

NIOS lesson adaptation project

By EMBRACE Volunteers

(A community initiative of Harchan Foundation Trust)

Chapter 9

Care and Maintenance of Fabrics

(Printable Version)

- **Simplified Lesson**
- **Previous Year Questions with Answers**
- **Terminal Questions**

This project is aimed at supporting children with different needs. Information provided is adapted to the best of knowledge by the volunteers. For complete information please refer to the NIOS resources in <https://www.nios.ac.in/online-course-material/secondary-courses.aspx>.

LESSON 9

Care and Maintenance of Fabrics

KWL Chart

What does the child know (before lesson)	What does the child want to know	What has the child learnt (after lesson)
	Details about washing	
	Classification of Stains and techniques of stain removal.	
	Details about laundering	
	Tips for ironing clothes in a systematic manner	

MEANINGS:

Perspiration	: Sweat
Vigorously	: with great effort/with all one's might
Odours	: smell/stink/fragrance
Stains	: coloured patch or dirty mark that is difficult to remove
Unpleasant	: causing discomfort/unhappiness
Conserve	: protect something from hard or destruction
Salvage	: The rescue of property or material from potential loss or destruction
Hygiene	: Cleanliness

Per/ma/nent ; unremovable

Ap/pro/pri/ate : unsuitable

Ab/sor/bent : sponge-like

Im/mersed : dip

Pre/cau/tious : sink

KEYWORDS:

Fabric	Airing	Mending
Detergent	Brushing	Sorting
Stain	Laundering	Label
Dirt	Storing	Garment
Clothes	Washing	precaution
shaking	Dry-cleaning	

Different processes of washing clothes:**Washing:**

- Means removing dirt with soap/detergent and water.
- Colour fast fabrics can be easily washed.

Dry-cleaning:

- Means removing dirt using grease, absorbents and solvents.
- Leather and fur, selected silks and woolens, zari and other costly fabrics are dry-cleaned.

Dirty clothes:

- Growth of bacteria, fungus and other harmful organisms leading to skin problems.
- Lose their freshness and smell unpleasant.
- You don't feel good wearing them/poor personal hygiene.
- Reduce the strength of the fabric.

Maintenance of fabrics

Shaking: Removes dirt collected

Airing:

- Removes dirt and odour
- Hang it in sun
- In a well-ventilated room.

Brushing: Removes dust from thick clothes like coats and suits

Laundering: involves the following steps:

- Washing or dry-cleaning garments;
- Finishing the garments; &
- Storing the garments.

Getting ready to launder clothes at**STEPS:****❖ Collection of clothes:**

- i) in a set place;
- ii) washing agents.

❖ Mending damaged garments: to avoid further damage to clothes

❖ **Sorting:** on the basis of –

- i) Type of fabric
- ii) Colour, size and weight
- iii) Amount of dirt
- iv) Utility of the fabric
- v) Soaking time, &
- vi) Amount of detergent and bleach used

❖ **Reading of label:** For instructions to help in taking care of the fabric

Stains

- > An unwanted mark or discolouration on a fabric.
- > Due to contact with another substance.
- > Needs special treatment for removal.
- > Old stains take long and also a lot of effort to remove.
- > So, they must be removed when fresh.
- > Remove it before washing.
- > Exposure to chemicals in detergents, hot water and ironing can make it permanent.
- > Different types of stain requires specific stain removing agents and technique.
- > It depends on the type of fabric.
 - **Identification:**
By - (a) Colour (b) Feel (c) Smell
 - **Classification:**
As - (a) Vegetable (b) Grease (c) Animal (d) Mineral (e) Miscellaneous
 - **Techniques of stain removal:**
 - I. **Sponging:**
 - ✚ It's always done on the wrong side of the stain, by placing an absorbent paper or fabric under the stain.
 - ✚ Dip a soft cloth in the stain-remover and gently rub on the outer corner of the stain moving inwards towards the centre.
 - ✚ Light, circular strokes are used to prevent the stain from spreading.
 - ✚ The absorbent paper or fabric is to be changed as soon as it starts showing the stain.
 - II. **Dipping:**
 - If there are many stains or a large stain on the fabric.
 - The entire fabric is immersed in the stain-removing agent.
 - The stain-removing agent depends on the type of stains.

