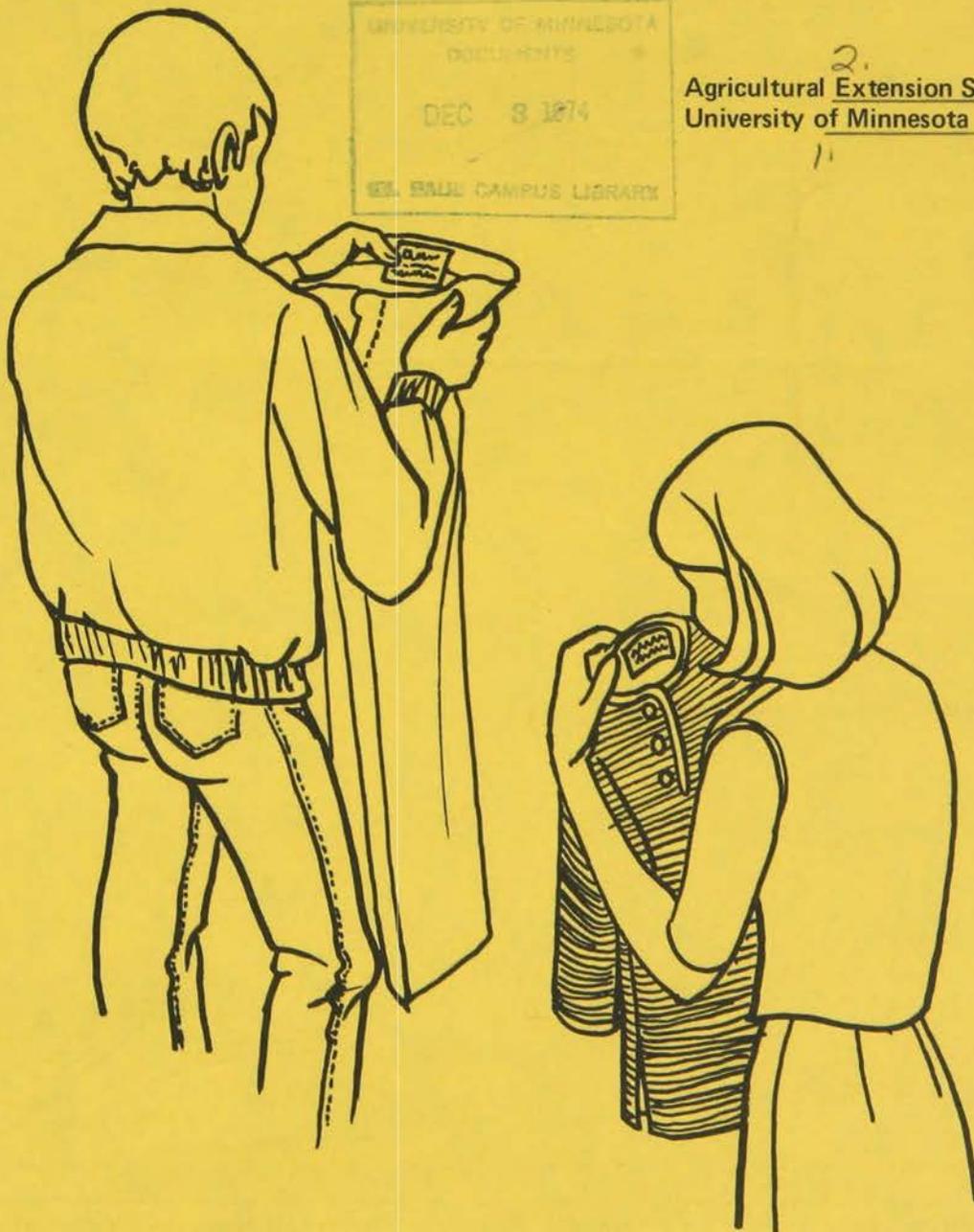


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4-H CLOTHING PROJECT

Clothing Sense



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Developed by Lois Ingels, extension specialist, textiles and clothing. Portions of "Clothing Sense" are taken from "Creative Clothing—Moving On" from Iowa State University.

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Clothing Sense

A clothing project can be exciting and interesting as you learn many different types of things about clothing and your appearance. You may have been learning to sew in other phases of the clothing project, but in this one you will gain some experience in making decisions about clothing purchases. You will think about what clothing you need, how different clothing designs look on you, and how you can predict how well clothing will wear.

As you look through the information and activities in Clothing Sense, you may find that some parts of it are more interesting and helpful to you than others. To complete the project you do not need to do every activity in the bulletin. You will want to decide what *you* want to learn. Listed below you will find some suggested goals that are related to the

information in Clothing Sense. From this list select the goals you would like to achieve this year. If you think of other goals related to clothing that you would like to achieve, add them to the list.

Set your goals for the year soon so you can begin work on them right away. You may find that you wish to change your goals or add to them during the year. When you change or add goals, change the list on this page.

At the end of the year, you will want to look carefully over your list of goals to see if you have accomplished what you wanted to do. If there are still parts of the project you are interested in, you may want to continue learning about this aspect of clothing next year.

Goals for My Clothing Project

You will find information related to each of the goals on this list in Clothing Sense. The page numbers listed beside each goal tell where you can find information to help you complete your goals. You also may find information in school textbooks and magazines that will help you complete your goals.

SELECTING CLOTHING

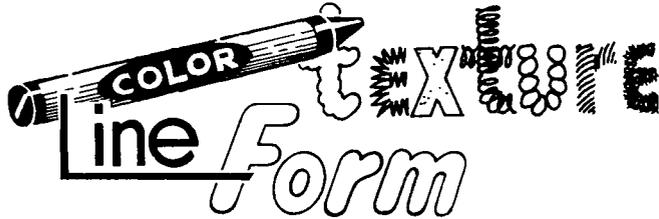
Want to do	Look on page
_____ Learn what colors look best on me and how to use color to make outfits look good on me.	_____ 4
_____ Learn what makes fabric texture and which textures look best on me.	_____ 5
_____ Learn how lines in garments can affect the way I look.	_____ 7
_____ Learn how to create attractive outfits using art principles.	_____ 8
_____ Learn how to plan a wardrobe that suits my activities.	_____ 10
_____ Learn how to tell if an outfit is well made.	_____ 11
_____ Learn how to examine advertisements for clothing.	_____ 12
_____ Learn how to select fashionable accessories that express something about me and coordinate my outfits.	_____ 14

TEXTILES IN CLOTHING

_____ Learn how different laundry methods affect fabric shrinkage.	_____ 16
_____ Learn to tell how a fabric will look when made into a garment.	_____ 17
_____ Learn what fibers add strength and durability to fabric.	_____ 17
_____ Learn how fabric construction affects fabric strength and durability, stretch, and care requirements.	_____ 18
_____ Learn what finishes can be used to improve the fabric.	_____ 19
_____ Learn some of the basic characteristics of fibers frequently used in clothing.	_____ 21
_____ Learn what information is required by law on clothing and fabric labels.	_____ 21

Design and Art in Clothing

Design Elements

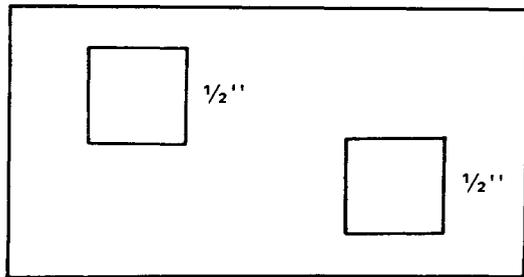


COLOR IN MY CLOTHING

You have a color combination that is your own — your hair, eyes, skin, and the red in your lips. You can use these colors as the theme for your personal wardrobe plan.

