.g. What proportion is a category of a total?
Examples:
 - How many coin flips are heads and how many are tails?
 - What proportion of participants are female?
 - How many students are athletes vs non-athletes?
- Change over time**
Do you want to show how something changes over time?
Or maybe how more than one thing changes over time?
Examples:
 - Have sea temperatures changed over the last 50 years?
 - How is income trending for those with and without a high school diploma?
 - How does a car's speed increase as it rolls down a ramp?
- Variability**
Do you want to show the variation or shape of the data?
E.g. the range, shape of the distribution, or the center (mean or median) of the data.
Examples:
 - What is the distribution of household income in the US?
 - What is the range of salaries in the NBA?
 - What is the average height of all students measured?
- Comparing groups**
Do you want to compare two or more groups of numerical measurements?
Are the means of the groups different? Is the shape of the data different for each group?
Examples:
 - Do beans grow taller if fertilized?
 - Were exam scores different between three groups?
 - Does a drug have a greater effect than placebo?
- Relationship**
Do you want to show a relationship between two numeric variables?
One might cause the other, they might be correlated, or there might be no relation.
Examples:
 - Is there a relationship between sea temperatures and levels of atmospheric CO2?
 - Does age partially predict an individual's honesty score?
 - Is a country's GDP related to its plastic production?

DataClassroom helps students understand the necessary conditions to use different types of graphs so they learn to communicate with data without wasting time decoding the features of a particular spreadsheet program or software that was not explicitly designed for learning.

DataClassroom makes it easy to quickly create pro-quality graphs from a number of variables and customize them, as well as to explore and iterate through different types of data visualization.

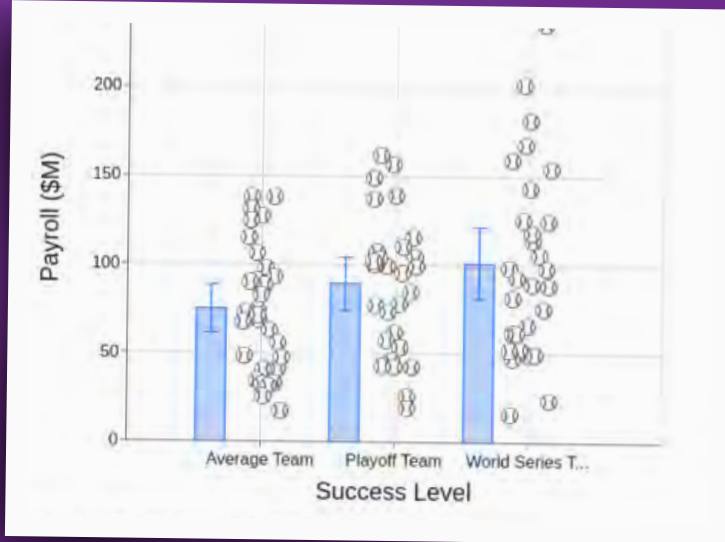


Graphing and data analysis become the focus with DataClassroom. The graph choice helper and built in statistical analysis allows my students to get to the trends quicker and spend more time on discussion.

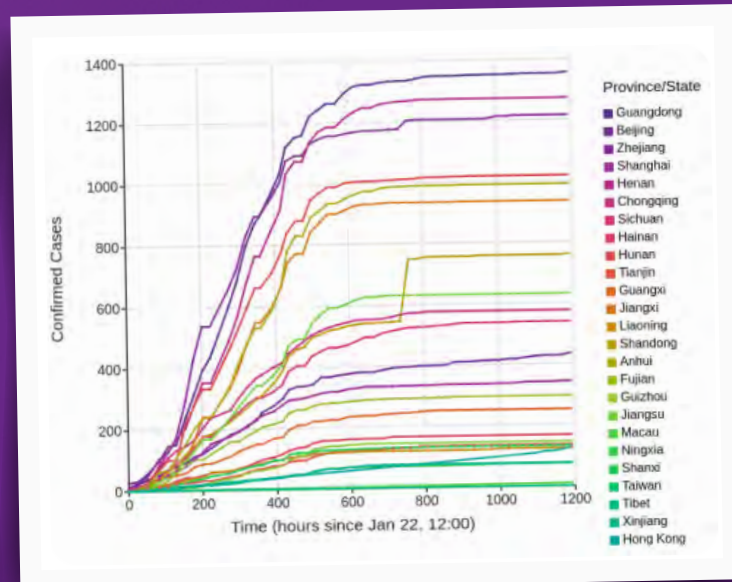
Bob Kuhn, Science Teacher,
Centennial High School, Roswell Georgia