Types of stains and methods of their

I. Vegetable stains:

- i) Tea, coffee, chocolate, fruit –
 - If the stains are **fresh**, for white cottons pour hot water on the stain. and for coloured cottons soak in 2 cups of warm water + ½ teaspoon of borax.
 - If the stains are **old**, For white and coloured cottons dip the stained portion in glycerin. Or spread borax powder over stain and pour boiling water while holding the stained portion on the mouth of a mug or pan.
 - ii) Henna (Mehndi) –For white and coloured cottons –

*For **fresh** stains, dip in warm milk for half an hour.

*For **old** stains repeat the above two or three times

II. Animal stains: Blood, egg, meat, milk, etc.,

- ✚ For **fresh** stains, wash with cold water and soap
- ✚ For **old** stains, Soak in salt water (2 table spoons of salt + 1/2 bucket of water). Or in diluted ammonia

III. Grease stains:

- i) Butter, ghee, oil, curry:
 - For **fresh** stains in white cotton fabrics, wash with hot water and soap, dry in sunlight and for coloured cottons in shade.
 - For **old** stains For white cottons make a paste of soap and water and apply it on the stain. Leave it wet in sunlight, until it is removed. For coloured cottons in shade.
- i) Paint, shoe polish, nail polish, lipstick, ball pen:
- ii) For **fresh** stains: For white and coloured cottons: Scrape all the excess stain.
 - (a) Sponge gently with methylated spirit or kerosene.
 - (b) Sponge with turpentine.

IV. Mineral stains: Iron rust and some medicines:

- For **fresh** stains for white and coloured cottons - rub lime juice and salt.
- For old stains: apply dilute oxalic acid and neutralize with dilute borax solution.
- These stains contain metallic compounds. So, treat with mild acidic reagents and alkaline solutions to neutralise.

V. Miscellaneous stains:

(a) Grass stains:

- For **fresh** stain, wash with soap and water.
- For **old** stain: For white and coloured cottons, sponge the stained portion with methylated spirit.

(b) Betel leaf (paan):

- For **fresh** stain, for white and coloured cottons, apply a paste of onions and leave it in sunlight.
- For **old** stain for white and coloured cottons, apply a paste of onions and leave it in sunlight – **Repeat it 2 – 3 times.**

(c) Ink stains:

- ❖ For **fresh** stain, For white and coloured cottons, wash with soap and cold water.
- ❖ For **Old** stain: For white cottons:
 - Soak in sour butter milk for ½ hour.
 - apply lime juice and salt and leave it in sun.
 - bleach the stain.
 - For coloured cottons: leave it in shade.
- **Precautions while removing stains**
 - Remove the stain when it is still fresh.
 - For delicate and/or coloured fabrics, first try out the chemical on a small portion of the fabric. In case it gets damaged do not use it further.
 - Use dilute and mild reagents as they are less harmful, though it may take a longer time to remove the stain
 - Rinse the fabric several times, or the reagent may damage the fabric on drying.

LAUNDERING

Laundering involves seven steps. They are: -

1. SOAKING:

- ✚ Loosens the non-greasy dust particles.
- ✚ Do not soak for more than half an hour.
- ✚ Do not soak many clothes in one bucket. Give room for the dust to loosen.
- ✚ Avoid soaking weak fabric for long time.

2. WASHING:

i) **Friction method:** For strong fabrics like cotton and linen:

= **Hand friction:**

- Common method.
- Rub dirty areas vigorously with hand till dirt is removed.
- Suitable for cleaning cuffs, collar and bottom of lower garments, handkerchief and lace.

= **Scrubbing Brush:**

- use a brush to remove dirt
- for cleaning kitchen dusters, etc.

- Place fabric on a flat hard surface before scrubbing
- Hard scrubbing can wear out the fabric. So be careful.

= Beating stick:

- For clothes like bed sheets and towels.
- Should be done on a clean, flat and hard surface.
- Apply soap on fabric and beat it with stick.

ii) Kneading and squeezing:

- ❖ For delicate fabric like silk, wool, rayon, etc.,
- ❖ Gentle pressure is applied repeatedly.
- ❖ To avoid damaging the fabric or change its shape

iii) Washing Machine:

- ◆ It is a labour saving device.
- ◆ Washing time varies with the type of fabrics and amount of soiling.
- ◆ Colour clothes bleed so take care while loading.
- ◆ Fully automatic machines can wring the clothes almost dry!
- ◆ Very useful for large and heavy clothes like bedcovers, curtains.

3. RINSING:

- Rinse 3 – 4 times till water is clear.
- Remove the contents of the detergent

4. FINISHING:

Finishing Agents (blue, starch, gum-arabic) –

- Used before spreading the clothes for drying.
- Used on some clothes.
- Helps to brighten and stiffen clothes.
- Gives a fresh look on the clothes.

