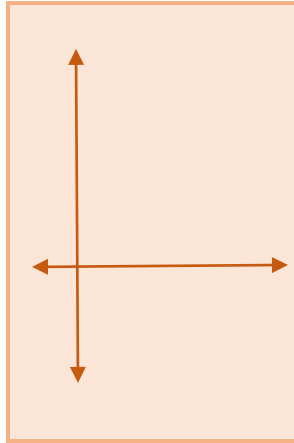


# Home Economics

## Textiles, Clothing and Fashion



*Topic: Fabric Grain*

*Group Level: Form Four/Form Five*

### *Instructions:*

1. Read the information provided on seam and seam finishes.
2. Review what you have learned by completing the worksheet.
3. Use the answer key to assess your performance.

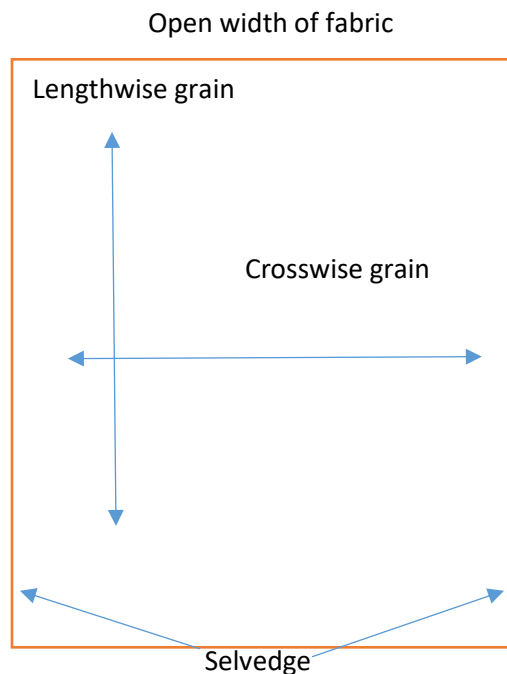
## FABRIC GRAIN

Woven fabric is one of the most common used in the manufacture of garments. The construction of woven fabric entails the interlocking of yarns lying in a vertical (warp) and a horizontal (weft) direction.

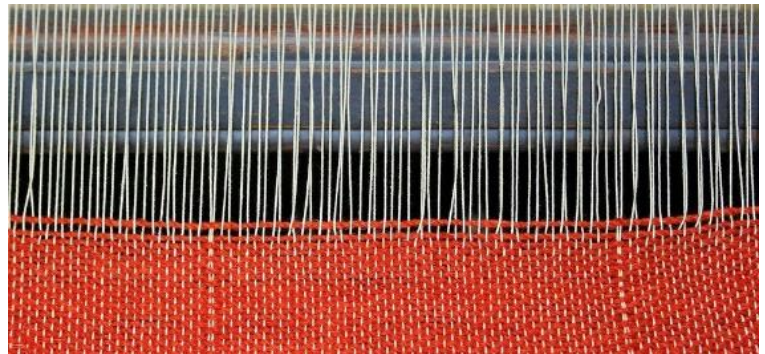
Grain indicates direction. Fabric grain is determined by the direction of the warp and weft yarns used in weaving the fabric.

### Types of Grain

- Lengthwise grain runs in the direction of the warp yarns, along the length of the fabric.
- Crosswise grain runs in the direction of the weft yarns, across the width of the fabric



Interlocking of warp and weft yarns



The warp yarns are white - lengthwise grain

The weft yarns are red – crosswise grain

### Selvedge

The edge of the fabric parallel to the lengthwise grain is called the selvedge. The selvedge is the narrow flat woven border resulting at both lengthwise sides when the crosswise threads reverse direction, it is a prefinished edge because it does not ravel.

