1023-92-1347 **Scott G. Hotton*** (shotton@fas.harvard.edu), OEB Harvard University, Biological labs 1103, 16 Divinity ave., Cambridge, MA 02138. *Mathematical techniques in Phyllotaxis.*

Phyllotaxis is the study of plant patterns. There is a huge variety of plants but only a few ways in which plants arrange their organs. One of the more interesting aspects of of phyllotaxis is the prevalence of Fibonacci numbers. Research on phyllotaxis has been strongly interdisciplinary with mathematics playing an important role. We will begin with a brief review of some of the basics of plant development and some classical mathematical techniques that have been employed to study phyllotaxis. We will proceed to a fairly simple mathematical model of plant development based on local interactions between developing organs. We demonstrate a detailed coorespondence between the model and actual plant specimens. (Received September 25, 2006)