DYNAMICS OF CLOTHING II

UNIT III: ***TEXTILES TECHNOLOGY***

TOPIC A: **FIBERS AND FABRICS**

OBJECTIVE: Students will be able to identify fabrics by fibers, type of construction, name, and appropriateness for project.

CONCEPT: Choosing the correct fabric for the project is a critical, basic decision in sewing.

COMPETENCIES:

1. Explore the history and origins of fibers used in fabric construction.
2. Review the characteristics of the basic fibers.
3. Study the characteristics of a larger variety of fibers. (Compared to Dynamics of Clothing I.)
4. Review basic types of fabric construction.
5. Study a larger variety of weaving and knitting patterns and the appropriate uses of the end products. (Compared to Dynamics of Clothing I.)
6. Study various types and purposes of fabric finishes and their effects on the end product.
7. Identify and name a large number of fabrics.
8. Use standard terms related to textile technology.

ACTIVITIES/OPTIONS		SUPPLIES NEEDED
1.	Textile History	As desired
2.	Textile History Timeline	Fabric for backing Bias tape Some icons Cards with dates/events
3.	Textile Fiber Product Identification Act	Overhead transparency (II-III-37) Small poster (II-III-38)
4.	Clothing Fibers Video	Video/video player Copies of student activity guide (II-III-39 to II-III-42)
5.	In the Beginning...Raw Fibers	Overhead transparencies (II-III-47 to II-III-56) Copies of student activity guide (II-III-57)
6.	Fibers Research Project	Copies of student activity guide (II-III- 58) Optional: Copies of student activity guides (II-III-59 and II-III-60) Fabrics as needed to support reports Materials for visual aids
7.	Fiber Burn Tests	Small swatches of fabrics Petri dishes Matches or cigarette lighter Fingernail polish remover (acetone)
8.	Fibers Under the Microscope	Microscopes Fibers on glass slides Copies of student activity guide (II-III-69)
9.	Feisty Fibers	Copies of student activity guide (II-III-70 and II-III-71)
10.	Fibers for Fun	Copies of student activity guide (II-III-73)
11.	Making Nylon Filament	Nylon Rope Kit #66193 (See resources on page II-III-11)

ACTIVITIES/OPTIONS	SUPPLIES NEEDED
12. From Filament to Fabric	Overhead transparencies from Dynamics of Clothing I curriculum, pp. I-III-19 to I-III-21 Bulletin board (II-III-76 through II-III-81)
13. Weaving Patterns	13.1: Large tubular piece 2 crepe paper rolls 2" wide or 2" wide strips of ribbon - 2 different colors Masking tape 13.2: Paper student looms 13.3: Copies of student activity guide (II-III-86) Colored pencils or markers
14. Non-wovens	Fabric samples
15. Fabric Exploration	#1: Corduroy swatches Velvet/terry cloth swatches Copies of student activity guide (II-III-92) #2: Acrylic and wool swatches Polyester/cotton blend swatches Fine sand paper or emery board Copies of student activity guide (II-III-93) #3: Acrylic knit swatches Polyester knit swatches Wool knit swatches Brush with nylon bristles Copies of student activity guide (II-III-94)
16. Fabric Construction Samples	Copies of student activity guide (II-II-95)
17. Adding Color to the Fabric	Bowl of dye Fibers, yarns, and fabrics to dye
18. Fabric Finishes and Applied Designs	Fabric samples of various finishes and applied design techniques

ACTIVITIES/OPTIONS	SUPPLIES NEEDED
19. Fabric Finishes Tic-Tac-Toe II	Game sets printed and assembled (II-III-103 through II-III-106)
20. Fabric Scavenger Hunt	Copies of student activity guide (II-III-107 and II-III-108) Fabric Information Cards for students (II-III-109)
21. Fabric Identification	Fabric samples with numbers and labels Copies of student activity guide (II-III-110 and II-III-111)
22. Fibers and Fabrics Bingo	Copies of student activity guides (II-III-112 and II-III-113) Bingo buttons or beans or chips

ACTIVITIES/OPTIONS

Note: There are many options listed in this unit—more than a teacher could ever do. To help you plan for this unit, it is suggested that you choose one or two activities from each group and spend one class period per group. For example:

One day = Textile History
One day = Fibers
One day = Fabric Construction
One day = Fabric Finishes
One day = Fabric Identification
One day = Summary and Review
One day = Evaluation

TEXTILE HISTORY ACTIVITIES

Option 1: **Textile History**
Using the teacher background information, TEXTILE HISTORY, summarize the information and present it to the students. Combine with Option 2 for maximum interest.

