

1145-VD-1617 **Matthew Weihing*** (mcweihing@hotmail.com) and **Philip B Yasskin**
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College Station, TX 77843-3368. *MYMathApps Tutorials*. Preliminary report.

Over the past 12 years, Yasskin and Meade have developed a collection of Maple-based applets called the Maplets for Calculus which generate random practice problems on calculus concepts and help students learn these step by step. More recently, Yasskin is writing an online calculus text called MYMathApps Calculus incorporating these calculus drills. However, Maplets require Maple installed on the device, and display in Java which does not run on most tablets. So they can't easily be incorporated into MYMACalc. In response, the authors are creating browser based tutorials similar to the Maplets which can be incorporated into any page of the textbooks. These use the Sage computer algebra system to perform all of the math computations except for interactive graphics. For these, they use Three.js which is a WebGL based JavaScript library which is far more powerful than Maple's or Sage's graphics. These are used in conjunction with HTML5, CSS, JavaScript, React, Node.js, MathJax, to render LaTeX and MathLex, to parse student input. We will demonstrate several of the tutorials. (Received September 23, 2018)