You can see your personal coloring more clearly when you see it in fabric or paper. Fabric samples and magazine pictures are good sources of colors. With the help of a partner or leader, match the color of your hair, eyes, and skin with the samples.

To find your skin tone make a mask from a piece of white paper or note card. Cut two windows in it as shown below.



Place your skin tone sample behind one window. Then hold the other window against your forehead. If you can't tell the difference between the color of the sample and your skin tone, you have done a good job of matching. Do the same thing to find your eye, hair, and lip colors.

When you have found your personal colors in fabric or paper you may want to use the color samples to help you select clothing. A color aid card that you can take shopping with you can help you see if clothing colors make you look alive and healthy or all washed out.

Make your color aid card by mounting your four personal colors on a strip of cardboard. Glue or paste works well for mounting the paper. Masking tape is good as a backing for fabric.

Carry your color aid card with you when you shop. Use it to select your most becoming colors. Place it on a garment or piece of fabric to see how you'll look in that color.

You will find that some colors or variations of colors look better on you than others. Each color has "values" that range from light to dark. Red, for example, can range from a light value of pink to a dark value of maroon. Colors also have a variety in intensity or color brightness or dullness. Red can be a bright "fire engine red" or a dull "brick red." When you know that each color has many variations, you will be able to try several variations to see which looks the best on you.



THINGS TO DO:

1. Use your color aid card to find out what colors look good on you.
2. Choose one color and collect samples to show a range of its values and intensities. Use your color aid card to decide which samples look best on you. You and your friends might want to share color samples to find the variations that look best on each of you.
3. Do you know what the fashionable colors are for this season? Look in stores, catalogs and magazines to see if you can tell. Check also to see if any types of prints are fashionable.

BIG IDEAS



Your own skin, hair, and eye coloring help you select colors that make you look your best.

The value and intensity of colors are important influences on color selection.

TEXTURE IN MY CLOTHING

Fabrics have many different looks and feels.

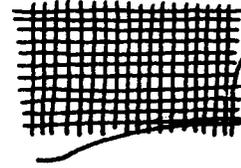
Texture means:

- The appearance of the fabric – how it looks.
- The “hand” of the fabric – how it feels.
- The apparent weight of the fabric – how heavy it looks.
- The depth of the fabric – how thick or thin it looks.

Fabric texture in a garment can affect how large or small you look. For instance, a heavy or bulky fabric can add bulk to your figure.

Yarns make a difference in the texture of the fabric. You can examine yarns by unravelling them from a piece of woven fabric. Unravel yarns from both the crosswise and lengthwise

directions. Sometimes different yarns are used together to get certain effects.



If the yarns are thick you will have a bulky fabric.



If the yarns are thin and very fine you will have a sheer or lightweight fabric.



If the yarns are uneven (thick and thin) you will have an uneven surface texture.



THINGS TO DO:

1. Collect samples of woven fabric and unravel the yarns. Try to get a variety of textures and compare the yarn texture to that of each fabric.

Paste squares of fabric in this column	Tape the yarns in this column and label them crosswise and lengthwise	Describe what effect the yarn has on each fabric

Paste squares of fabric in this column	Tape the yarns in this column and label them crosswise and lengthwise	Describe what effect the yarn has on each fabric

2. Experiment with texture on yourself. In front of a mirror, try on clothes with different textures to see if some make you look better than others.

Yarn is not the only way to achieve texture in fabric. Some fabrics are woven or knitted to create unique textures. Corduroy, velvet, and fake furs are some examples. These fabrics have a pile. Think of pile as the hair on a cat's back; it all goes in one direction. A cat's back feels smooth when you stroke it in the right direction.

Find a sample of a pile fabric. Try to see and feel the difference in direction of the pile.

BIG IDEAS



Texture means the appearance, hand, weight, and depth of a fabric.

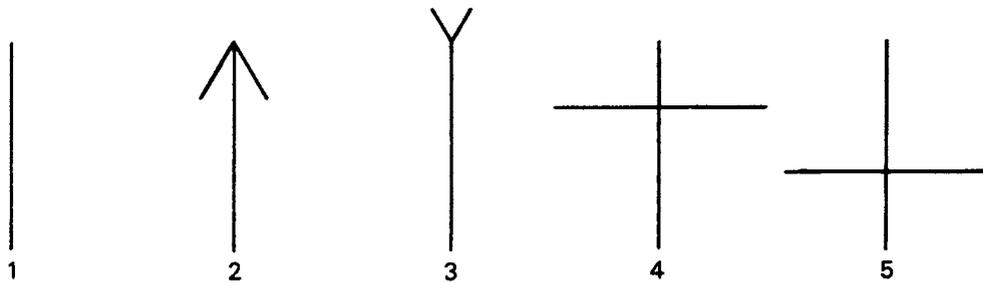
Texture in a fabric can make you look bigger or smaller.

Yarns make a difference in the texture of a fabric.

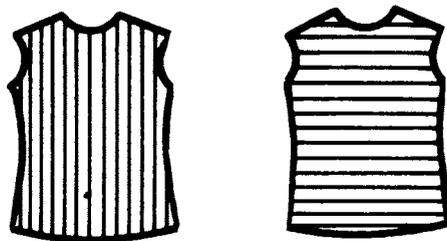
The way a fabric is woven or knit makes a difference in the texture of a fabric.

LINE AND FORM IN CLOTHING

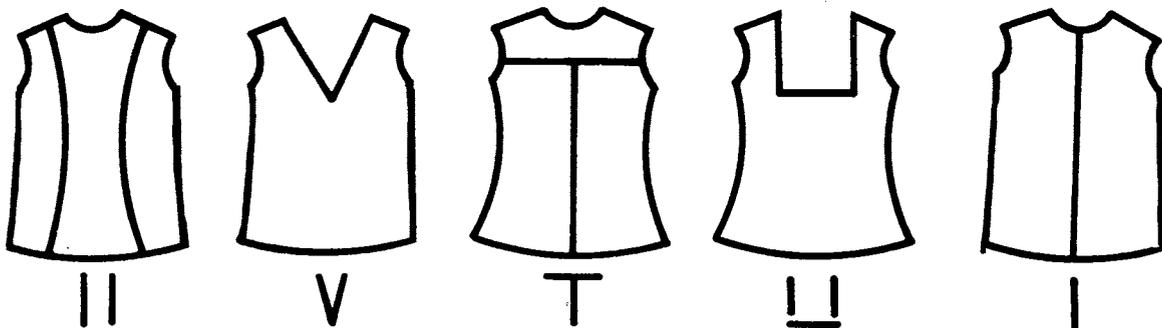
Lines can play tricks with our eyes. Which line looks longest? _____