5. DRYING:

- Dry it outside in fresh air and sun
- Colour clothes dry it in shade upside down.
- with space in between
- Use clothes line and pegs or a clean stain-free metal rack.

6. IRONING (Or steam pressing and folding):

- This process is done on clothes to give them a smooth look
- An electric or coal iron is used for this job.

7. STORING:

- Only completely dry clothes should be stored in a cupboard or box.
- Moist clothes allow fungus and bacteria to grow on them.

LAUNDERING OF SPECIFIC GARMENTS
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1) COTTONS:

Starching of clothes:

- Use starch on white clothes before drying.
- Gives smooth and shining fresh look.
- Starched clothes do not get dirty easily.
- Mix 2 table spoons of starch in 5 liters of water for starching 4 -5 clothes.
- To make the fabric very stiff, dilute the starch with 2 -3 times water.
- For reasonably good stiffness, add 4 -6 times water.
- Turn the fabric upside out.
- open and dip in water.
- Wring the excess water.
- Dip it in starch.
- Squeeze and dry.

NOTE :

+ **Amount** of stiffness depends on the fabric – For mats, tray cloths and napkins we starch heavily.

+ **Do** not starch under garments and close-fitting garments.

It makes you uncomfortable.

+ **If** you want to add blue, add it to the diluted starch and water solution.

+ **To** remove extra blue, just dip it in plain water with a few drops of white vinegar or lime juice.

Drying:

After rinsing, starching and bluing the fabrics are dried.

Hang the clothes by their strongest part along the clothes line.

Fabrics should be removed as they dry.

Over exposure to sunlight can weaken the fabric and cause yellowness.

Ironing:

Damp the clothes evenly before ironing.

If they are starched they must dry completely.

Then sprinkle water evenly on them, role them tightly and leave them for some time.

Now, open them one by one and iron them with a hot iron.

Leave them for some time to dry before storing.

Storing:

>Fungus grows quickly on cotton fabrics. So make sure they are completely dry before storing.

2) COLOURED COTTONS:

* Do not soak cottons, especially when their colour bleeds.

* Use mild or neutral soap

* Kneading and squeezing method.

* Rinse thoroughly and apply starch after turning clothes inside out in the last rinse.

* Dry in shade.

* Iron clothes after making them evenly damp.

* Store clothes when completely dry

3) **SYNTHETICS:**

- ◆ Nylon, polyester and acrylic are synthetic fibers for which laundering is different.
- ◆ Use luke-warm or cold water, since they soften and melt easily.
- ◆ Use any good soap, light pressure and light rubbing while washing.
- ◆ Rinse well in cold water to remove soap completely.
- ◆ To avoid wrinkles, do not squeeze tightly.
- ◆ Dry on a hanger to maintain the original shape.
- ◆ If necessary, iron when dry with a warm iron and not a hot one.
- ◆ Store when completely dry.

4) **SILKS:**

- # **There** is no need to soak silks.
- # Use like-warm or cold water, a good neutral soap, light pressure and light rubbing.
- # Rinse well in cold water to remove soap completely.
- # Apply starch (gum arabic) and dry in shade.
- # Silk gets stained if water is sprinkled on dry clothes. So, pick them up when evenly damp for ironing.
- # Store preferably on hangers, when completely dry.

5) **WOOLENS:**

- > Wool has hairy surface. But they are more delicate than any other fabric.
- > They need utmost care while washing.
- > Knitted woolen clothes loose shape when wet.
- > They have to be dried on a flat surface.

Following steps are to be followed for washing woollens:

- Take outline of the knitted dress on a paper before washing.
- Use mild alkaline soap/detergent in luke warm water all through.
- Use kneading and squeezing method to wash
- Rinse thoroughly.
- To bring back knitted garments into shape place them on the paper draft taken earlier and dry them on a flat surface in shade.
- Steam press, if necessary.
- Store them when completely dry on a hanger or on a flat surface with naphthalene balls or odonil tablets.

HANDY HINTS FOR IRONING

- ❖ Spraying water on cotton and linen gives good results.
- ❖ Iron laces, buttons, hooks, embroidered and embossed clothes from the wrong side, so that the embroidery looks more beautiful.
- ❖ It will also not damage the fabric, buttons, hooks.

- ❖ Iron the fabric along the length as the yarns are stronger in this direction.
- ❖ Sleeves, collars, laces should be ironed first.