Option 2: **Textile History Timeline**
Using the information provided in TEXTILE HISTORY TIMELINE as a guide, begin a Textile History Timeline on one wall of the classroom (on fabric, of course), noting some of the most significant events. (Use wide bias tape for the timeline.) Start the timeline with only a few icons and keep adding to it as more icons are found and more material is covered. Give each student one of the significant dates and have them find or develop an icon or symbol for that date. The instructor may need to provide enlarged cards with dates and significant events printed on them.

Option 3: **Textile Fiber Product Identification Act**
Review the information pertaining to the TFPIA and explain the significance of this act on the industry and to the consumer. Introduce the fiber classifications used in this act, using the overhead transparency as a guide.

Note: During the following sections of this unit, many new textile vocabulary terms will be introduced. A list of the terms deemed to be most important has been compiled and can be found on page II-III-113. The teacher will need to incorporate the learning of these terms throughout this unit.

ACTIVITIES/OPTIONS

FIBER ACTIVITIES

Note: Option 4, 5, or 6 can be used as a means of presenting the background material regarding fibers.

Option 4: **Clothing Fibers Video**
Show the students the video, Clothing Fibers, from Learning Seed. Use the accompanying activity guides from The Learning Seed as desired.

Option 5: **In the Beginning...Raw Fibers**
Using the background information provided in the packet at the end of this topic along with the overhead transparencies on pages II-III-47 through II-III-56, introduce the different categories of fibers and their properties to the students. A corresponding student activity guide is provided.

Option 6: **Fibers Research Project**
Break the class into small groups (2 or 3) and give each group the name of a fiber and have them research that fiber and prepare a report to give to the rest of the class. The packet provided at the end of this topic could serve as one resource for the students. A student activity guide is provided to guide the students in their research.

As the students present their reports, the other students can fill in the fiber charts if the teacher so desires. The teacher will need to provide enough natural fibers charts and manufactured fibers charts to cover the number of research reports given.

Option 7: **Fiber Burn Tests**
Using the teacher background information provided in Option 6 as a guide, conduct burn tests on a wide variety of fibers as well as some blended fibers. The teacher will need to have small swatches of the fabrics, petri dishes, and matches or cigarette lighter. The students can record the results on their student activity guides from Option 6. Be sure to have a fire extinguisher handy, just in case.

While doing these burn tests, it is a good time to include the acetone (finger-nail polish remover) test on a piece of acetate and/or acetate blend fabric.

Option 8: **Fibers Under the Microscope**
Use microscopes from the science department to study the textures and composition of different fibers. A student activity guide is provided for the students to record their findings.

ACTIVITIES/OPTIONS

There is a set of 24 slides available that support this activity specifically. They are titled, Technology and Fabric Properties, and come with detailed teacher information. They are produced by EDTEX of Australia, Ltd., and can be purchased through Schoolboards, Etc.

Option 9: Feisty Fibers
Have the students complete the crossword puzzle, FEISTY FIBERS, as a review on the fibers materials.

Option 10: Fibers for Fun
This is a little exercise for use as a filler when there are just a few minutes of class left. It's a fun activity that, again, is a review for the students.

FABRIC CONSTRUCTION ACTIVITIES

Option 11: Making Nylon Filament
Demonstrate making nylon fabric to the students (or have an AP chemistry student do the demonstration). Instructions for making the nylon are included in the resource section.

Option 12: From Filament to Fabric
Begin by reviewing the three (3) basic types of fabric construction from Dynamics of Clothing I, Unit III, Topic A. Then introduce more specific varieties of each of these three types of construction, using the teacher background information provided. The teacher may wish to use overhead transparencies, posters, or some other means of illustration as the material is introduced. Patterns for a bulletin board depicting the steps from filament to fabric are provided.

Option 13: Weaving Patterns
The sooner the teacher can get the students involved in reproducing the various weaving patterns, the better the concepts will be received. There are several fun ways of doing this, and the teacher will have to choose what is best for his/her situation.

1. Make a human loom with the students as the harnesses and the heddles, using two colors of 2-inch crepe paper strips or wide ribbon for the warp and the filling (weft). The details for this fun activity are in the resource section of this topic.