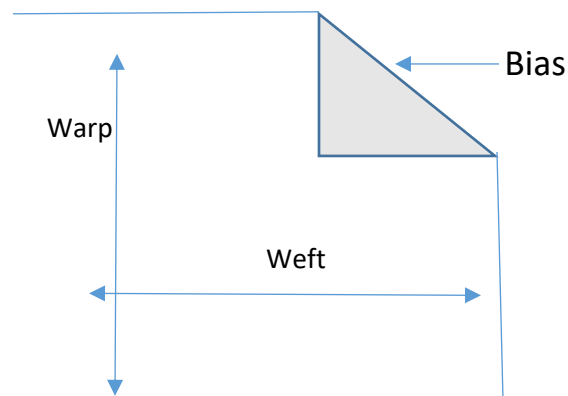
## Why is Fabric Grain Important?

The warp and weft yarns are important to the grain of the fabric, because they react in different ways. The warp yarns are stronger and more stable than the weft yarns. The weft yarns are weaker and has some stretch, therefore less stability.

The lengthwise grain which is the warp yarns, is the most important. This grain is used to position patterns on the fabric so that, garment pieces will cut on the lengthwise grain to ensure strength, durability and stability of the garment when worn.

## Bias

Some woven fabric may not have any stretch, and have to be cut on the bias. The bias is any diagonal intersecting the warp and weft thread. When the warp yarn is carried to lie on the weft yarn a true bias is obtained. The bias is flexible and stretchy and garments drape more nicely.



## Finding the Straight Grain

Two ways of straightening the fabric and finding the straight grain.

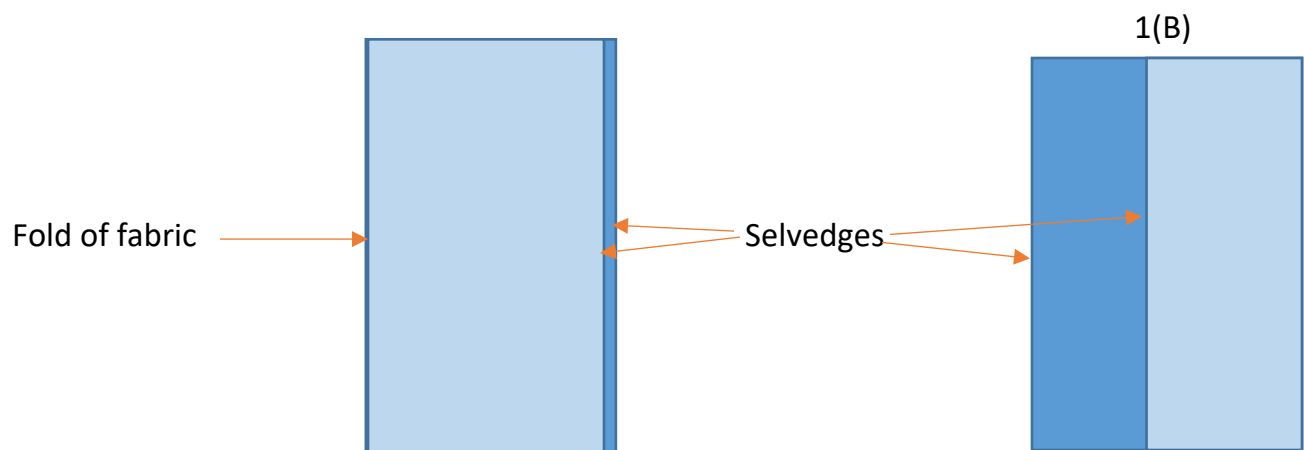
View video: <https://m.youtube.com/watch?v=hs9hYwryLSE>

