

# Resources Related to the `mosaic` Package

Daniel Kaplan\*  
Macalester College  
St. Paul, MN

Nicholas J. Horton†  
Amherst College  
Amherst, MA

Randall Pruim‡  
Calvin College  
Grand Rapids, MI

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## Introduction

This vignette describes related resources and materials useful for teaching statistics with a focus on modeling and computation.

### 1 Resources included with the `mosaic` package

The `mosaic` package includes a number of additional vignettes, including

**Minimal R** provides a minimal set of R commands for use in Intro Stats and discusses why it is important to keep the set of commands small

**A Compendium of Commands to Teach Statistics using R** describes the R commands needed for all the basic statistical procedures in an Intro Stats course;

**Start Teaching Statistics Using R** provides an introduction to R targeted at instructors of statistics courses and also discusses strategies for teaching statistics using R

**Resampling in R** discusses how to use R for resampling and bootstrapping in lower level statistics courses.

**Start Modeling with R** presents a strategy for teaching statistical modeling as a way of making sense of the world by building a representation that is easy to explore and manipulate.

**Start R in Calculus** describes how R can be used in calculus courses

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\*dtkaplan@gmail.com

†nhorton@amherst.edu

‡rpruim@calvin.edu

## 2 Textbook-related resources

*Statistical Modeling: A Fresh Approach*, 2nd edition (D T Kaplan) is an introduction to statistics embracing a modeling approach and employing resampling methods. The `mosaic` package is used throughout. <http://www.mosaic-web.org/StatisticalModeling>.

*Foundations and Applications of Statistics: An Introduction Using R* (R Pruim) is an R-infused probability and mathematical statistics text that emphasizes connections between probability and statistics. The book predates the `mosaic` package, much of the code originally in the `fastR` package has been moved into the `mosaic` package. <http://www.ams.org/publications/authors/books/postpub/amstext-13>.

*The Statistical Sleuth in R* (N Horton) available at <http://www.amherst.edu/~nhorton/sleuth> describes how to undertake analyses in R for the examples in the first 13 chapters of the Second Edition of the *Statistical Sleuth: A Course in Methods of Data Analysis* (2002), the excellent text by Fred Ramsey and Dan Schafer.

*Introduction to the Practice of Statistics in R* (N Horton) available at <http://www.math.smith.edu/~nhorton/ips6e>, describes how to undertake analyses in R that are introduced as examples in the first chapters of the Sixth Edition of *Introduction to the Practice of Statistics* (2007), the excellent text by David Moore, George McCabe and Bruce Craig.

*Statistics: Unlocking the Power of Data* (Lock, Lock, Lock, Lock, and Lock) is a recent introductory statistics textbook that embraces a resampling approach. The `Lock5Data` package contains all of the data in the book. Additional information about the book and the approach used there can be found at <http://lock5stat.com>

## 3 Articles

- G. W. Cobb, The introductory statistics course: a Ptolemaic curriculum?, *Technology Innovations in Statistics Education*, 2007, 1(1), [www.escholarship.org/uc/item/6hb3k0nz](http://www.escholarship.org/uc/item/6hb3k0nz).
- D. Nolan and D. Temple Lang, Computing in the statistics curricula, *The American Statistician*, 2010, 64(2), [www.stat.berkeley.edu/~statcur/Preprints/ComputingCurric3.pdf](http://www.stat.berkeley.edu/~statcur/Preprints/ComputingCurric3.pdf).