2. Use the paper student looms from the Fashion Strategies teaching aids. These are basically 11-inch by 17-inch pieces of heavy paper that have been laminated and cut into 1-inch strips except for the top 1 ½ inches

ACTIVITIES/OPTIONS

(the top being the 11-inch side). Again, the looms are out of two colors of paper, and each student or group of students is given one piece of each color to make the different weaves. These sets are available from Schoolboards, Etc.

3. Have the students color various weaves on grids with colored pencils or markers.

Option 14: Non-wovens

Introduce the students to a variety of types of knit and felt fabrics using the background information provided. The teacher may wish to use overhead transparencies, posters, samples, or other means of identification as the material is introduced.

There is kit of non-woven fabric samples available that support this activity specifically. They are titled, Non-Woven Textiles, and come with detailed teacher information. They are produced by EDTEX of Australia, Ltd., and can be purchased through Schoolboards, Etc.

There is also a set of 24 slides produced by EDTEX of Australia, Ltd., that depict how geotextiles are used in road building, hi-tech sports equipment, defense equipment, and protective clothing production. Again, the slides come with accompanying teacher information.

Option 15: Fabric Exploration

Set up three (3) or six (6) experiment stations around the room, depending on the number of students in the class. (If you have six (6), there are two (2) of each station.) Have the students work in pairs and complete each experiment, following the instruction on the student activity guide, FABRIC EXPLORATION #1, #2, and #3. The experiments are described in detail in the resource section of this topic.

Option 16: Fabric Construction Samples

Have the students collect samples of various types of woven, knitted, and felt fabrics. A student activity guide on which the students can attach their samples is provided. The teacher may choose to do this in some other manner, such as using 3-inch by 5-inch cards.

Sets of student samples can be purchased from a number of suppliers if the teacher would prefer this option. (See Resources for this unit.) If the teacher is making his/her own set of samples, it is suggested that he/she use all white fabrics so the students are not distracted by the colors.

ACTIVITIES/OPTIONS

FABRIC FINISH ACTIVITIES

Option 17: Adding Color to the Fabric

Introduce the students to the methods of dyeing commonly used in the textile industry using the background information provided. The teacher may wish to use posters, samples, or other means of illustration as the material is introduced. The teacher could demonstrate the different methods of dyeing by having a small bowl of dye, some real fibers (cotton, wool, flax, etc.), yarns (threads) from these fibers (fabric can be unraveled), small swatches of white fabrics from these fibers, and a small item made from the fabrics of each fiber. Adding a couple of white blended yarns/fabrics to the demonstration would enhance the integrity of the learning experience.

Option 18: Fabric Finishes and Applied Designs

Using the teacher background information provided, introduce the students to the commonly used fabric finishes and techniques of applying designs. This information is from the textbook, Clothing, by Jeanette Weber, chapters 9 and 17, published by Glencoe. It is recommended that the teacher review this material in total before presenting it to the students. The teacher will need to have some samples of fabrics with the various finishes and design processes ready to show the students.

Option 19: Fabric Finishes Tic-Tac-Toe II

Students play FABRIC FINISHES TIC-TAC-TOE II as a means of learning and/or reviewing the various types of fabric finishes, dyeing, and applied design techniques. Two students can play at a time, so the teacher will need to have enough sets for the class. The teacher background information sheets in options 17 and 18 can be used as the teacher/student keys.

Directions for printing the games: Use four sets of three colors each: one for the performance finishes, one for the texture finishes, one for the dyeing techniques, and one for the applied design techniques. There must be two copies of the clue parts for each game set—one for each student.

FABRIC IDENTIFICATION ACTIVITIES

Option 20: Fabric Scavenger Hunt

As an introduction to fabric identification, give each student or group of students a list of fabrics and have a scavenger hunt to see which group can find the most fabrics the quickest. This will help the students to realize the importance of recognizing a lot of types of fabrics for most effective choices and use.

ACTIVITIES/OPTIONS

Option 21: Fabric Identification

Make a set of 50 or more fabric samples, numbering and labeling each of them. Hang the fabric pieces around the room or on a bulletin board for the students to study. Leave them up for a period of time—preferably throughout this unit. When the students are ready to be tested, remove the names (not the numbers) and use the student activity guides for testing.

Each teacher can make his/her own list of fabrics and update it regularly as popular fabrics come and go. The list provided in this curriculum can be used as a point of reference or as is.

