



LAUNDRY LOCKERS

LOCKER 1: READ THE CARE LABEL

By law every article of clothing must have a care label permanently attached at the time of sale. These labels must be made so they remain legible for the reasonable life of the garment. By reading the care label, the consumer knows one way to care for the garment so no damage is done during the laundry process. (See pages I-V-38 through I-V-46 for additional background information.)

LOCKER 2: SORTING

Clothes should be sorted into groups to maintain optimum color brightness and prevent fading. Primarily, they are sorted by color groups: whites, lights, brights, and darks. They may also be subsorted by types of fabrics; i.e., the whites might be separated into two groups—natural fibers (those that absorb moisture and are often heavier) and synthetic fibers (those that do not absorb moisture and are often more delicate). Very dirty clothing should be washed separately, as should any type of specialty fabrics.

LOCKER 3: PREWASH CARE

As the laundry is sorted, the items need to be checked and prepared for washing. Some types of prewash care are:

1. Mend any tears or rips before laundering
2. Prespot any stains or heavily soiled areas
3. Empty pockets
4. Close zippers
5. Turn dark or bright colors inside out
6. Presoak heavily soiled items

Spending a few minutes to take these precautions can prevent a lot of grief later.

There are many products on the market for prespotting stains or heavily soiled areas. Basically, the areas need some type of concentrated cleaning agent and given some time for the product to loosen the soil before being placed in the washer. The type of product used depends on whether the soil/stain is water-based or oil-based. If the stain is water-based, any type of concentrated detergent will take care of it. If the stain is oil-based, some type of solvent will need to be used, also.

LOCKER 4: DETERGENT CHOICE

A little historical perspective here can make things clearer. Begin by asking the students how many of them use "soap" to wash their laundry—most of them will raise their hands, but most likely, their families all use detergent. What's the difference? Soap was a product made of mostly fat (lard) and lye, and it was used to wash clothes when the water came from



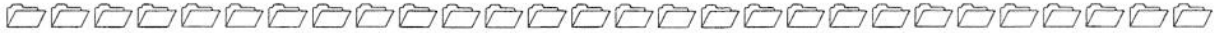
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a well and was soft, and the clothing was all of natural fibers—mainly cotton. Soap required hot water to dissolve it, so hot water was used to do the laundry whenever possible. The combination of soft, hot water, soap, and cotton fabrics worked really well together.

Then about 30 to 40 years ago, synthetic fabrics began to be developed and sold on the market. But, the synthetic fabrics didn't like hot water, and the soap didn't dissolve in cold water needed for the synthetic fabrics, so there was a problem. Also, the water systems began to be all centralized with various minerals and chemicals added, and the water supply in the home was suddenly hard. The soap didn't work in the hard water, either—it wouldn't dissolve and left a scum on the clothes. Technically this scum was lime soap. So, another group of scientists began working on a cleaning product that worked well in cold water and hard water, and the result of that effort was detergent. Detergents worked very effectively on both natural and synthetic fabrics, in cold or hot water, and equally well in hard or soft water. Today, detergents are basically all that's on the market to purchase. (Fels Naptha is about the only real soap you can find today.)

Some of the ingredients used in detergents that are commonly discussed are: 1) surfactants, 2) phosphate, and 3) enzymes. The term surfactant is an abbreviation for "surface active agent." Surfactants reduce the surface tension of water very quickly, thereby making the water "wetter." This allows the detergent to work more effectively. Detergents that include phosphate as one of the ingredients also clean more effectively. The phosphate helps to hold the removed soil in suspension and prevent redeposition. However, phosphate is not friendly to the environment; it pollutes the water stream and stimulates algae growth in the rivers and waterways. Many companies have reduced the amount of phosphate used in their products and/or have eliminated it entirely. Enzymes are chemicals, specifically proteins, that are found in all living matter and are essential to the proper functioning of man, plants, and animals. They are catalysts or substances that speed up a chemical reaction, but they are not changed in the process. The enzymes used in laundry products have the ability to break down certain soils and stains into simpler forms so that the smaller particles can be more easily removed by the other detergent ingredients and the washing action. They work particularly well for the removal of protein stains like blood, egg, baby formula, body soils, and most foods.