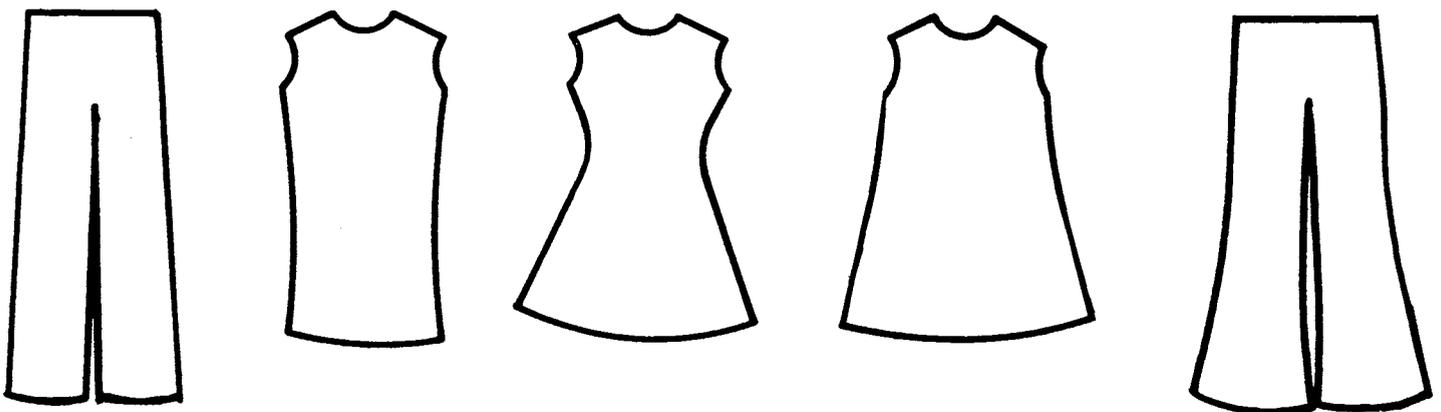
If you think all five lines are exactly the same length, you're right. However, some lines appear longer, while others look shorter. Lines affect clothing in many ways. There can be lines in the fabric. . .



. . . and there can be lines in the design of the garment.



And there are lines made by the form or silhouette of the garment.



You can use the design lines in clothing to emphasize your best features and to camouflage others. Lines can make you look taller or shorter, or thinner or heavier. They also can make narrow shoulders look wider or wide hips seem slimmer.

You will find that vertical lines in clothes will make you look taller and more slender. Horizontal lines will make you look wider wherever the line goes across your body. The more definite the line is, the more it influences your shape. For instance, a horizontal line at the hipline widens you more if the upper part of the outfit is a print of blue and green and the lower part is blue than when both parts are the same. A belt that contrasts with an outfit widens more than one made of the garment fabric.

THINGS TO DO:

1. Cut out magazine or catalog pictures of dresses, shirts, pants, shorts, and other clothes that have different design

lines either in fabric, design of the garment, or form. Use them to make a chart showing the effect of line on the figure.

2. Look at yourself in a full-length mirror. Decide what shape and size you are. Decide what shape and size you would like to be – just like you are, a little taller, shorter, heavier, or thinner. This may mean you will want to use lines in clothes to help your figure look like you want it to. Cut out pictures of clothes with lines that would help you look your best.



BIG IDEAS

Lines in clothes can affect the way you look.

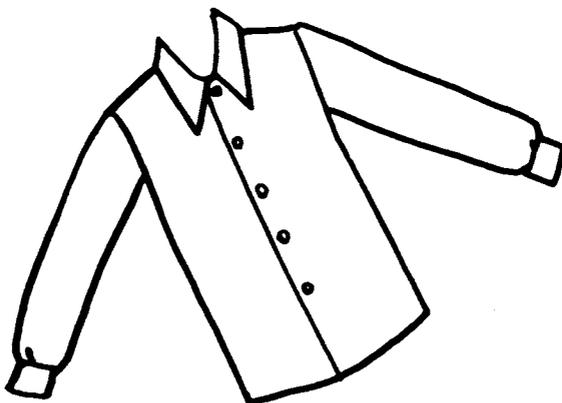
Lines can be found in fabric design, in garment design, or in garment form or shape.

Art Principles

HARMONY - PROPORTION - BALANCE - RHYTHM - EMPHASIS

After working with the design elements, color, texture, line, and form, individually, you will find that they all work together to create an outfit. The principles of art are ways of organizing color, texture, line, and form into attractive designs.

1. Harmony

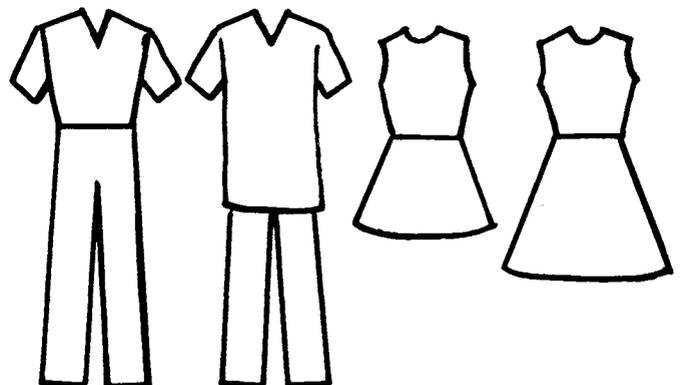


All parts of a harmonious design seem to belong together. This is the goal you'll want to work toward in use of texture, color, lines and form. It can be as simple as recognizing that a sporty pair of shoes worn with a dressy dress is not harmonious. Or that a dress-up shirt is not harmonious with faded jeans.

2. Proportion

Proportion is the relationship of spaces to each other. Equal proportions are less interesting than unequal ones. Colors, textures, or lines can create different proportions. For instance, if the length of your skirt is equal to the distance from your waist to the collar of your blouse, it will cut your figure in half. A slightly-longer skirt or a higher waistline in a dress would be more interesting in proportion.

When wearing pants, the shirt and pant lengths create different proportions. A shirt that is tucked in or stops at the waist creates a different proportion than a longer shirt that divides the body evenly.

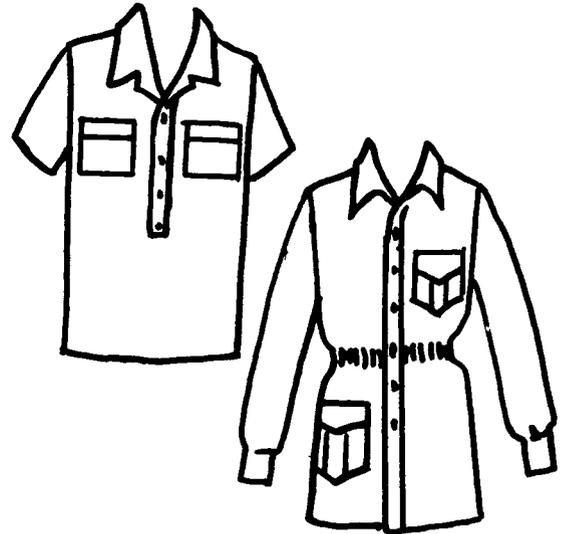


3. Balance

Balance is equal attraction on each side of a central line.

Formal Balance — use of same lines, colors, or texture on each side of a central line.

Informal Balance — use of lines, colors, or textures placed in a position that balances, but is not exactly the same.