## Methods of Folding Fabric

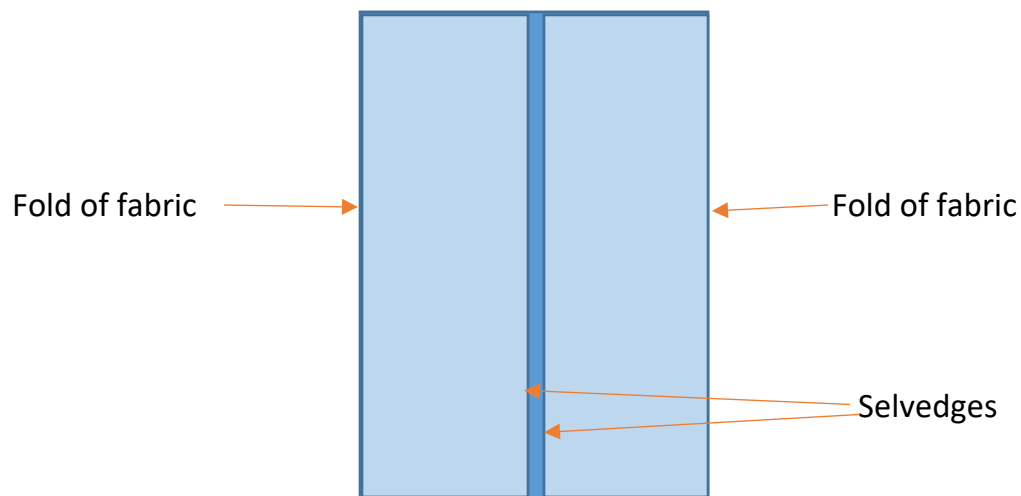
There are different ways to fold fabric to cut on the lengthwise grain. When fabric is folded without the selvages touching, ensure that:

- All designs corresponds with the under edge
- The fold carries the same width from the selvage to obtain the straight grain
- Pinning is done at intervals to eliminate slippage

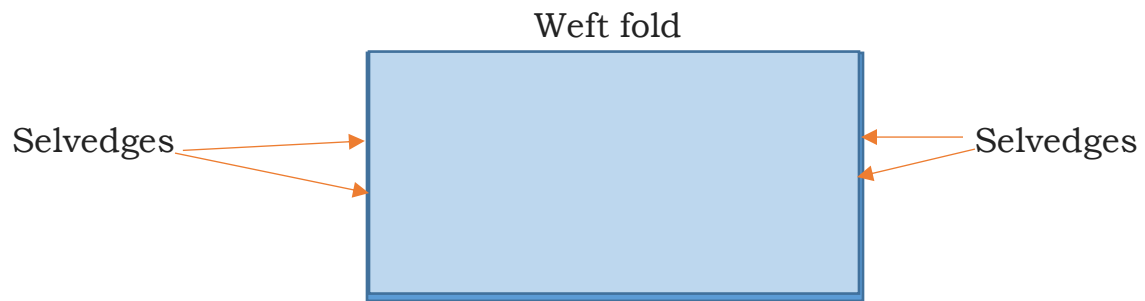
1) Single-fold to economize on the fabric and for cutting a wide variety of pattern pieces. The fold in 1(B) is suitable for both double and single garment pieces that make up one garment. The single layer can be used for waistbands and patch pockets.



2). Double fold for garments without any seam along centre back and centre front.



3) Weft-fold suited for gore and flared skirts. To get a one-way design cut material in half, turn and match design then cut.



## Worksheet

### Answer All Questions

1. State the name given to each of the following as it relates to fabric grain

i. Parallel to edge of woven fabric

.....

ii. Determined by the direction of the yarns

.....

iii. Direction across width of woven fabric

.....

iv. Strong and sturdy yarn

.....

v. Edge of fabric parallel to warp yarns

.....

vi. The area of the fabric with the most stretch

.....

(6 marks)

2. Why is it important to know the grain on fabrics?

.....

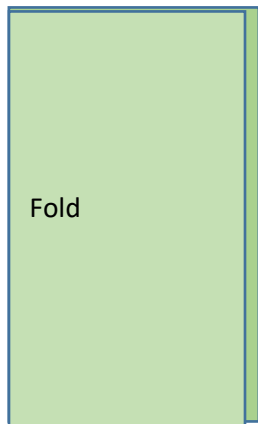
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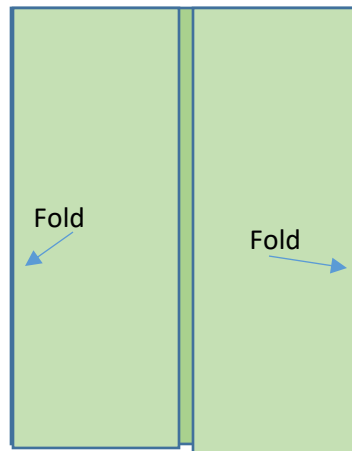
(2 marks)