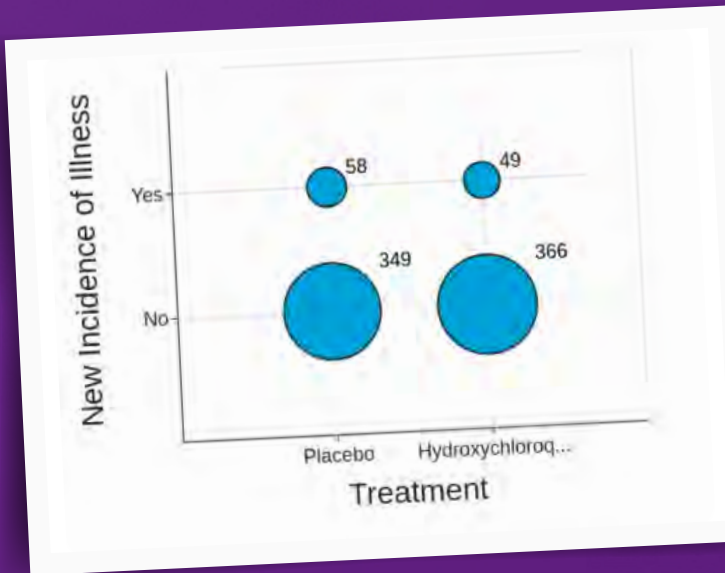
Here are a handful of graphs made using DataClassroom:



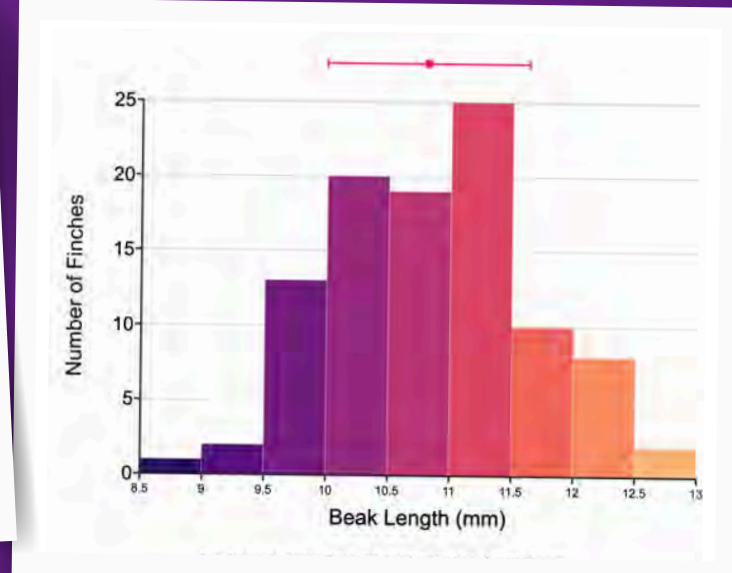
Scatter plot featuring Datamojis and box and whiskers plot