4. Rhythm

Rhythm forms an easily connected path along which the eye can travel. It may be the arrangement of lines, colors, or textures. Repetition is a part of this.



5. Emphasis

Emphasis attracts your eye first to the most important point of interest and then to other parts of the design. There should be only one center of interest.



THINGS TO DO:

1. Find examples of each of these art principles in a magazine or catalog. Mount them on a piece of paper or poster board and label the art principles shown in each. Use this to lead a discussion at your project meeting.
2. Analyze an outfit you have, using the art principles. Can you find art principles operating in your outfit? Is the total effect becoming to you?

BIG IDEAS



The principles of art — harmony, proportion, balance, rhythm, and emphasis — are ways of organizing color, texture, line, and form into attractive designs.

Clothes For Everything You Do

A well-planned wardrobe is one that has clothes that are right for everything you do and that help make you "feel" good when you wear them.

A good way to begin planning your wardrobe is to go through your closet and take out all the clothes you haven't worn lately that you think you will not wear again. Have your folks help you decide what to do with these clothes.

You may have some clothes that you could wear if they were updated or if you had something to wear with them. Put these aside while you are sorting out your clothes. Your mother can help you decide if some clothes could be passed on to someone else, given to a clothing drive, made into something else, or if they should be thrown away.

Now make a list of all of the activities in which you participate (school, work, church, at home, special events, sports, etc.).

Think of all the clothes you have. Will they allow you to participate in all your normal activities?



If you need additional clothes, make a list of what you need. Keep in mind making good use of some of the clothes you already have by planning to coordinate new clothes with them. Think about choosing clothes that have several uses. Consider putting some accessories on your list. They can be just what is needed to update or coordinate something you already have.

Write a brief description of each garment you need and what you will wear with it. What do current fashions tell you would be good details to look for? For each garment on your list decide whether you will make it or buy it. This is a decision you'll need to think about carefully. Consider:

1. the look you want to achieve
2. you and your family's resources — time, money, skills, tools

Thinking about it in this way will more likely help you make a decision you will be happy with.

Discuss with your parents the list of clothes you need. How do your choices fit your family spending plan for the year? How do they fit the family schedule for laundering clothes? Do you need more clothes so underwear or school clothes don't have to be washed so often?

You may find after looking over your list that there are some things you would like that you don't really need. Wants and needs are sometimes hard to separate. Ask yourself, "Can I get along without it?" If you can, it is a "want." Talk over your needs and wants with your parents. After all the family needs are met there may be an opportunity for each family member to also select something that is a "want."

Clothing is only one part of the family clothing budget. Families today spend between 8 and 9 percent of their income for clothing. As you decide what you need and want, remember that you are only one of the people in your family. Also remember that there may be other things your family needs this year and all of you may need to buy fewer clothes.

THINGS TO DO:

1. Plan and do a recycling activity. Find something from your closet that you will not wear as it is now. Look through magazines and catalogs for ideas. Update the garment so it becomes a part of the clothes you enjoy wearing. Or fix one of your garments for another family member.
2. Clip pictures that show garments similar to those in your wardrobe. Then find pictures of additions that would make changeable outfits.
3. Use the ideas in this section to make a plan for clothing for the season, for a trip, or for your total wardrobe.

BIG IDEAS



Planning a wardrobe consists of taking a look at your activities and the resources you have to meet your clothing needs.

QUALITY OF READYMADE CLOTHES

When you look at clothes in a store, can you tell how well any of the clothes will wear? Is this always important for you to know? When you are buying some kinds of clothes, you may want to buy garments that cost less even if the quality isn't good because you know that you will not wear them very

When you want to evaluate the quality of the workmanship used in putting the garment together, use the checklist below. The more checks you can put in the yes column, the higher the quality of the garment is. These are the kinds of details that you can look at easily when trying on a garment in the store.

	YES	NO
The garment looks well-made from the outside.		
Seams are flat and smooth.		
Seam allowances are at least 5/8" wide unless a special seam was used for the fabric.		
If fabric ravel, seams have been finished.		
Dominant designs are matched at the seams.		
Threads are fastened and extra threads cut off.		
Topstitching is straight.		
Buttons are attached securely.		
Undercollar and facings don't show when garment is being worn.		
Cuffs and collar are smoothly attached with no raw edges showing.		
Interfacing is used where needed for strength or crispness.		
Fasteners (zippers, snaps, etc.) work well.		
The hem is not noticeable from the outside of the garment.		

It will be easier for you to decide which of several similar garments to buy if you have thought about what quality you want before you go shopping. How do you decide? Try answering the following questions and see if you can make the decision more easily.

What do you need to buy?

Where will you wear it?

How often will you wear it?

What will you be doing while you wear it?

Are you hard on your clothes?

How fast are you growing or changing shape?

Does someone else get your clothes when you outgrow them?

Is the garment you are choosing a fad or something you will wear for a long time?

much. Other kinds will be worn a lot and need to be better quality.

You can't always tell the quality of an outfit by looking at its cost. Sometimes you will find high cost clothes that are not good quality and you can sometimes find low cost clothes that are high quality. You need to learn to recognize the quality for yourself.

What makes one outfit high quality and another low quality? There are two general things to check — the quality of the fabric used to make the garment, and the quality of the workmanship used in putting the garment together. You will find some tips to help you know when the fabric is good quality included in the textiles section of this bulletin.

Occasionally you will buy a garment that is a disappointment. It may have a flaw in the fabric that you did not notice before you bought it. It may shrink or the color may run when you launder it according to the permanent care label instructions. You may have discovered a flaw in the sewing. Or something else may make it unwearable through no fault of yours.

When something happens and you find that you have an unsatisfactory garment, you should return it to the store. When you return something to a store you need to give the store manager information about the problem to send to the manufacturer. When you return something:

1. be specific about what the problem is — color change, stretching, shrinkage, deterioration;
2. attach sales slips, hangtags, and labels, if possible. Otherwise, know purchase date and price;
3. know length of time garment was used or worn;

4. describe exactly how the garment was laundered or cared for; and
5. include your name, address, and telephone number.

It is important to save the store sales slip when you buy clothing. Without the receipt you have no record of where you bought the garment or when you bought it. The store management is more apt to take it back if you have proof of when you bought it and that you bought it in that store. The sales slip is also necessary for some manufacturers' wear guarantees to be honored.

THINGS TO DO:

1. Decide on two different items of clothing such as shirts, pants or socks that you are interested in and do comparison shopping. Go to different types of stores (specialty, department, discount) and look at the variety of the two clothing items. You could also check at garage sales. What differences can you see in quality and cost? Is there a relationship between the two? Which would suit your needs best? Why? Report on your study to your project group.
2. Mail order catalogs are easy to use for comparison shopping. Do the comparison shopping described above using one or two catalogs. You will not be able to compare construction but you can check on fabric, fabric finishes, etc. Report your findings to your project group.
3. What does a store manager do when a customer returns a clothing item with a reasonable complaint? Does the manager decide this is just money lost for the store or does the problem get sent on to the manufacturer or distributor? Interview a store manager in a department store and one in a discount store to discover what they do.



BIG IDEAS:

The fabric used in a garment and the workmanship used in making it affect its quality.

WHY DO YOU BUY?