In the Fashion Strategies curriculum developed by the Utah State Office of Education, there are pages provided for the collection of fabric samples. See pages IX 44 through IX 48.

There are kits of fabric samples available which includes information about each fabric and/or samples for the students. They are listed in the Resources for this unit.

SUMMARY ACTIVITY

Option 22: Fibers and Fabrics Bingo

Have students play Fibers and Fabrics Bingo as a unit review. A bingo sheet is provided for duplication, along with a list of the terms learned in this unit. Have the students fill in their bingo cards and then play. (This is similar to the Textiles Bingo from the Fashion Strategies curriculum but different.)

RESOURCES

Fabric Samples: Teacher and/or Student

Apparel Tech, The Textile Kit, 13104 Canterbury, Leawood, KS 66209, 1-913-663-1881.

Pineapple Appeal, MicroFiber Fabrics, P. O. Box 197, Owatonna, MN 55060, 1-800-321-3041, Catalog No. 332.

Schoolboards, Etc., Exploring Woven and Knitted Textiles Kit, Catalog No. EDTEX 4.
Exploring Woven and Knitted Textiles-Student Samples, Catalog No. EDTEX 7, P.O. Box 9106, Ogden, UT 84409, 1-800-93BOARD.

Videos

Clothing Fibers, The Learning Seed, 330 Telser Road, Lake Zurich, IL 60047, 1-800-634-4941, Catalog No. 142, 24 minutes.

Understanding Fabrics, The Learning Seed, 330 Telser Road, Lake Zurich, IL 60047, 1-800-634-4941, Catalog No. 166, 24 minutes. Has software program to go with it.

Books

Clothing textbook, Jeanette Weber, Glencoe Publishing Co., 3008 W. Willow Knolls Drive, Peoria, IL 61614, 1990.

Scientific Supplies

Nylon Rope Kit, Science Kit and Boreal Laboratories, 1-800-828-7777, Catalog No. 66193.

RESOURCES

Textiles Teaching Aids

The following items are available through Schoolboards, Etc., P.O. Box 9106, Ogden, UT 84409, 1-800-93BOARD:

- Human Loom Set, $50
- 12 Sets of Individual Student Looms (paper), $30
- Fibers and Fabrics Bingo Sets (30 cards and buttons), $45
- Fabric Finishes Tic-Tac-Toe II Sets, 12 Sets (3 each), $90
- Exploring Woven and Knitted Textiles Kit, Catalog No. EDTEX 4, $74.95
- Exploring Woven and Knitted Textiles-Student Samples, Catalog No. EDTEX 7, $26.95
- Technology and Fabric Properties Slide Set, Catalog No. EDTEX 6, $84.95
- Non-Woven Textiles Kit, Catalog No. EDTEX 5, $59.95
- Industrial and Non-Apparel Textiles Kit, Catalog No. EDTEX 1, $89.95
- Medical Textiles Kit, Catalog No. EDTEX 2, $84.95
- Design and Technology Slide Set, Catalog No. EDTEX 3, $69.95
- From Filament to Fabric Bulletin Board Pieces, $7.50
- Bingo Buttons (set of 750), $25
- Set of 15 Fabric Construction Samples and 10 Fiber (Fabric) Samples (labeled), $50
- Fabric Identification Cards (set of 100), $6.50

ASSESSMENT/EVALUATION QUESTIONS

1. Explore the history and origins of fibers used in fabric construction.

1. The first fabrics used in this country were mainly from:
   A. Africa
   B.* England
   C. France
   D. Native Americans

2. The biggest hindrance to using cotton for fabrics in the early days was:
   - There was no way of removing the seeds from the cotton boll.

3. Synthetic fibers are:
   A.* Produced in a laboratory
   B. Made by spinning natural fibers
   C. Both of the above answers are correct

4. The first synthetic fiber was called:
   A. Polyester
   B. Vinyl
   C.* Nylon
   D. Acrylic

5. Silkworms were first cultivated in:
   A. The United States
   B. Spain
   C. The English Territories
   D.* The Orient

6. William Lee invented a machine to knit hosiery in the late:
   A. 1300s
   B.* 1500s
   C. 1800s

7. Who invented the cotton gin?
   A. Samuel Slater
   B. Edmund Cartwright
   C.* Eli Whitney
   D. Hilaire Chardonnet

8. The person who is credited for developing the first manufactured fiber is:
   A. Samuel Slater, polyester
   B. Edmund Cartwright, silk
   C. Eli Whitney, cotton
   D.* Hilaire Chardonnet, rayon

ASSESSMENT/EVALUATION QUESTIONS

2. Review the characteristics of the basic fibers.

3. Study the characteristics of a larger variety of fibers.

MATCHING

_A_ 1. Threadlike strands that may be made into fabric or spun into yarns.

