Paul the Octopus: A Simulation Activity

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http://www.cnn.com/2010/SPORT/football/07/08/germany.octopus.explainer/index.html

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- **How could we figure this out??**

Coin Toss Simulation

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coin toss	**=**	***prediction by Paul***

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one set of 8 coin flips	**=**	***one set of 8 predictions by Paul***

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StatKey

to accompany *Statistics: Unlocking the Power of Data*
by Lock, Lock, Lock, Lock, and Lock

Descriptive Statistics and Graphs	Bootstrap Confidence Intervals	Randomization Hypothesis Tests
One Quantitative Variable	CI for Single Mean, Median, St.Dev.	Test for Single Mean
One Categorical Variable	CI for Single Proportion	Test for Single Proportion
One Quantitative and One Categorical Variable	CI for Difference In Means	Test for Difference in Means
Two Categorical Variables	CI for Difference In Proportions	Test for Difference In Proportions
Two Quantitative Variables	CI for Slope, Correlation	Test for Slope, Correlation

Sampling Distributions	Mean	Proportion

Theoretical Distributions	Normal	t	χ^2	F

More Advanced Randomization Tests	χ^2 Goodness-of-Fit	χ^2 Test for Association	ANOVA for Difference in Means	ANOVA for Regression

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Randomization Test for a Proportion

Custom Data | Edit Data

Generate 1 Sample | Generate 10 Samples | Generate 100 Samples | Generate 1000 Samples | Reset Plot

Randomization Dotplot of Proportion Null hypothesis: p = 0.5

Left Tail | Two-Tail | Right Tail

samples = 0
mean = NaN
st. dev. = NaN

50
40
30
20
10
0

0.0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1.0

Edit data

Please select values for count and sample size.

count: 8

sample size: 8

Ok

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