When you decide to buy pants, a shirt, or shoes, what influences which you choose? You know how to decide what needs to be added to your wardrobe. You know how to evaluate the quality of the fabric and how well a garment is made. Do you carefully consider these things when you buy?

How much are you influenced by advertising and by the psychology used in selling clothes? How much are you influenced by fashion and what your friends are wearing? Do you buy on impulse? Do you know the answers to these questions?

Each of us is affected by many things when we shop for clothes. We usually don't realize what the influences are.

Advertising is one of the big forces at work as you decide what to buy. Advertising by stores and manufacturers can be very helpful. It can tell you what is new, where certain things can be bought, when and where there are special sales, and other very useful bits of information.

Advertising also is used to persuade you to buy the thing the manufacturer or store has to offer. Advertisers have studied us very carefully to find out what is most apt to make us want to buy their products. They know what clothing styles your age group likes; they know what color of packages appeal to you; they know where to put things in the stores so you will notice them and want to buy. Remember, the main aim of advertising is to *sell* things to you.

THINGS TO DO:

Look for clothing ads in your local paper and in fashion magazines. Pick out three advertising clothing you think you might like to buy. Using the following chart analyze the ads for information and the kinds of persuasion being used.

Points to Analyze	AD 1	AD 2	AD 3
Information			
1. Tells about something that is new.			
2. Tells where an item is available.			
3. Tells about a special sale price.			
4. Tells fiber content of garment.			
5. Tells how the garment is to be cared for.			

Points to Analyze	AD 1	AD 2	AD 3
<p>Persuasion</p> <ol style="list-style-type: none"> 1. Appeals to your concern about needing clothing. 2. Appeals to your desire for your friends' approval of what you wear. 3. Appeals to your need for security.* 4. Appeals to your wish to look attractive. 5. Appeals to your ego.* 6. Appeals to your feelings of love and concern for your family and friends. 7. Appeals to your desire for status – to be like a model or athlete, etc. 			

Were you surprised at where the check marks came in the chart? Share the ads and your analysis of them with people in your project meeting.



BIG IDEAS:

Advertising has two purposes – to inform and to persuade.

Advertising can be helpful as you decide what clothes to buy and where to buy them, or it can help you to spend more than you intended.

Advertisements appeal to you in many ways to persuade you to buy.

***WHAT IT MEANS**

security – The feeling that everything is all right, that you are not in any danger.

ego – How you think and feel about yourself.

Completing an Outfit

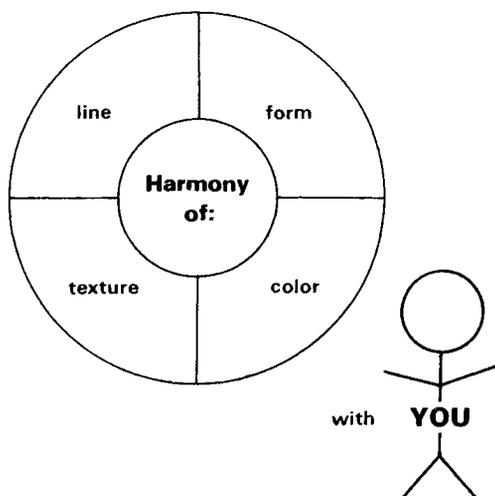
Once you start to experiment with accessories, you will see the power you have to create new looks in your wardrobe. Don't let the word "accessories" confine you to the traditional jewelry and scarves. Accessories can be vests, glasses, sweaters, belts, shoes, watches, hats, and on and on. Let your imagination go!

Knowing how to use accessories can help you stretch your wardrobe and also add a special touch of yourself to your clothes.

Selecting accessories is an art of coordination that you can learn with practice. To begin with, there are two things you need to know: the elements of design, and something about your own personality.

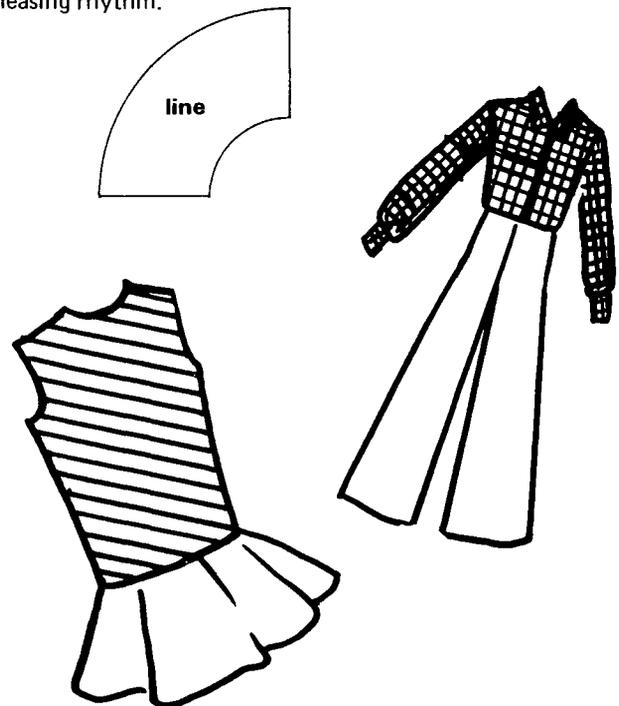
Sometimes you can try on something that completes your outfit and looks just right on you. Then there are times when you really are not sure how it looks — and you wish you had another person's opinion. When you, or you and your friend or parents are uncertain, you may wish you had some guidelines to follow.

Fashion today has given us freedom from strict rules. However, the elements of design can help you evaluate how well coordinated an outfit and its accessories really are. Remember the art principle of harmony — it will be your guide. You can learn to put the design elements together with harmony. You may create harmony around an idea like a western theme. Or you may create harmony by combining clothing and accessories that are right for your age, a season, or a formal or informal mood. When there is harmony, a variety of things look right together. Everything does not have to be alike — but the total appearance looks unified.



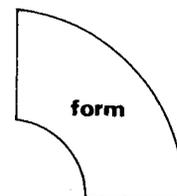
You can use this diagram to check yourself by looking into each of its parts and then thinking about yourself.

Accessories should repeat the major structural *lines* of the basic garment. If a garment has mostly straight or sharp lines, harmony of line will carry those lines through and not introduce curved lines. Remember that repetition can create a pleasing rhythm.



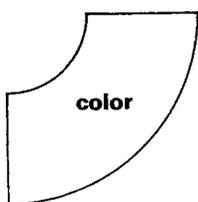
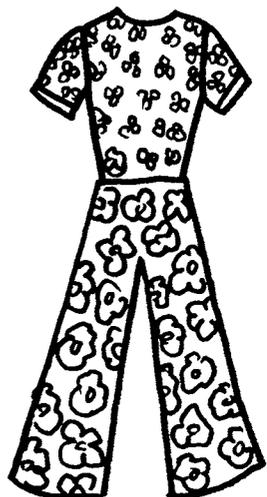
Strong contrasts in line will draw attention and establish a center of interest. You can choose to do this for a focal point if you wish. For example, the combination of this bias full skirt and top with sharp diagonal lines draws attention on the hipline where the change of line occurs. A plaid shirt with plain pants has the same effect. That may or may not be a place you wish to be a focal point.