_E_ 2. To make from raw materials through planned manufacturing processes.

_C_ 3. Continuous strand composed of intertwined fibers.

_B_ 4. General name not registered by any one manufacturer.

_L_ 5. The numbers of yarns twisted together is called the _____.

_F_ 6. Name given to a fiber by the company that makes it.

_I_ 7. The ability of a fiber to hold water.

_J_ 8. Fibers that may be damaged by high temperatures while washing, drying, or ironing.

_K_ 9. The ability of a fiber to return to its original size and shape after it has been twisted and crumpled.

_D_ 10. Strength is another fiber _____ that affects garment care.

_G_ 11. The ability of a fabric to maintain its exact shade of color throughout the life of the garment.

_H_ 12. Twisting or stretching may damage these fibers.

TERMS TO USE IN MATCHING

A-FIBERS	**B**-GENERIC NAME	**C**-YARN
D-CHARACTERISTIC	**E**-SYNTHESIZE	**F**-TRADEMARK NAME
G-COLORFASTNESS	**H**-DELICATE	**I**-ABSORBENCY
J-HEAT SENSITIVE	**K**-RESILIENCY	**L**-PLY

ASSESSMENT/EVALUATION QUESTIONS

13. Which is the best fiber for clothes worn often and washed often:
    A.* Cotton
    B. Wool
    C. Silk
    D. Ramie

14. Which fiber is NOT produced by a plant?
    A.* Silk
    B. Flax
    C. Cotton
    D. Ramie

15. What happens to manufactured fibers when they are burned?
    A. Become ash
    B.* Melt and form a bead

16. A fabric made of more than one fiber is called a:
    A. Ply
    B. Bead
    C.* Blend
    D. Finish

17. The 5 natural fibers are:
    A.* Wool, linen, silk, ramie, cotton
    B. Wool, linen, rayon, ramie, cotton
    C. Nylon, acrylic, rayon, polyester, cotton

18. Name three natural fibers that wrinkle easily:
    A. Wool, silk, cotton
    B.* Cotton, ramie, linen
    C. Nylon, ramie, rayon
    D. Polyester, wool, cotton

19. What is "pilling"?
    - Fiber balls form on areas of wear

20. Which fiber and fabric is made from flax?
    A. Cotton
    B. Wool
    C.* Linen
    D. Silk

ASSESSMENT/EVALUATION QUESTIONS

21. Natural fibers can be washed in hot water without damaging the fabric.
    A. True
    B.* False

22. Which two natural fibers cause your skin to itch?
    A.* Wool and ramie
    B. Silk and cotton
    C. Wool and cotton
    D. Ramie and silk

23. What could you soak clothes in to prevent their colors from running?
    - A vinegar, salt, and cold water solution

24. Would you make a girdle out of acrylic? Why?
    - NO! It would not give support

25. Would you make underwear out of wool? Why?
    - NO! It would be itchy, hard to wash, and slow to dry

26. A fiber is a:
    A. Thread
    B. Man-made item
    C.* Hair-like substance
    D. Natural substance

27. A yarn is:
    A.* Twisted threads
    B. Another word for thread
    C. Natural fibers
    D. Virgin wool

28. What is a blend?
    A.* A mixture of several fibers
    B. A way of weaving fabric
    C. A combination of threads
    D. A synthetic fiber

29. What are staple fibers?
    A. Synthetic fibers
    B. Natural fibers
    C. Long fibers
    D.* Short fibers

ASSESSMENT/EVALUATION QUESTIONS

30. What are filament fibers?
    A. Short fibers
    B. Crinkled fibers
    C. Hollow fibers
    D.* Long fibers

31. Why are fibers blended in fabric?
    A. To make it more available to the general public
    B. To use up odds and ends of fibers
    C. All fabrics are blended
    D.* To obtain the good qualities of each fiber

