

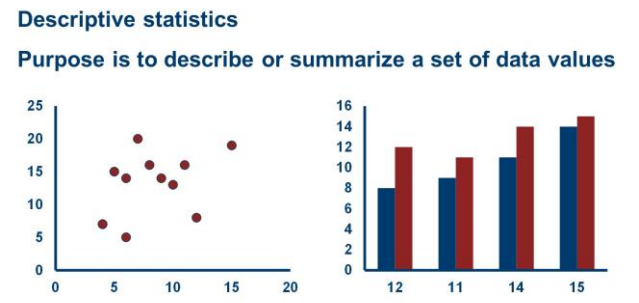
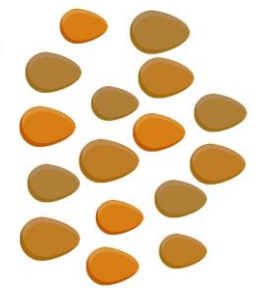
What is Statistics?

It's both descriptive and it's inferential



stats ≠ math

Descriptive statistics
 Summarizing a larger set of numbers
 How big are these eggs?
 What's the size of an average egg?
 How variable are the egg sizes?
 More complicated things ...

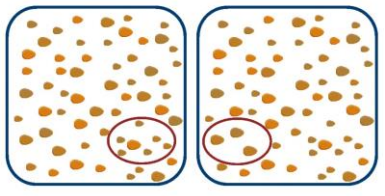


Descriptive statistics
 Choosing appropriate metrics

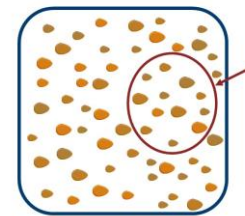
Length Mass Temperature Speed	Blood pressure Biodiversity Quality of life Strength of belief
⏟	⏟
Straightforward	Complicated

Inferential statistics

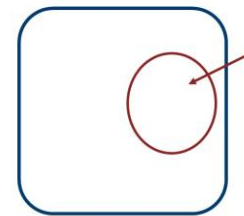
Descriptive statistic of measured eggs
 ↓
 Prediction for descriptive parameter of all eggs
 If sample average = 10, population average probably near 10
 If sample average = 18, population average probably near 18



Inferential statistics
 What we can measure
 Descriptive statistic of measured eggs
 ↓
 Prediction for descriptive parameter of all eggs
 How big are these eggs?



Inferential statistics
 What we can measure
 Descriptive statistic of measured eggs
 ↓
 Prediction for descriptive parameter of all eggs
 What we care about
sample statistics
population parameters



Descriptive statistics
 Choosing appropriate metrics

Integers Decimals Proportions	Fractions Ratios
⏟	⏟
Behave nicely most of the time	Some bad Mathematical properties