How much detergent should you use? Generally, only about half of what is recommended on the container is plenty. Detergent manufacturers must specify the amount required for the very dirtiest of clothing to cover



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their liability, and most loads of laundry don't fall into that category. Too much detergent makes the clothing stiff and dull and itchy—so it isn't necessary to use a lot most of the time. Water, in and of itself, is a cleaning agent and does a lot of the washing function. Concentrated detergents require much less per load because they are not loaded with fillers, aromatic beads, etc. Most of the time they are more economical, too. If it's necessary to use more than one-half cup per load, the detergent is loaded with fillers and not cleaning agents. Good detergents generally have some water softening agents in the mixture so they work better with hard water.

Technically speaking, what does the detergent do? These are the three basic functions of detergents:

1. They make the water wetter.
They increase the wetting ability of water by reducing its surface tension. This makes the water penetrate the soiled fabric more easily.
2. They remove the soil from the fabric.
3. They keep the soil suspended in water until it is drained from the machine so it won't redeposit on the fabrics.

If a person has a lot of very dirty clothes, should he/she put twice as much detergent in the load? The answer is NO! Only so much detergent can dissolve in a given amount of water, and the rest will be wasted. The clothes should be presoaked and/or washed twice to get them clean.

What if a person runs out of laundry detergent and only has one more load to finish, can he/she use the liquid dish detergent in place of laundry detergent? NO! Liquid dish detergent is high sudsing, whereas detergent is low-sudsing, and this will create one really big mess! Wait for the correct detergent. (Dry dish detergent will work okay, but it might affect the colors.)

LOCKER 5: OTHER LAUNDRY PRODUCTS

Bleach: What does bleach do? Why do we use it? Bleach has three main functions: 1) to whiten, 2) disinfect, and 3) deodorize. Does it remove stains? NO! It is simply a bleaching agent that removes color; it is NOT a cleaning agent that removes the stain. If the color is bleached, then it is no longer visible, and it appears to be clean. In fact, it may not be clean, but it is white and invisible. Therefore, bleach is designed to be used on white clothes to keep them white, or as a disinfectant.

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There are two main types of bleaches: 1) chlorine and 2) oxygen.

Chlorine bleaches are: the most commonly used
 in liquid form
 the strongest and the most effective
 the most damaging to the fabric

Oxygen bleaches are: in powder form
 weaker and not as effective
 the least damaging to the fabric

Chlorine bleach should always be diluted with water for use—it should never be used straight from the bottle on clothing. It can cause major damage to any fabric. Liquid bleach must be added to the wash water before the clothes are added, and powdered bleach can be added with the detergent. Neither type of bleach should be used on fabrics with a permanent press finish or synthetic fabrics—it causes them to turn grayish or yellowish and to become dull. And the more times they are bleached, the worse their color becomes. Bleaching can eventually remove the permanent press finish from an article of clothing. If the water is adequately soft and a good detergent is used, it isn't necessary to use bleach very often. Bleaches should not be used on fine, delicate fabrics, or woolsens; they will become stiff and brittle upon drying.

Three natural bleaching agents that work well on natural fabrics are: 1) the sun, 2) lemon juice, and 3) chlorophyll (from plants). Because the colors in synthetic fibers are added at the time the fibers are made vs. being added to the fiber, no bleach works very well on synthetic fibers.

Fabric Softeners and Conditioners: Fabric softeners and conditioners serve some viable purposes—mainly softening the fibers, helping to eliminate wrinkles, and eliminating static electricity buildup. However, both of these products need to be used with a lot of discretion. First of all, fabric conditioners leave a coating on the fabric, which leaves the fabric non-absorbent. This is fine for synthetic fibers because they are non-absorbent anyway. Natural fibers are generally used and/or chosen because of their absorbency, so to retain this absorbency, it is best not to use fabric conditioners. However, fabric softeners do leave the fabric absorbent, so it is best to use them on natural fibers. Fabric softeners also work fine on synthetic fibers, but they can never make them absorbent. It is important to avoid overuse of these products because they tend to build up on the fabrics and/or leave a streaked appearance, and then the detergents don't work effectively, etc. How can a person get rid of the buildup? Wash in vinegar water—it will neutralize the coating.



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Which is which? Dryer sheets and the thinner liquid that is usually sold in gallon containers are fabric conditioners. They are less expensive than the softeners. Fabric softeners are generally sold in quart size or smaller containers and are usually blue in color—the ingredient that makes them blue is also the ingredient that allows the fabric to remain absorbent.