PREVIOUS YEARS QUESTIONS

1 Mark Questions:

- 1. To remove blood stains from white cotton fabric:**
 (A) Use hot water and soap (B) Use hot iron
 (C) Use cold water and soap (D) Use talcum powder
- 2. Lipstick stains can be removed by using:**
 (A) Salt water (B) ammonia
 (C) methyated spirit (D) Lime juice
- 3. Which of the following is a vegetable stain:**
 (A) Milk (B) Ghee
 (C) Blood (D) Tea
- 4. Your sister has lipstick stains on her expensive dress. How should she remove it?**
 (A) Use salt water (B) Soak in ammonia
 (C) Use hot water and soap (D) sponge with methyated spirit
- 5. Name of stain that is removed by borax:**
 (A) Blood (B) Ink
 (C) Chocolate (D) Paint

2 Marks Questions:

- 1. Why should woolens be handled gently while washing? Give two reasons:**
 - i. Woolen clothes are more delicate than other fabrics.
 - ii. Wool has hairy surface which causes felting.
- 2. List any two precautions you will take while laundering your synthetic garments:**
 - i. Apply light pressure and light rubbing while washing.
 - ii. To avoid wrinkles do not squeeze tightly.
- 3. Which preliminary steps would you take before laundering your clothes?**

- i. Sorting clothes
- ii. Separate very dirty clothes from less dirty ones
- iii. See if there are any repairs to be done.
- iv. See if there are any stains to be removed

4. Define dry-cleaning. Name two fabrics which should be dry-cleaned:

Removing dirt using grease absorbents and solvents.
Silk and woolen fabrics are to be dry-cleaned.

5. Write four precautions you will take while removing stains:

- i. Remove the stains when fresh.
- ii. Try the chemical on a small portion of the fabric. If it gets damaged do not use the chemical.
- iii. Use dilute and mild reagents.
- iv. Rinse the fabric several times.

6. How do you launder clothes at home?

- i. Collection of clothes and supplies
- ii. Mending damaged garments
- iii. Sorting
- iv. Read labels on the garments.

3 Marks Questions:

1. Mention the three basic steps to be followed for laundering cotton fabrics.

- i. Soaking
- ii. Washing
- iii. Rinsing

4 Marks Questions:

1. Explain the process of laundering woolen clothes at home:

Following steps are to be followed for washing woollens:

- Take outline of the knitted dress on a paper before washing.
- Use mild alkaline soap/detergent in luke warm water all through.
- Use kneading and squeezing method to wash
- Rinse thoroughly.
- To bring back knitted garments into shape place them on the paper draft taken earlier and dry them on a flat surface in shade.
- Steam press, if necessary.

- Store them when completely dry on a hanger or on a flat surface with naphthalene balls or odonil tablets.
2. **Classify stains on the basis of their origin. Give one example of each type of stain.**

Category of Stain	Stains
1. Vegetable stains	Tea
2. Grease stains	Ghee
3. Animal stains	Blood
4. Mineral stains	Rust
5. Miscellaneous stains	Ink

3. **Describe briefly the various methods of 'friction' washing:**

i. **Hand friction:**

- Common method
- Rub dirty areas vigorously with hand till dirt is removed
- Suitable for cleaning cuffs, collar and bottom of lower garments, handkerchief and lace

ii. **Scrubbing brush:**

- Use a brush to remove dirt
- For cleaning kitchen dusters, etc.
- Place fabric on a flat hard surface before scrubbing
- Hard scrubbing can wear out the fabric. So be careful

iii. **Beating stick:**

- For clothes like bed sheets and towels.
- Should be done on a clean, flat and hard surface.
- Apply soap on fabric and beat it with stick.

TERMINAL QUESTIONS & ANSWERS

1. **Explain the meaning of the word 'laundering'.**

ANS: Laundering of clothes does not mean only washing of clothes. It consists of the following three steps:

- i. Washing or dry-cleaning garments to remove dirt, perspiration and smell, e.g. your school uniform is washed and your woollen coats and jackets etc. are dry cleaned.
- ii. Finishing the garments with stiffening agents like starch and gum, brightening or bleaching agents, drying them then ironing or pressing, folding and hanging garments, e.g. cotton dupattas and sarees are starched.

- iii. Storing the garments for a short or long time, e.g. when the winter season arrives you put away summer clothes and take out woollen shawls, sweaters, coats etc.

2. What is a stain? How would you classify stains?

ANS: A stain is an unwanted mark of discolouration on a fabric caused due to contact with another substance, which requires special treatment for removal.

