

Quickstart Guide - Tuva for Mathematics & Statistics

This quickstart guide is a list of sample Tuva activities and related datasets that you can use to enable your students to learn and to apply essential mathematical and statistical concepts and topics across the middle school and high school grade levels. You can access these and hundreds more activities and datasets by subscribing to Tuva Premium.

Unit: Fractions, Decimals & Percentages

Tuva Activity	Tuva Dataset	Grade	CCSS(M) Alignment	Free or Premium?
Fractions and Percents: Students estimate the percentage equivalent of a fraction using benchmark percentages, and double line diagrams.	Dinosaurs: These data are about 28 dinosaurs and a variety of their attributes such as diet and dimensions. Each case in the dataset represents a dinosaur.	6 & 7	Domain(s): Ratios & Proportional Relationships, Expressions & Equations Standard(s): 6.RP.3c, 7.RP.2b, 7.EE.3	Free
Percentage Change in Life Expectancy: In this activity, students apply their knowledge of percentages and percentage change to determine the change in life expectancy in the US over time.	Life Expectancy in the US: These data show male and female life expectancies in the US from the year 1960 through to 2015. Each case in the data represents male or female life expectancy in a given year.	7	Domain(s): Ratios & Proportional Relationships, Expressions & Equations Standard(s): 7.RP.3, 7.EE.4	Premium

Unit: Ratios & Proportional Relationships

Tuva Activity	Tuva Dataset	Grade	CCSS(M) Alignment	Free or Premium?
FIFA World Cup-Matches Lost Vs Matches Won: Students create stacked bar charts to represent ratios, Further, they use a summary table to find out equivalent ratios and make comparisons.	FIFA World Cup-All Time Rankings: These data are on the rankings for all the World Cups that have taken place from 1930-2010. Each case in the data represents a country.	6	Domain(s): Ratios & Proportional Relationships Standard(s): 6.RP.1, 6.RP.3a	Premium
Proportional Relationships: Students analyze the relationship between perimeter and side length of a square to deduce that the slope is the constant of proportionality in a proportional relationship.	Square Tiles: These data summarize the side length, perimeter, and area of 6 square tiles. The data are simulated.	7 & 8	Domain(s): Ratios & Proportional Relationships Standard(s): 7-RP-2b, 7-RP-2c, 7-RP-2a, 7-RP-2d, 8-EE-5	Premium

Unit: Describing Distributions & Variability

Tuva Activity	Tuva Dataset	Grade	CCSS(M) Alignment	Free or Premium?
The Mean or the Median?: Students study how changes in extreme values (or outliers) affect the mean and median of a distribution.	Cereal Placement on Store Shelves: These data are about the nutritional content of different cereals and their placement on store shelves.	6	Domain(s): Statistics & Probability Standard(s): 6.SP.3, 6.SP.5c, 6.SP.5d	Free
Describing Groups and Their Typical Trends: Students make a shift from looking at individual cases to describing a group of cases, as they transition from finding the center of a distribution to figuring out what is typical for a group.	Man's Best Friend-Part I: These data describe different breeds of dogs and their attributes such as weight, average life expectancy, and their likeness for children.	6	Domain(s): Statistics & Probability Standard(s): 6.SP.2, 6.SP.4	Free

Exploring The 2012 SAT Scores Of 32 Brooklyn High Schools: Students use box plots to compare the SAT scores in different subjects.	2012 SAT Scores of 32 Brooklyn High Schools: These data summarize the SAT scores of 32 High Schools in Brooklyn in 2012. Each case represents average SAT score in a subject.	7	Domain(s): Statistics & Probability Standard(s): 7.SP.4	Premium
Variability in Penny Weights: Students describe the distribution of penny weights using shape, center, and spread	Penny Weights: These data describe various properties of 400 pennies including mass, mint, and year minted.	7		Free

Unit: Linear Functions & Modeling

Tuva Activity	Tuva Dataset	Grade	CCSS(M) Alignment	Free or Premium?
Count By Weight: Students analyze the data provided to create a mathematical model of the relationship between the number of chocolates of a given type and their weight.	Hershey's Kisses: These data show the mass of sets of Hershey's kisses wrapped in different colored foils. Each case represents the weight of a Hershey's kiss.	8, HS	Domain(s): Functions, Expressions & Equations, Statistics & Probability Standard(s): 8-F-1, 8-F-2, 8-F-3, 8-F-4, 8-F-5, 8-EE-5, 8-SP-1, 8-SP-2, 8-SP-3	Premium
Make Your Own Model--Part I: Students analyze the data provided to create a mathematical model of the relationship between the number of cranks of sharpening a pencil is given and its length.	Pencil Sharpener: These data summarize the results of an experiment wherein a brand new, unsharpened pencil was cranked in a sharpener and its length and weight recorded after every 5 cranks. Each case represents the length and weight of the pencil.	8, HS	Domain(s): Functions, Expressions & Equations, Statistics & Probability Standard(s): 8-F-1, 8-F-4, 8-F-5, 8-EE-5, 8-SP-1, 8-SP-2, 8-SP-3	Premium
Relationship between Numbers on Opposite Sides of a Ruler: Students compare the centimeter numbers to the inch numbers in the data. They model this relationship using the Tuva movable line and interpret the parameters in context.	Opposite Sides of a Ruler: These data show the numbers for the centimeter and inch scales of a traditional US ruler. Each case represents a centimeter number and the corresponding inch number on the opposite side.	8, HS	Domain(s): Functions, Expressions & Equations Standard(s): 8-F-2, 8-F-4, 8-EE-5,	Premium

Unit: Bivariate Analysis

Tuva Activity	Tuva Dataset	Grade	CCSS(M) Alignment	Free or Premium?
Clusterings and Outliers: SAT Scores: Students determine examples of clusterings and outliers in the data.	2012 SAT Scores of 32 Brooklyn High Schools: These data summarize the SAT scores of 32 High Schools in Brooklyn in 2012. Each case represents average SAT score in a subject.	8	Domain(s): Functions, Statistics & Probability Standard(s): 8-F-5, 8-SP-1	Premium
Assessing Model Fit: Students use the Tuva movable line to model the relationship between change in temperature and heating time. Further, they assess the model fit for their own graph and other graphs.	Microwave Heating: These experimental data summarize the time for which a beaker of water was put in the microwave and the change in its temperature after heating. Each case represents heating time.	8	Domain(s): Statistics & Probability Standard(s): 8-SP-2	Premium
Two-way Tables: Patterns Of Association-I: Students examine the association between gender and preference for a sport using column-wise relative frequencies.	Gender Preferences: These data summarize the sports and pet preferences of 325 students. Each case in the data represents the preferred choice of an individual by gender.	8	Domain(s): Statistics & Probability Standard(s): 8-SP-4	Premium