Understanding White Balance
White balance (WB) is the process of removing unrealistic color casts, so that objects which appear white in person are rendered white in your photo.

Proper camera white balance has to take into account the "color temperature" of a light source, which refers to the relative warmth or coolness of white light.
Most digital cameras contain a variety of preset white balances.

Auto white balance is available in all digital cameras and uses a best guess algorithm within a limited range.
Custom white balance allows you to take a picture of a known gray reference under the same lighting, and then set that as the white balance for future photos.

The remaining six white balances are listed in order of increasing color temperature. Some cameras also include a "Fluorescent H" setting, which is designed to work in newer daylight-calibrated fluorescents.
The description and symbol for the above white balances are just rough estimates for the actual lighting they work best under. In fact, cloudy could be used in place of daylight depending on the time of day, elevation, or degree of haziness. In general, if your image appears too cool on your LCD screen preview (regardless of the setting), you can quickly increase the color temperature by selecting a symbol further down on the list above.
BEST PRACTICE: THE RAW FILE FORMAT

By far the best white balance solution is to photograph using the RAW file format (if your camera supports them), as these allow you to set the WB *after* the photo has been taken. RAW files also allow one to set the WB based on a broader range of color temperature and green-magenta shifts.
Examples:
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Daylight White Balance

Cloudy White Balance

Shade White Balance

Tungsten White Balance

Flourescent White Balance

Flash White Balance
Photographers using Color Temperature to set a mood:
Nan Goldin
Nan Goldin
Blake Fitch