Most of the stains can be identified by their colour, smell and feel.

a) **Colour:** Every stain has a specific colour. For example, the colour of curry/pickle stain is yellow, a coffee/tea stain is brown, a grass stain is green and so on.

b) **Smell:** Most stains have a peculiar smell, like the smell of egg or paint or shoe polish. The stain on a fabric will have the same smell.

c) **Feel:** Stains can also change the feel of the fabric and can thus be recognized on this basis. E.g., Paint or sugar make the fabric hard and stiff to touch, whereas lipstick or shoe-polish make the fabric feel slippery.

3. Describe the steps for removing the following stains from a cotton fabric. (i) Ghee (ii) Nail polish (iii) Red ink (iv) Grass (v) Paan (Betel leaf)

ANS: The steps for removing the stains from a cotton fabric are given herebelow:

- (i) **Ghee:** We should consider using grease absorbents and solvents like chalk, talcum removal powder to remove greasy matter. If the stain is **fresh**, wash with hot water, and dry on grass or shrub/cottons, in the sunlight if the fabric is white, and in shade if the fabric is coloured. If the stain is **old** make a paste of soap and apply it on the stain, and if the fabric is white leave it wet in the sunlight until it is removed. If the fabric is coloured leave it to dry in shade.
- (ii) **Nail polish:** If the stain is **fresh**, scrape all the excess stain
(a) Sponge gently with cottons methylated spirit or kerosene
(b) Sponge with turpentine
If the stain is **old**, repeat the above method two or three times.
- (iii) **Red ink:** If the stain is **fresh**, wash with soap and cold water. If the stain is **old** (a) soak in sour butter milk (lassi) for half an hour, OR (b) apply lime juice and salt and leave in the sun, OR (c) bleach the stain. We must remember to dry the fabric in sunlight if it is white and in shade if it is coloured.
- (iv) **Grass:** If the stain is **fresh**, wash with soap and water. If the stain is **old**, sponge the stained portion with methylated spirit.

- (v) **Paan(betel leaf):** If the stain is **fresh**, apply a paste of onions and leave in the sunlight if the fabric is white, but leave it in shade if it is coloured. If the stain is **old**, repeat the above method two or three times.

4. How will you wash a white cotton garment? Explain with reasons

ANS: White cottons are soaked, preferably in warm or hot water for half an hour to loosen the dirt settled or stuck to the fabric.

We should remember to:

- > Apply extra soap on the heavily soiled areas and rub.
- > Wash the light weight and lightly soiled cotton fabrics by using knead and squeeze method and big and heavy clothes using a stick.
- > Rub areas which are very dirty with hands or with a brush.

White cottons require application of a whitening agent in the last rinse, for which we use blue which is available as powder or liquid, or we get chemicals like optical brighteners in the market.

5. How does the laundering of synthetics differ from laundering of cottons?

ANS: Nylon, polyester, terry cotton and acrylic are synthetic fibres, for which laundering is slightly different. We should remember to:

- > Not use hot water as synthetics will wrinkle very badly, and they soften and melt easily.
- > Use any good soap, light pressure and light rubbing while washing.
- > Rinse well in cold water to remove soap completely.
- > not to squeeze tightly, to avoid wrinkles.
- > Preferably dry on a hanger. It will help to maintain the original shape.
- > When dry, if necessary, iron with a warm iron and not a hot one.

6. Shelly bought a white woollen cardigan. After wearing it twice she washed it together with other clothes in a washing machine. Predict the effect on the cardigan and the reasons for it.

ANS: 'Washing machine' is a labour-saving device that provides all the friction required for cleaning the clothes. However, the washing time varies with the type of fabrics and amount of soiling.

Woollens are more delicate than any of the fabrics used in the house and they have a hairy surface which causes felting if handled roughly. Woollens need utmost care while washing because they lose shape when wet hence these need to be put back to shape.

As such, wool fabrics take less time for cleaning than cottons. Since the white woollen cardigan has been washed together with other clothes in the washing machine, it is very likely that:

- it would acquire colour stains if the colour of any other garment bleeds.
- It will lose its shape and must be brought back into shape by putting them back on the paper draft taken earlier and dried on flat surface in shade.

7. Rehman wants to wash his brightly printed silk scarf at home. Tell him the correct procedure.

ANS: I a) Use luke-warm or cold water, a good neutral soap, light pressure and light rubbing while washing. There is no need to soak silks.

b) Rinse well in cold water to remove soap completely.

c) Apply starch (gum arabic) and dry in shade.

d) Pick up the clothes when evenly damp and iron with a warm iron because silk gets stained if water is sprinkled on dry clothes.

e) Store preferably on hangers when completely dry.