32. All of the following are natural fibers except:
    A. Linen
    B. Silk
    C.* Polyester
    D. Wool

33. What was the first man-made fiber?
    A. Polyester
    B. Nylon
    C.* Rayon
    D. Spandex

34. What are two protein fibers?
    A. Wool, cotton
    B. Spandex, linen
    C.* Silk, wool
    D. Cotton, acetate

35. What fiber is synthetic, very stretchy, lightweight, and durable?
    A. Polyester
    B.* Spandex
    C. Rayon
    D. Linen

36. What fiber is natural, strong, and made by worms?
    A. Linen
    B. Polyester
    C. Cotton
    D.* Silk

ASSESSMENT/EVALUATION QUESTIONS

37. What fiber is synthetic, washes easily, resists wrinkling but retains oily stains?
    A. Nylon
    B. Rayon
    C. Acetate
    D.* Polyester

38. What fiber is natural, absorbent, wrinkles easily, and shrinks in hot water?
    A.* Cotton
    B. Linen
    C. Wool
    D. Rayon

39. What fiber is synthetic, made from wood pulp, and was the first man-made fiber?
    A. Nylon
    B. Polyester
    C. Acrylic
    D.* Rayon

40. What fiber is natural and very warm?
    A.* Wool
    B. Silk
    C. Rayon
    D. Linen

41. What natural fiber is made from a flax plant?
    A. Wool
    B. Silk
    C. Rayon
    D.* Linen

42. Which synthetic fiber is soft, warm, lightweight, and usually used in sweaters?
    A. Acetate
    B.* Acrylic
    C. Rayon
    D. Polyester

43. Which synthetic fiber does not shrink but lacks strength?
    A. Polyester
    B. Nylon
    C.* Acetate
    D. Spandex

ASSESSMENT/EVALUATION QUESTIONS

44. Which synthetic fiber is very strong but tends to build up static electricity?
    A.* Nylon
    B. Rayon
    C. Spandex

45. What are two fibers that burn and char, have an afterglow, form a soft, gray ash, and smell like burning paper?
    A.* Cotton, rayon
    B. Wool, nylon
    C. Polyester, cotton
    D. Flame retardant, wool

4. Review basic types of fabric construction.

5. Study a larger variety of weaving and knitting patterns and the appropriate uses of the end products.

1. What is the warp of a fabric?
    A. Crosswise threads
    B.* Lengthwise threads
    C. The grain of the fabric
    D. Synthetic fillers

2. What is the filling of a fabric?
    A.* Crosswise grain
    B. A combination of threads
    C. Something to fill in the holes on an open weave
    D. Lengthwise grain

3. Which one of these fabrics is NOT a pile fabric?
    A. Corduroy
    B. Velvet
    C. Terrycloth
    D.* Nylon

4. What basic type of weave has a diagonal design on the surface?
    A. Satin
    B. Plain
    C.* Twill
    D. Pile

5. Why do "jeans" wear so well for so long?
    - Twill weave is very durable as is cotton. Both are found in jeans.

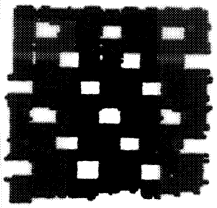
ASSESSMENT/EVALUATION QUESTIONS

6. Which of the following is a way that fabric is made?
   A. Mercerized
   B.* Woven
   C. Sized
   D. Sanforized

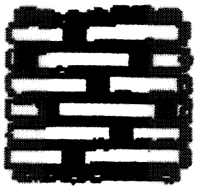
7. When a fabric is woven, which thread is the strongest?
   A.* Warp
   B. Filling
   C. Natural fibers
   D. Synthetic fibers

8. What is another word for grain?
   A. Fibers
   B. Synthetic
   C.* Threads
   D. Warp

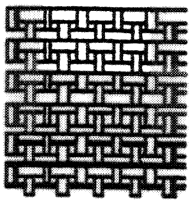
9. Identify this weave:
   A. Satin weave
   B. Plain weave
   C.* Twill weave
   D. Diagonal weave



10. Identify this weave:
    A.* Satin weave
    B. Smooth weave
    C. Plain weave
    D. Twill weave



11. Identify this weave:
    A. Regular weave
    B.* Plain weave
    C. Satin weave
    D. Twill weave



12. Cloth made by interlacing yarns at right angles to each other is:
    A.* Woven
    B. Knit
    C. Non-woven

13. Cloth made by interloping one or more yarns is:
    A. Woven
    B.* Knit
    C. Non-woven

ASSESSMENT/EVALUATION QUESTIONS

14. A fabric characteristic that runs both lengthwise and crosswise in every woven fabric is called the _____.
- Grainline