If any one item is too large or small it will receive attention and attract attention whether it is intended to or not. Think of yourself in relation to size ratio also. Accessories that are too large may overpower a small person, while small accessories may be lost on a large person.

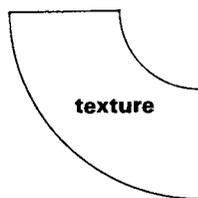


A distinct difference in form can make an article seem completely unrelated to the rest of the outfit. A sweater vest with a curved neckline would not be consistent with a tailored shirt.

Forms also can be shapes within the fabric such as fabric design or prints. When different patterned fabrics are worn together, they should have a connecting element such as color, design, or form.



Color coordination can create a look of unity when colors blend together. Or colors can be organized to give accents and emphasis. In using color for accent, keep a few points in mind. Brightly colored accents are usually more successful when they are used in small areas and concentrated near the face or high enough on the figure to look balanced. Color contrast creates exciting interest. Just remember to use it where you want the emphasis to be. The hands and feet are constantly changing their position and create a shifting focal point if they contrast sharply in color with the rest of the outfit.



All *textures* of the outfit should harmonize, with a predominant texture setting the overall tone. For example, rough, nubby textures can set a sporty-casual tone and shiny, soft textures can set a dressy-formal tone. It is best to carry one tone throughout the total outfit. There can be variety, but all the textures should harmonize. Too many differences in texture create an indefinite theme and mix points of interest.

How do *you* fit into the scheme of all this? What do you feel most comfortable wearing? What outfits that you have best express your personality to others? Do you like to stand out and be different, or would you prefer that your clothes did not draw attention to you?

These are good questions to ask to begin to have an understanding of yourself and the clothes you wear.

Think about what *lines* are in your favorite outfits – sharp tailored ones, soft curving ones, diagonal ones, or something in between.

What about your *size* related to the items you choose to wear. Will a large belt dominate you? – or could a large belt in an unusual texture such as needlepoint be an exciting point of emphasis?

What *colors* do you enjoy wearing most? Do you choose colors that complement your own coloring? Do you feel comfortable in bright colors or color-contrasting combinations?

Do smooth, plain *textures* suit you best, or do you prefer a raised surface texture or patterned fabric?

Know what best expresses you and check the total outfit for harmony of line, form, color, and texture. That can help you choose accessories that will personalize your outfits and give you confidence of looking sharp.

THINGS TO DO:

1. Find pictures of outfits you would like to wear. Analyze their coordination of line, form or size, color, and texture. Experiment to decide what lines, forms, sizes, colors, and textures are best for you.
2. With pictures from a catalog or accessories that you and your family or a friend may have, show how you can change the look of one outfit to express different personality types. Experiment in front of a mirror if you are using real accessories or on paper if you use pictures.
3. Look for magazine pictures that illustrate current fashion and fads* in accessories. Identify ones appropriate to wear in your community. Select the ones that would look good on you. Tell why.
4. Identify some fads that are currently popular in your school or group. Go to two or more stores in your area and find out how much it would cost to purchase some of these fads. Compare prices. Would the items be less expensive if you made them? Could you make them?

BIG IDEAS



Selecting accessories involves the art of coordinating the design elements with themselves and with your own personality.

Accessories can help you look in fashion, can individualize garments, and can stretch your wardrobe.

*WHAT IT MEANS

Fad – a fun fashion followed with a lot of enthusiasm for a short period of time.

Textiles

Learning About Fabrics

Have you looked critically at different kinds of fabrics? By looking at a variety of fabrics and doing some experimenting with them you can learn important facts that will help you make wise choices in readymade clothes, select the right fabric for garments you make, and care for clothing to have it wear well. Fabric facts to consider include shrinkage, draping, strength and durability, fabric construction and fabric finishes.

Think up different ways you could wash these. Some may be:

- hand wash, line dry
- machine wash, warm, dryer dry
- machine wash, hot, dryer dry

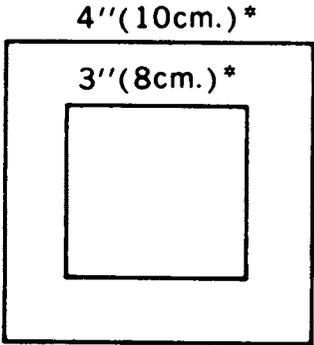
Cut as many samples of fabric as you have ways to wash on your list. Try this with several different kinds of fabric.

THINGS TO DO . . . With Fabric Scraps

1. LEARN ABOUT SHRINKAGE

Prepare samples of fabric making each one 4 inches square. Then take thread and needle and sew a running basting stitch by hand in a 3-inch square on each piece.

The way fabric is laundered will have a big effect on the way it wears. One problem people have in laundering clothing is shrinkage. To see how fabric may shrink, try this experiment.



* Approximate

Measurements within basting stitch

Your list of ways to wash	Before washing	After washing	Percent of shrinkage
_____	3" x 3"		
_____	3" x 3"		
_____	3" x 3"		
_____	3" x 3"		
_____	3" x 3"		
_____	3" x 3"		
_____	3" x 3"		

<p>To find the percentage of shrinkage:</p> <p>example:</p> <p style="margin-left: 20px;">3" before washing 2 3/4" after washing 1/4" difference</p>	<ol style="list-style-type: none"> 1. Change the difference (1/4") to a decimal (.25). 2. Divide the difference (.25) by the size before washing (3") <div style="text-align: right; margin-left: 20px;"> $\frac{.071}{3/.25}$ </div> 3. Change the results in decimals to percent. .071 = 7%
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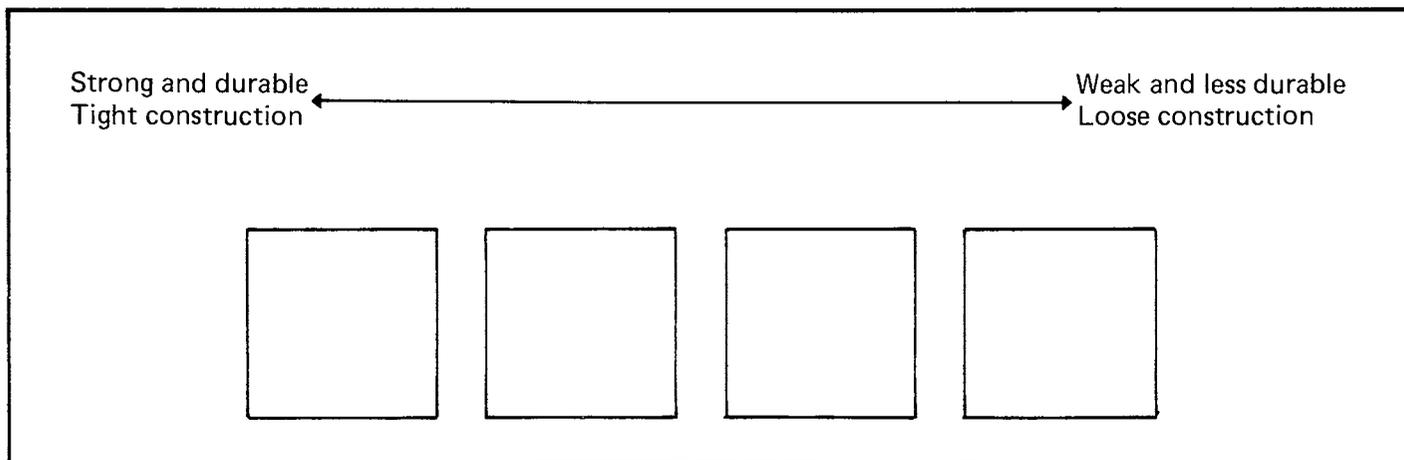
The second guide to how strong and durable a fabric will be is how the fabric is woven or knitted.