Line graph with 25 categorical values



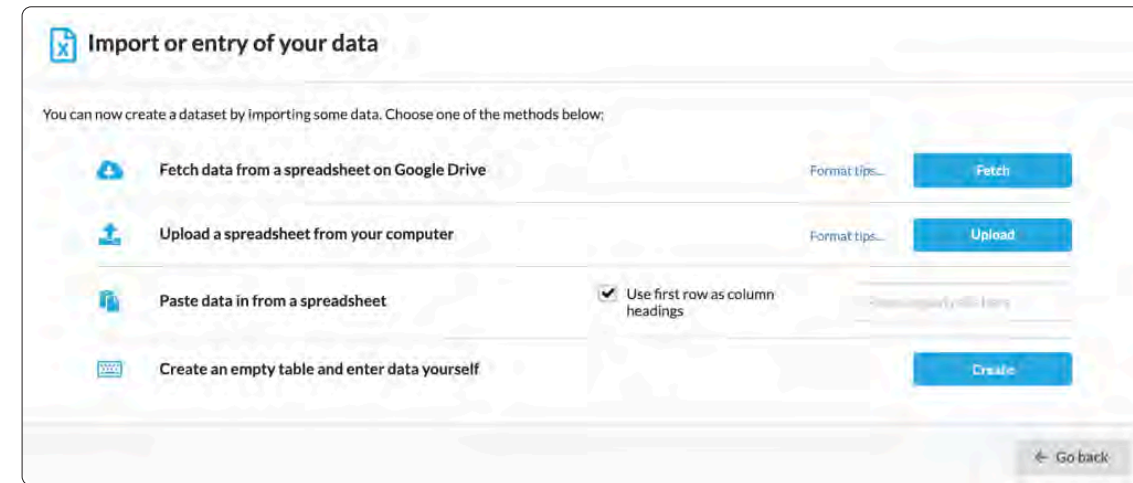
Frequency plot/bubble plot



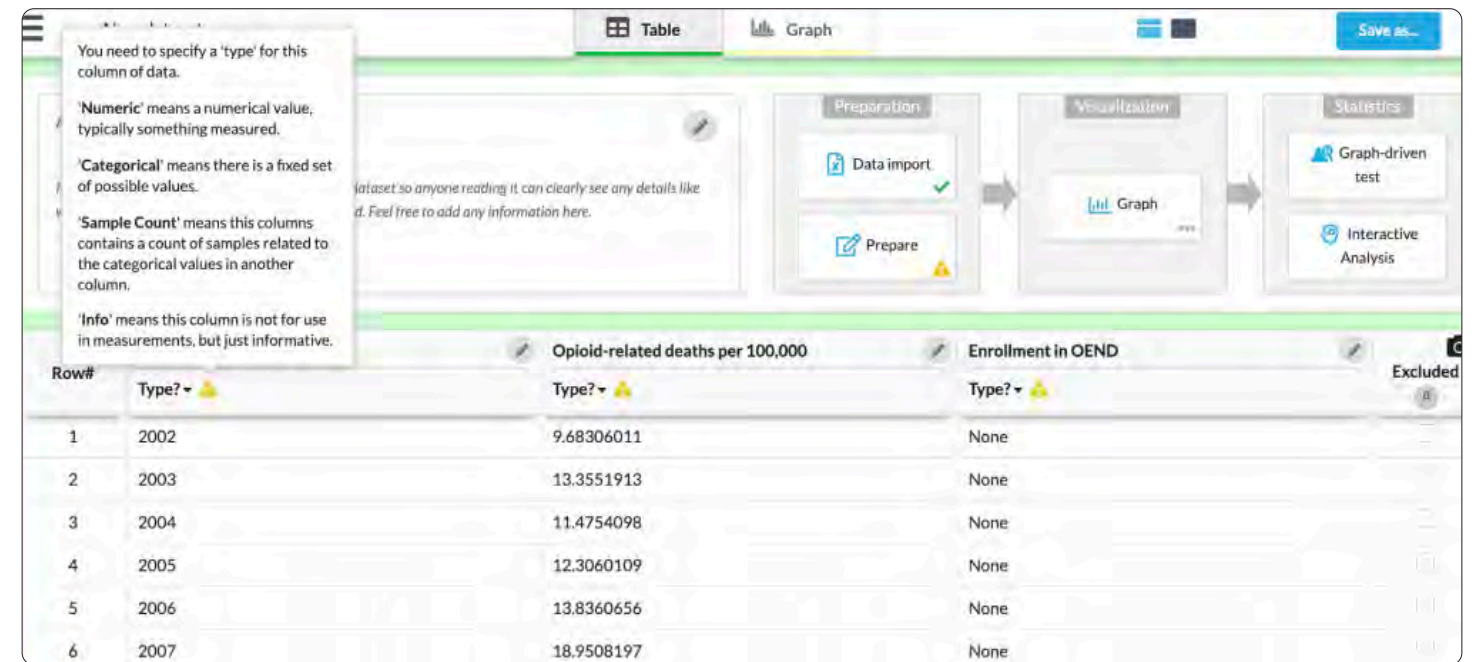
Histogram

Upload and analyze your own data

A practices-based education requires students to explore new ideas and conduct science. Using DataClassroom, students can upload their own data and lead their own investigations.