6. Study various types and purposes of fabric finishes and their effects on the end product.

1. When a fabric is finished so that little or no ironing is needed, the fabric has been:
   A. Mercerized
   B. Calendered
   C.* Coated with a durable press finish
   D. Heat set

2. Fabric finishes may wash out of clothes after several washings.
   A.* True
   B. False

3. When a fabric is put between two rollers to add a glaze or design, it has been:
   A.* Calendered
   B. Sanforized
   C. Heat set
   D. Sized

4. When an alkali solution is put on cotton to give it added luster and strength, the fabric has been:
   A.* Mercerized
   B. Calendered
   C. Sanforized
   D. Tentered

5. When a fabric is set into shapes—like pleats—using heat, it has been:
   A. Calendered
   B. Mercerized
   C.* Heat set
   D. Tentered

6. What is the finish called when starch is applied to a fabric giving it more body?
   A. Tentering
   B. Heat setting
   C. Napping
   D.* Sizing

ASSESSMENT/EVALUATION QUESTIONS

7. What is the process called that preshrinks cloth so that it won't shrink more than 1 percent?
   A.* Sanforizing
   B. Sizing
   C. Napping
   D. Calendering

8. When a cloth is passed over rollers with wire teeth to pull out the fiber ends to make the cloth fuzzy, the fabric has been:
   A. Sized
   B. Mercerized
   C. Calendered
   D.* Napped

9. When masses of natural fibers are placed in the dye bath, this is:
   A. Tie and dye
   B. Yarn dyeing
   C.* Stock dyeing
   D. Solution dyeing

10. Silk screen is one type of:
   A. Direct printing
   B. Piece dyeing
   C.* Resist printing
   D. None of the above

11. The ability of dye to maintain its exact shade of color throughout the life of a garment is called _____.
   A. Sanforization
   B.* Colorfastness
   C. Tendering
   D. Mercerizing

12. Treatments or processes applied to fabrics to improve their quality are called _____.
   A. Beginners
   B. Midways
   C.* Finishes

13. A water-repellent finish may close the spaces between yarns in a fabric, making it impossible for perspiration to:
   A. Absorb
   B. Have odor
   C.* Evaporate

ASSESSMENT/EVALUATION QUESTIONS

14. A permanent press garment should be rinsed in _____ water.
    A. Hot
    B. Warm
    C.* Cold

15. Garments that are treated to hold their original shapes, pleats, and creases, are:
    A. Tie-dyed
    B.* Permanent pressed
    C. Heat sensitive
    D. Resilient

7. Identify and name a large number of fabrics.

1. The name of this fabric is:

   (ATTACH SAMPLE)

   A. Gingham
   B. Jacquard
   C. Poplin
   D.* Seersucker

2. The name of this fabric is:

   (ATTACH SAMPLE)

   A.* Gingham
   B. Tricot
   C. Flannel
   D. Corduroy

3. The name of this fabric is:

   (ATTACH SAMPLE)

   A.* Broadcloth
   B. Seersucker
   C. Poplin
   D. Canvas

ASSESSMENT/EVALUATION QUESTIONS

4. The name of this fabric is:

   (ATTACH SAMPLE)

   A. Denim
   B.* Jacquard
   C. Gingham
   D. Corduroy

5. The name of this fabric is:

   (ATTACH SAMPLE)

   A. Tricot
   B. Broadcloth
   C.* Satin
   D. Jacquard

6. The name of this fabric is:

   (ATTACH SAMPLE)

   A. Satin
   B. Jacquard
   C. Broadcloth
   D.* Tricot

7. The name of this fabric is:

   (ATTACH SAMPLE)

   A. Velour
   B. Terry cloth
   C. Oxford cloth
   D.* Flannel

8. The name of this fabric is:

   (ATTACH SAMPLE)

   A.* Corduroy
   B. Oxford cloth
   C. Denim
   D. Flannel

ASSESSMENT/EVALUATION QUESTIONS

9. The name of this fabric is:

   (ATTACH SAMPLE)

   A. Broadcloth
   B. Poplin
   C.* Oxford cloth
   D. Chintz

10. The name of this fabric is:

    (ATTACH SAMPLE)