The tighter or closer together the yarns are in the fabric, the stronger it will be. Compare the fabric for the tightness of the weave or knit. Collect several fabrics and cut them into 2-inch (5 cm.) squares. Then rate them from the tightest construction to the loosest. Place them in that order below. Compare their differences under a magnifying glass if you have one.

Remember these facts when shopping for fabric:

- Notice the fiber content.
- Notice the construction of the fabric.

For some clothing items durability won't be very important. If you are buying a dressy blouse that you won't be washing and wearing often, you may not be too concerned about durability. However, if you are buying a pair of slacks that you plan on wearing often, durability is an important factor.



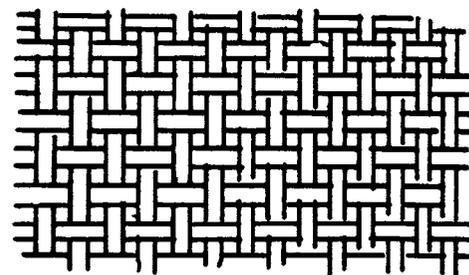
4. LEARN ABOUT FABRIC CONSTRUCTION

Fabrics are constructed in three very different ways. A fabric may be woven, knit, or nonwoven. The method used to make the fabric will affect the way it looks, feels, and drapes; how strong it will be; the kind of care it requires; and how much it will stretch. You can tell by looking at a fabric which way it was made.

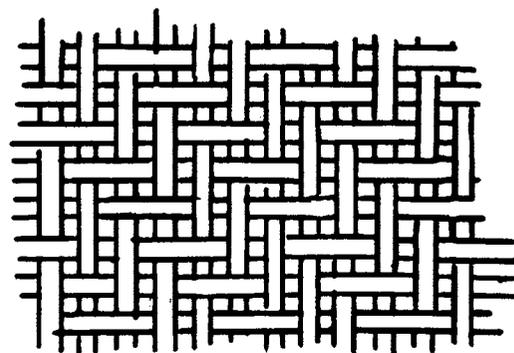
WOVEN FABRIC

Woven fabric is made on a loom. On a loom parallel yarns (lengthwise or warp) are interlaced by others (crosswise or weft) at right angles. The crosswise yarns have been interlaced under and over the warp. There are many different types of woven fabric, but the most common is the plain weave. In this weave the weft* (crosswise yarns) pass over one warp* (lengthwise) yarn and under one.

Fabric made using a plain weave can be very heavy or very sheer depending on the thickness of the yarn used in the weaving and how close together the yarns are.



Another weave that you may recognize is the twill weave. In the twill weave the weft yarns* go under one warp yarn* and over two warp yarns. This makes a diagonal pattern that you can see in the fabric.



There are many more types of weaves, each made by a different pattern of yarns going over and under each other. Generally the plain weave will be the most durable because the yarns all get an equal amount of wear.

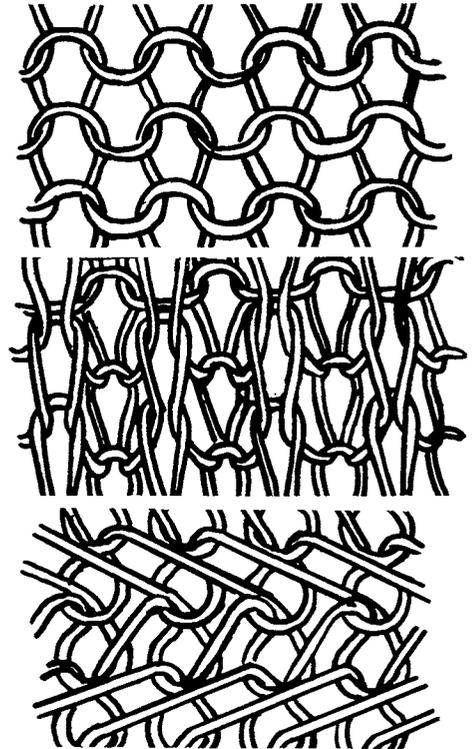
KNIT FABRIC

Knit fabrics are made by needles forming many interlocking loops of yarn. There are three basic types of knit fabrics that you will want to learn to recognize.

A filling knit is a knit that has one yarn going back and forth forming loops that interlock or the yarn keeps going into a circular fabric. This fabric is also called a single knit or jersey knit.

A double knit is a filling knit made with two sets of needles looping the yarns together. If there is no knitted-in design on one side, both sides of the fabric look the same.

A warp knit has several sets of yarns that run the length of the fabric. The yarns loop into each other forming a pattern of vertical lines on the right side of the fabric and horizontal lines on the wrong side. There are several variations of the warp knit. Tricot is the most common one.



NONWOVEN FABRIC

Many different fabrics that are available today were neither woven nor knit. Some, like wool felt, are made by matting the fibers together so they are tangled and permanently locked together. Others are made by fusing fibers together or by making a film from the fiber when it is in a liquid form. Imitation suedes and leathers are sometimes nonwoven fabrics. Some interfacing fabrics are also nonwoven.

FABRIC CHARACTERISTICS

Find samples of fabric constructed in different ways. Look for different kinds of weaves, different knits, and different types of nonwoven fabric. Experiment with each fabric to learn about it by answering these questions about each of them.

Stretch –

Does the fabric stretch?

How much does the fabric stretch?

Which direction does it stretch the most (crosswise, lengthwise, bias*)?

What happens to the edges when the fabric is stretched?

Do lengthwise and crosswise edges act the same way when stretched?

Care –

Try different laundering methods like you did in the section on shrinkage. What happens to each of the fabrics?

Strength and Durability –

How close together are the yarns in the fabric?

Is the surface of the fabric smooth or textured?

What happens to the fabric when you rub it hard with an object with a rough textured surface?

After working with your fabrics, talk with others in your project group to see if they discovered the same things about the fabrics they experimented with. You may wish to keep the fabric samples in a notebook.

*WHAT IT MEANS

warp – The yarns that run the length of the fabric.

weft – The yarns that run back and forth across the fabric.

bias – The diagonal direction in fabric.

5. LEARN ABOUT FABRIC FINISHES

A finish is a treatment given to the yarn or fabric to change it in some way, improving its performance or making it easier to care for.

In choosing fabric you need to know what finishes are available. Then as you think of how the clothing item will be used, you can decide if a particular finish would be helpful.

Finishes increase fabric cost because they involve an additional manufacturing procedure. With some finishes you have to be sure to follow the care instructions so the finish will remain in the fabric.

Do you have a garment with a permanent press finish that is a year or more old and one that is new? Perhaps your mother can help you find these examples from your family's clothes.



Compare the two garments:

- Is one more wrinkled?
- Is there more puckering on the seams or in topstitching on one?
- Is there more fading on folds or creases in one?
- Do you need to touch one up with an iron to make it ready to wear?