DataClassroom can handle data from anywhere: Google Drive, spreadsheets on your computer, data that is copied-and-pasted, or even data that is manually entered!



DataClassroom helps students understand the necessary conditions to use different types of graphs so they learn the important aspects of data visualization without having to decode the features of Excel or other graphing software.

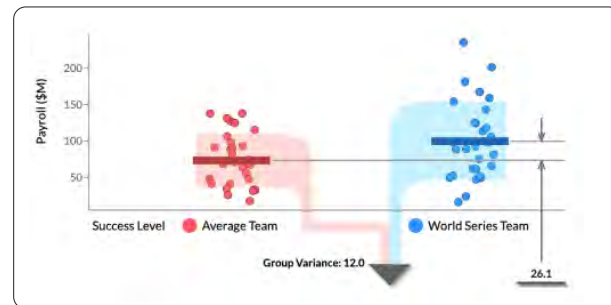
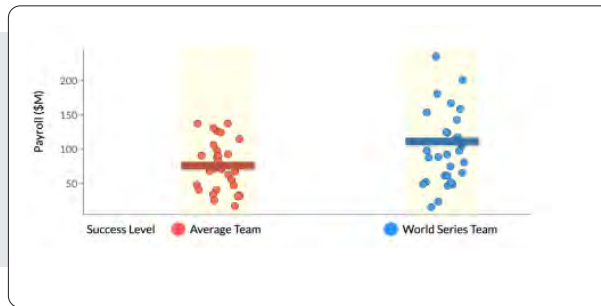


Schedule a demo on our website by scanning this bar code.

The days of boring statistics are numbered. Literally.

DataClassroom can quickly help students select an appropriate statistical test with a Graph-driven Hypothesis test. Additionally, students can go deeper to understand the math with an Interactive Analysis. Here's an example of an interactive t-test.

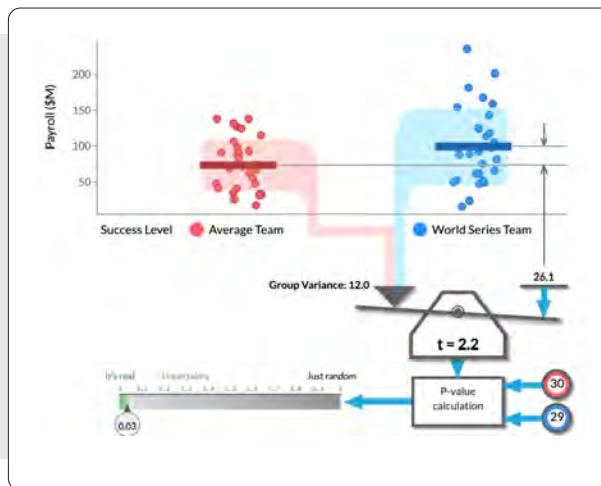
1 First, students estimate the mean and variance based on a visual representation of the data.



Next, DataClassroom animates the calculations of mean and variance so students can improve their data intuition.

2

3 With DataClassroom, students study and understand the math as it comes to life rather than just memorize formulas. Although the interactions are presented with plain language, the exportable Lab Notebook helps students use precise language to communicate their findings.



Form a conclusion

Your research question was:
Is the payroll different between Average and World Series Teams?
Based on the analysis you just did, how would you answer that question?

Based on the outcome of a t-test comparing the payrolls of average teams and World Series teams, there is reasonable evidence to reject the null hypothesis that the means of both groups are the same.

Finally, students interpret their results to conclude the analysis and can export their findings as a fully constructed report.

4



I could see how easily my top performing students grasped stats concepts which previously took days of instruction to get across to them. At the same time, I noted my students who were struggling with stats concepts began to get much more comfortable and gained skills I am unsure would have been acquired otherwise.

Brandon Pope, IB Biology, Uplift Summit International Preparatory, Arlington, Texas



We want to help you meet your standards in science and math

DataClassroom was designed to help teach science as a process with the Next Generation Science Standards in mind. It includes lessons across the Core Ideas and encourages students to develop their command of Science and Engineering Practices. Our Ready to Teach lessons include topics in Physical, and Life Sciences, as well as lessons focused on math, social sciences, and current events.