Neither of these products is necessary to use on a regular basis if the dryer is used properly. The dryer will make the fabrics soft and, therefore, help to eliminate wrinkles. If the fabrics are removed from the dryer as soon as all the moisture is out, there is no static electricity buildup. Static electricity comes from leaving clothes in the dryer after they are dry, and is generated primarily from synthetic fabrics.

LOCKER 6: WATER TEMPERATURE

Most washers come with three (3) water temperature settings: hot, warm, and cold. Hot is defined as water temperatures 140°F or above; warm water is defined as water temperatures from 100°F to 110°F; and cold water is defined as water temperatures 70°F and below. Basically, these are the advantages and disadvantages of each water temperature:

	Advantages	Disadvantages
Hot water:	Sterilizes	Sets stains Fades colors Causes shrinkage Breaks down elastic Removes perma-press finish Costs more Not energy efficient
Warm water:	Protects perma-press finish Kills bacteria May or may not set stains	Causes some shrinkage Causes some fading
Cold water:	Prevents shrinkage Prevents fading Preserves perma-press finish Most economical Removes stains best Sanitizes Energy efficient	Doesn't sterilize

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It is best to use cold water on most fabrics. In fact, there is probably no reason to use anything but cold water for washing now in the '90s. The detergents were developed to work effectively in it, the fabrics have less damage when cold water is used, and it is certainly the most economical way to launder because it takes less energy. The only time warm water might need to be used is when some form of contagious disease is in the home and sterilization is a concern.

LOCKER 7: AGITATION CYCLE

Washers usually offer a choice of two or three agitation cycles. The agitation cycle is how briskly the agitator works against the fabrics. Although various terms may be used to describe these cycles, basically they mean "brisk" or regular cycle, or "gentle" for less brisk washing. The gentle setting is used for delicate or special fabrics, while the brisk setting is used for most loads.

LOCKER 8: RINSE CYCLE

Why rinse clothes? The rinse cycle is as important as the wash cycle because it, too, serves several purposes. The main purpose of rinsing is to remove the detergent, dirt, and lint from the fabric. This is done in one operation. What happens when clothes aren't rinsed thoroughly? They become dull, stiff, and itchy. They just don't look clean—and they aren't, because the detergent, dirt, and lint are still there. Occasionally it is necessary to double rinse to get everything out.

What water temperature should you use? COLD. Hot or warm water reactivates any detergent left in the fabric, and that defeats the purpose of rinsing. Cold water eliminates any remaining suds quicker, plus, it takes less energy and is more economical.

LOCKER 9: DRYER TEMPERATURE

The dryer can be a very effective tool if used properly; however, it can also be very damaging when used improperly. To begin with, home dryers usually have a minimum of two to three drying temperatures: hot, warm, and air (cool). (Commercial dryers at laundromats tend to have three drying temperatures: hot, hotter, and hottest! They can be very damaging to fabrics.) A hot dryer can do all the damage that hot water can: set stains, cause shrinkage, cause fading, break down elastic, and remove (melt off) the permanent press finishes. The warm setting is much kinder to fabrics and increases the life of the garment significantly. True, it does take longer to dry things (and that means more energy), but it is a trade-off—what you save in less damage to clothing more than offsets the additional cost in energy. Delicate items can be dried on the air setting or simply hung to dry.



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To obtain the least amount of wrinkling, remove the clothes as soon as they are dry and hang them up while they are warm—the way they cool is the way they stay. Also, to avoid having static electricity buildup, remove the clothes as soon as all the moisture is out.

It is always best to dry same-weight fabrics together. When a load has a mixture of lightweight and heavy items, the lighter things dry faster, and the heavier items, which are still wet, cause them to become wrinkled again.

LOCKER 10: CLOTHING STORAGE

Hang or fold laundry items as you remove them from the dryer. Fold them the same way you want them for storing and use—eliminate refolding for use. Using the correct type of hangers can eliminate the need to press. Sort the items by type, family member, and/or room to which they go. It just makes life easier.

A couple more tidbits: To get yellowed or grayed whites (primarily synthetics) back to white, follow this procedure:
Dissolve one cup of dishwashing detergent in one gallon of cold or warm water. Soak the items for several hours or overnight. Rinse thoroughly; wash normally. The whites should be white again.

Remember: HEAT SETS STAINS. Hot water, hot dryers, hot irons—no matter what. Keep any stained area away from any kind of heat until the stain has been removed.