Manufacturers of permanent press fabric will not guarantee the finish after 20 washings. It doesn't completely wear out, but it gradually becomes less effective. (This is also true of other types of finishes.)

Permanent press is only one of many finishes found on today's fabrics. Watch for finishes labeled on garments and fabric.

The chart below lists several fabric finishes. Read the descriptions of what each finish does for the fabric. Then complete the last column with examples of clothing or textile items for the home and where the finish might be used.

Finish	What it does	Items which may have finish
Anti-static	Prevents buildup of static electricity.	
Flame retardant	Prevents fabric from supporting a flame.	
Moth resistant	Makes wool resistant to attack by moths and carpet beetles.	
Permanent press or durable press	Helps fabric remain wrinkle-free even after being washed.	
Shrinkage control	Controls shrinkage of fabric to a small amount.	
Soil release	Makes soils and stains easier to remove in laundering.	
Spot and stain resistant	Provides protection for fabric from becoming stained by oily or water-based substances.	
Water repellent	Makes fabric resistant to wetting, but not waterproof. The fabric is still able to breathe, allowing passage of air, water vapor and perspiration.	
Waterproof	Closes the pores of the fabric, allowing no water or air to get through.	

BIG IDEAS



The method of washing and drying fabric may affect how much the fabric shrinks.

Knowing the way a fabric drapes will help you decide what design will be best for the fabric.

Fiber strength and fabric construction will help you determine how durable the fabric will be.

Fabric finishes are used to improve fabric performance and make fabric easier to care for.

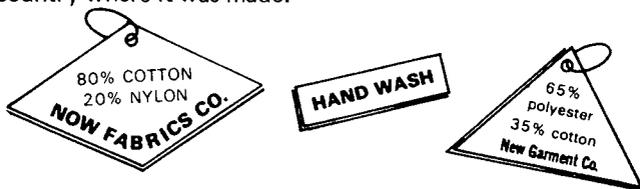
Fiber Expectations in Fabrics

Can you look at a garment or a piece of fabric and tell what fiber it is made of and how to care for it? Probably not; even people who work with textiles every day have difficulty identifying fabrics by sight or touch. There are so many ways to change fibers to give them completely different looks. You need to look at a label to identify fibers.

We have some legislation that helps us know what the fabric is and how to care for it.

TEXTILE FIBER PRODUCTS IDENTIFICATION ACT

In 1960 the Federal Trade Commission said that all yard goods and clothing must be labeled with: (1) the fiber name, (2) the percentage of any fiber present, (3) the manufacturer's identification, and (4) if it is imported, the name of the country where it was made.



PERMANENT CARE LABELING RULE

Then in 1972 the Federal Trade Commission ruled that all yard goods and clothing be permanently labeled with care instructions. A permanent care label must be given to the customer with a purchase of yard goods. If you are not given a care label with yard goods, ask for one. The label on the bolt of fabric tells the salesperson which label to give you. It must be sewn in ready-made clothing. The FTC grants some exemptions to the rule.

This was a big step in labeling because before this ruling care instructions weren't required on the label.

Now with labels telling how to care for fabric and garments and with the fiber content identified, you should have all the information needed on care and performance.

Since most fabric used today is a blend of more than one fiber, knowing the characteristics of each fiber will help you determine how the fabric will perform. The greater the percentage of a fiber used, the more like that fiber it will be. Small percentages affect texture and feel more than the durability or care characteristics. The only exception to this is spandex. There can be less than 5 percent spandex used, and the main characteristic of stretch will still result.

This chart of characteristics of fibers most frequently used in clothing can serve as a guide for your decisions in purchasing fabric and garments.

Acetate	<ul style="list-style-type: none"> ● "silklake" appearance ● inexpensive ● weak fiber, low abrasion resistance* ● dry cleaning usually recommended ● press at low temperature
Acrylic	<ul style="list-style-type: none"> ● most "woollike" ● warmth without weight ● wash and dry ● durable
Cotton	<ul style="list-style-type: none"> ● absorbent ● washable ● wrinkles, poor resilience* ● resistance to high temperatures
Modacrylic	<ul style="list-style-type: none"> ● inherently flame resistant ● very heat sensitive* ● warm ● wash and warm dry — do not iron
Nylon	<ul style="list-style-type: none"> ● strong and durable ● low absorbency* ● wash and dry ● press at low temperatures ● easy care
Polyester	<ul style="list-style-type: none"> ● easy care ● strong and durable ● low water absorbency* ● resilient
Rayon	<ul style="list-style-type: none"> ● inexpensive ● absorbent ● weak to moderately strong
Spandex	<ul style="list-style-type: none"> ● elasticity -(used in blends to give stretch) ● stretch recovery* ● light weight ● harmed by chlorine bleach ● wash and dry at low temperature
Wool	<ul style="list-style-type: none"> ● warm ● dry clean or cold-water hand wash unless treated to be machine washable ● naturally water repellent and flame resistant ● absorbent* ● resilient*

*on next page

*WHAT IT MEANS IN FABRIC

abrasion resistance — how well a fabric withstands rubbing against itself or other fabrics.

absorbency — how well a fabric soaks up moisture and allows it to evaporate; more absorbent fabrics are more comfortable because they allow air and moisture to pass through them.

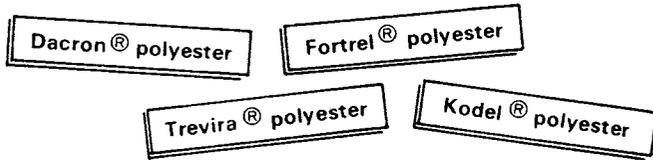
heat sensitivity — how easily the fabric is affected or damaged by heat.

resilience — how well a fabric springs back after being crushed.

stretch recovery — how well a fabric goes back to its original shape after being stretched.

Of this list of fibers, cotton and wool come directly from natural sources and all others are manmade from chemical substances.

The manmade fibers are given trade names by the companies that make them. You may be familiar with some of the trade names used for polyester.



Remember that the fiber name — such as polyester and all the manmade fibers on the chart — is the name required on the label. Sometimes this is called the “generic” name. You usually will find a trade name there also, such as Dacron®, Kodel®, Fortrel® or Trevira®, but the generic name will be your guide to fiber characteristics.

THINGS TO DO:

1. Do you use labels? Do you think people who shop are aware of the label before they buy? Interview a clothing or fabric store salesperson to see if they are aware of people checking labels before buying. If you can, observe customers in a store to see what influences their purchases most and whether they read labels.
2. Do you get and use care labels with fabric you buy? Be sure to ask for them. Sew a care label in all garments you make.
3. Fabric stores have rolls of care labels. See if you can get examples of the labels from a store. Then look in the store to see what kinds of fabric get each label. Can you figure out why each label is used on those fabrics?
4. What characteristics do each fiber add to these items of clothing? Can you think of better possibilities for fiber blends for the items below? If so, how would they be better?

<p>boys' socks</p> <p>75% acrylic 20% nylon 5% spandex</p>
<p>dressy blouse</p> <p>90% acetate 10% nylon</p>
<p>jeans</p> <p>50% polyester 50% cotton</p>

Find two items in your wardrobe that are labeled with fiber content and analyze them as you did the clothing above.

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