If you'd like a custom review of how DataClassroom aligns with your state's standards, send us an email (info@dataclassroom.com) with the subjects you'd like reviewed. We firmly believe that well designed graphing and interactive analysis tools help students to develop data intuition and their ability to argue from evidence - and we'd love to set up a demonstration to show you!

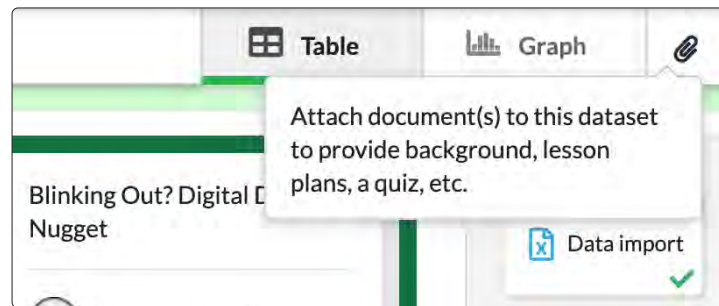


Nobody does it like you do.

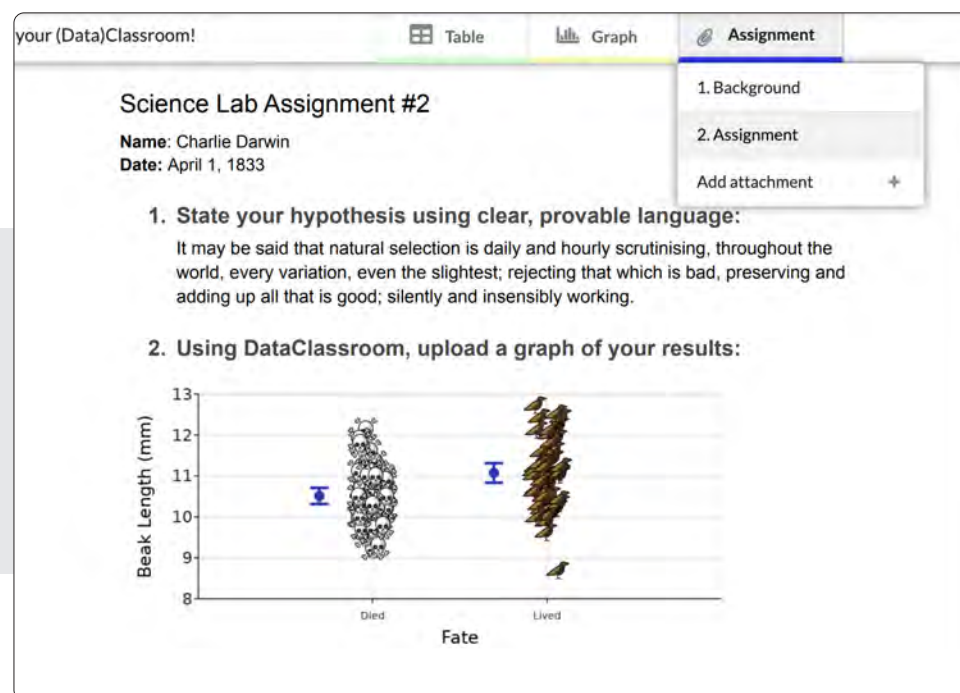
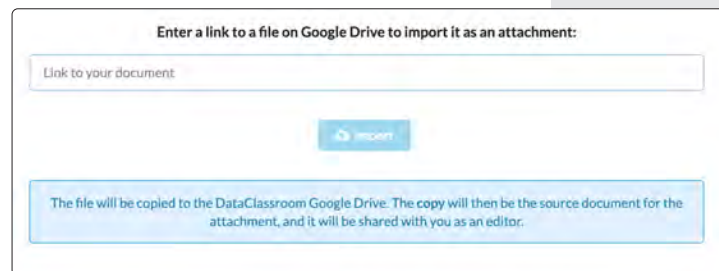


Nobody does it like you do. DataClassroom allows you to use tools like Google Docs, Sheets, and Slides to tailor lessons for your students. You can create assignments and assessments and attach them to your own datasets or existing Ready to Teach lessons within DataClassroom.