    A. Tricot
    B. Satin
    C.* Single knit
    D. Jacquard

11. The name of this fabric is:

    (ATTACH SAMPLE)

    A.* Double knit
    B. Terry cloth
    C. Quilting
    D. Tricot

12. The name of this fabric is:

    (ATTACH SAMPLE)

    A. Flannel
    B.* Denim
    C. Gingham
    D. Flocking

13. The name of this fabric is:

    (ATTACH SAMPLE)

    A. Velour
    B. Felt
    C.* Chintz
    D. Canvas

ASSESSMENT/EVALUATION QUESTIONS

14. The name of this fabric is:

(ATTACH SAMPLE)

A.* Felt
B. Corduroy
C. Oxford cloth
D. Single knit

8. Use standard terms related to textile technology.

Match the textile term on the left with the correct definition on the right.

1.	FIBER	__1_ A fine hairlike substance.
2.	FABRIC	__5_ Fibers long enough to be measured in yards.
3.	YARN	__4_ Fibers long enough to be measured in inches.
4.	STAPLE	__2_ Another term for cloth.
5.	FILAMENT	__3_ The result of twisting many fibers together.
6.	BLEND	_10_ A family of fibers that share a particular set of characteristics.
7.	NATURAL	_11_ The name given to a fiber by a manufacturer.
8.	SYNTHETIC	__8_ Fibers made by man from chemicals.
9.	SPINNERET	__6_ A combination of fibers to get the best characteristics of each.
10.	GENERIC	__7_ Fibers of plant or animal origin.
11.	TRADEMARK	__9_ A device through which chemical solutions are forced to make fibers.
12.	WARP	_14_ A type of fabric construction which interlaces two or more sets of yarns at right angles.
13.	FILLING	_19_ The weave in which each warp yarn passes over four filling yarns.
14.	WOVEN	_17_ The weave where each filling yarn passes over and under one warp yarn.
15.	KNIT	_16_ A type of fabric made by applying heat, moisture, and agitation.
16.	NON-WOVEN	_13_ The crosswise yarns on a loom.
17.	PLAIN	_12_ The lengthwise yarns on a loom.
18.	TWILL	_18_ A weave with a diagonal rib.
19.	SATIN	_15_ Interlocking loops of yarn to make fabric.

ASSESSMENT/EVALUATION QUESTIONS

20.	GRAY CLOTH	_23_ When the fiber is spun into yarn and then dyed.
21.	STOCK DYEING	_24_ Cloth is dyed after it is woven.
22.	SOLUTION DYEING	_22_ Used on synthetic fibers—dye added to solution before spinning.
23.	YARN-DYED	_20_ Fabric as it comes from the loom, before color is added.
24.	PIECE-DYEING	_21_ Masses of fibers, such as wool or cotton, are placed in dye bath.
25.	DIRECT PRINTING	_32_ The design is traced onto a screen and all other areas blocked out before printing.
26.	RESIST PRINTING	_29_ A watered or wavy pattern created by calendaring two layers of fabric slightly off-grain.
27.	EMBOSSING	_31_ When a roller press has a plate for each different color.
28.	BLOCK PRINT	_27_ Using special patterned rolls in the calendar.
29.	MOIRÉ	_26_ Blocking off certain areas before applying dye.
30.	BATIK	_25_ Prints dyestuff directly onto fabric.
31.	ROLLER PRINT	_28_ A design is carved into a block, inked, and printed.
32.	SCREEN PRINT	_30_ When hot wax is applied to the areas that will not be dyed and the fabric is then dipped into the dye.
33.	CALENDERING	_39_ The fabric has the ability to absorb moisture.
34.	GLAZING	_36_ Starch is applied to fabric to give body.
35.	NAPPING	_33_ When cloth passes between rollers to apply glaze, shine, or design.
36.	SIZING	_38_ Helps prevent fabrics from clinging and building up static electricity.
37.	PERMANENT PRESS	_35_ Using rotating wire brushes to create a soft, fuzzy surface.
38.	ANTISTATIC	_40_ A finish that checks the growth of bacteria and perspiration odors.
39.	ABSORBENT	_37_ Keeps garments smooth and wrinkle-free.
40.	ANTIBACTERIAL	_34_ Applying a resin to produce a high polish (glaze) on fabric surface.