### 3. Methods of folding fabric

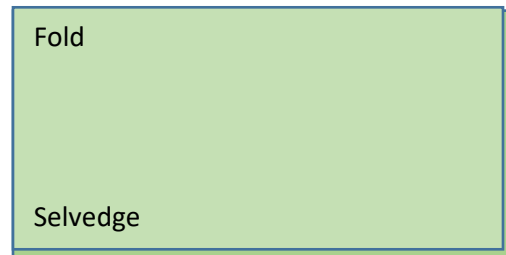
#### A. Single Fold



#### B. Double Fold



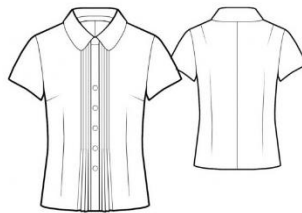
#### C. Weft Fold



Select the best fabric layout for the following garments.



i).....



ii).....



iii).....



iv).....



v).....

(10 marks)

Total 18 marks

## *Answer Key*

1. State the name given to the following:

- |  |                  |
|--|------------------|
| i. Parallel to edge of woven fabric              | Lengthwise grain |
| ii. Determined by the direction of the yarns     | Grain            |
| iii. Direction across width of woven fabric      | Crosswise grain  |
| iv. Strong and sturdy yarn                       | Warp             |
| v. Edge of fabric parallel to warp yarns         | Selvedge         |
| vi. The area of the fabric with the most stretch | Bias             |

(1 mark for each correct response = 6 marks)

2. Why is it important to know the grain on fabrics?

The grain is important to ensure that garment pieces are cut on the lengthwise grain, therefore garments will be strong and durable.

(2 marks)

3. Select the best fabric layout for the following garments.



i) C



ii) A



iii) B



iv) B



v) A

(2 marks for each correct response = 10 marks)

Total 18 marks

16 - 18 Excellent

10 – 15 Good

9 and under – Review information and try again



## References

<https://mellysews.com/what-is-fabric-grain-understanding-grainline/>  
<https://bellasunshinedesigns.com/understanding-fabric-grain-the-difference-with-knits/>

Images:

Red skirt

[https://upload.wikimedia.org/wikipedia/commons/thumb/f/fa/Washer Woman skirt 1957 by Sybil Connolly.jpg/399px-Washer Woman skirt 1957 by Sybil Connolly.jpg](https://upload.wikimedia.org/wikipedia/commons/thumb/f/fa/Washer_Woman_skirt_1957_by_Sybil_Connolly.jpg/399px-Washer_Woman_skirt_1957_by_Sybil_Connolly.jpg)

Polo shirt

[https://upload.wikimedia.org/wikipedia/commons/thumb/b/bc/Polo Shirt %E2%80%A2 public domain vector image.svg/360px-Polo Shirt %E2%80%A2 public domain vector image.svg.png](https://upload.wikimedia.org/wikipedia/commons/thumb/b/bc/Polo_Shirt_%E2%80%A2_public_domain_vector_image.svg/360px-Polo_Shirt_%E2%80%A2_public_domain_vector_image.svg.png)

Ladies blouse

[https://patterns.bootstrapfashion.com/media/catalog/product/cache/1/small image/593x772/9df78eab33525d08d6e5fb8d27136e95/5/7/5760 main 33489.jpg](https://patterns.bootstrapfashion.com/media/catalog/product/cache/1/small_image/593x772/9df78eab33525d08d6e5fb8d27136e95/5/7/5760_main_33489.jpg)

Referee shirt

<https://upload.wikimedia.org/wikipedia/commons/thumb/5/51/Football-referee-shirt.svg/512px-Football-referee-shirt.svg.png>

Shirt with tie

<https://i.ya-webdesign.com/images/white-shirt-and-tie.svg>

Woven fabric

[https://cdn.pixabay.com/photo/2019/10/06/08/01/loom-4529485\\_960\\_720.jpg](https://cdn.pixabay.com/photo/2019/10/06/08/01/loom-4529485_960_720.jpg)