Bring in your best materials from Google Drive



Use or create teaching materials such as Docs, Slides, or PDFs to add assignments, assessments and more within DataClassroom.



Students can complete objectives you set for them in DataClassroom, adding conclusions, notes, and graphs into a Google Doc.

And to help manage it all...

If you need to integrate with a learning management system, we've got you covered. DataClassroom works with the most popular learning management systems so you can focus on getting the most out of your classroom!

Clever

Schoology



canvas



Google Classroom



I've noticed a huge difference in the student's understanding and it has given them a lot more ownership over their work as they analyze their data.

Paul Rubeo, Science Research Teacher,
Yorktown High School, NY



Scan the code for an intro to how to use the customization tools in DataClassroom:

Glossary of Features

Basic graph types

- Scatter plots
- Dot plots
- Bar charts
- Histograms
- Frequency plots
- Pie charts
- Line graphs
- Categorical bubble plots
- Coming soon: violin plots

Graph features

- Error bars
- Mean and standard deviation
- 95% confidence interval
- Standard error (SEM)
- Median
- Box-and-Whiskers
- Regression lines (linear, quadratic, etc)
- Residuals
- Slope/tangent indicators
- Normal / Gaussian reference

Other graphing features

- Grouping by a third 'Z' variable for both bar- and dot- based charts
- Coloring by third 'Z' variable
- DataMojis - replace dots with emojis
- Customize fonts, colors, sizing
- Log or linear X/Y axes
- Easy export as images for including in assignments
- Automatic or manual axis scaling

Content

- Resource Library of example datasets
- Digital Data Nuggets activities
- Ready-to-Teach lesson plans and associated datasets
- Searchable online User Guide with detailed instructions for all features

Statistical Tests

- Independent Samples t-Test
- Chi-square Goodness of Fit
- Chi-square Test of Independence
- Linear Regression
- ANOVA
- 2-way ANOVA
- Shapiro-Wilk test of normality
- D'Agostino-Pearson test of normality
- Non-parametric tests
- Tukey HSD
- Kruskal-Wallis
- Mann-Whitney

Pedagogical features

- Graph-driven tests (assists choice of statistical tests)
- Graph Wizard (assists choice of graph type)
- Interactive Analyses (animated explanations of statistical tests)
- Integrated scaffolding for working with data (prepare, visualize, analyze)
- Customizable interface complexity (simple to advanced)
- Designed for classroom or online learning
- Built in student assistance / help and tips
- Integration with Google Docs and Slides for creating assignments and assessments

Data handling / processing

- Import from Google Drive / Sheets
- Upload as XLS, CSV
- In-app editing, copy, paste
- Exclude data rows
- Exclude rows by value
- Data transforms: arithmetic, log, square/square root, rank, exponential
- Integrated description for dataset and columns
- Assisted data typing per column
- Numeric data precision settings

IT and administration

- Web-app runs browser with no download or install
- Integrates with multiple LMS for rostering
- Google Classroom integration for assignments
- Clever integration
- Schoology integration
- Canvas integration
- Single Sign-On (SSO) with above
- Student / classes membership management
- Work sharing between students and teachers
- Data encryption compliant with secure PII regulations
- Built-in teacher training course
- Custom reports for district-level administrators



In the meantime, you can sign up for a free 90-day trial or schedule a demo on our website by scanning this bar code:



We would be lost without DataClassroom. It is an essential STEM tool for my science classes. DataClassroom is well worth the money and then some.

**Christine Girtain, 2019 New Jersey STEM Teacher of the Year,
Toms River High Schools North and South, Toms River, New Jersey**



DataClassroom is a clinic for students on how science itself works. My students have collected data from their neighborhoods and have used DataClassroom for visualization. It's been an essential component of the online world.

**Dr. Paul Strode, 2017 NABT Outstanding Biology Teacher,
Fairview High School, Boulder, Colorado**



Now that I have switched to DataClassroom, my students can spend their time and energy to figure out what the data are saying.

**Trudy Pachon, Science and Art Teacher,
Mt. Everest Academy, San Diego, California**

