



## ENCRYPTION AND PASSCODES

With the FBI-versus-Apple case in the headlines, let's talk about encryption and passcodes, both of which play a role in protecting your digital information.

Beginning in 2014, Apple's operating system for its mobile devices has automatically encrypted the information you keep on your iPhone and iPad **if you use a passcode**. Google's Android operating system has recently provided encryption for many (but not all) of its mobile devices, but you may have to turn the feature on.

### Passcodes

Before we talk about encryption, I want to remind you that it's important to keep your mobile device secure by requiring a **four- or six-digit passcode** (or fingerprint) to unlock the screen. At the computer lab, we recommend doing this, especially if you keep sensitive information on your smart phone or tablet. You probably have a contact list with phone numbers and E-mail addresses that you don't want to share. And some folks keep their IDs and passwords on their devices, which we do recommend—as long as there's a passcode to protect the information.

To keep your information secure if you lose your device, iPhones and iPads can be set up to erase their memory after ten unsuccessful passcode guesses. (That's what the FBI wants Apple to disable.)

**Neither Apple nor Google know or can recover your passcode**, so you better remember it (and for goodness sakes, don't write it down!)

### Encryption

But suppose someone finds your smart phone and pries it open to get the digital information stored in its memory? That's where encryption enters the scene.

**Encryption means that the information inside your device is “scrambled,”** and makes no sense without a “key.” A simple encryption method substitutes each letter of the alphabet with another. So, A could become C, B would be D, etc. The word TREE would turn into VTGG. If you don't know the key (A=C, B=D, C=E, etc.) then you can't read the information.

Now, if you were patient and looked for letter patterns, then you could try various substitutions and probably figure out this very simple key. To keep that from happening, Apple and Android encryption keys use very sophisticated algorithms (sets of processes) that are a function of the passcode you select. Therefore, as long as only you know your passcode, then only you can access the information on your device.

By combining the passcode to unlock the phone along with encryption, your information is very secure indeed.

