

## Human Needs

# Science - Human Needs (Clothing, Care, Safety & First Aid)

Clothes protect us from heat, cold, rain, dust and insect bites. They also signal identity through **uniforms** and **traditional dresses**. Understanding **fibres ? fabrics ? clothes**, proper care, and basic **safety & first aid** helps us choose wisely for climate and activity.

### Quick Links:

[Overview](#) [Fibres & Fabrics](#) [Plant Fibres](#) [Animal Fibres](#) [Man-made Fibres](#) [Choosing Clothes](#)  
[Traditional Dresses & Uniforms](#) [Care & Storage](#) [Safety Rules](#) [First Aid Basics](#) [MCQ Achievers](#)

## Overview

- **Protection:** sunburn, cold winds, rain, dust, scratches, insect bites.
- **Comfort & hygiene:** breathable clothes prevent rashes and absorb sweat.
- **Identity:** uniforms show role/profession; traditional wear shows culture & region.
- **Sustainability:** repair, reuse, donate, and choose durable clothes.

## From Fibres to Fabrics

Fibres are thin strands twisted into *yarn*, then woven/knitted into *fabric*. Fibres can be **natural** (plant/animal) or **man-made** (synthetic or regenerated).

Type	Examples	Core properties	Typical uses
Plant	Cotton, Linen (flax), Jute	Breathable; cotton very absorbent; jute very strong/coarse	Summer wear, towels; sacks & ropes (jute)
Animal	Wool, Silk	Wool traps air (warm); silk is lustrous yet weak when wet	Winter wear (wool); festive garments (silk)

Type	Examples	Core properties	Typical uses
Man-made	Rayon, Nylon, Polyester, Acrylic	Strong, quick-dry, low absorbency (nylon/polyester); acrylic is wool-like	Rainwear, sportswear; warm sweaters (acrylic)

## Plant Fibres (Stem/Seed)

### Cotton

- From seed fluff of cotton plant.
- **Highly absorbent**, breathable, soft.
- Best for *hot, humid* climates; dries slowly.

### Linen

- From *flax stem*.
- Cool, smooth, quick-dry; wrinkles easily.
- Premium summer shirts, dresses.

### Jute

- From jute stem (bast fibre).
- **Very strong & coarse**.
- Sacks, ropes, eco-bags; not for soft clothing.

## Animal Fibres

### Wool

- From sheep/goat (pashmina), alpaca etc.
- Crimped fibres **trap air** ? excellent insulation.
- Best for winter; keep dry and clean.

### Silk

- From silkworm cocoon.

- Light, shiny, drapes well; **weak when wet**.
- Wash gently with mild soap; avoid harsh sun.

## Man-made Fibres

Fibre	Made from	Key strengths	Typical garments
Rayon (viscose)	Regenerated cellulose	Silk-like drape; decent absorbency	Dresses, linings
Nylon	Synthetic polymer	<b>Very strong</b> , elastic, water-resistant	Raincoats, ropes, sports gear
Polyester	Synthetic polymer (PET)	Wrinkle-resistant, <b>quick-dry</b> , durable	Jerseys, daily wear, blends
Acrylic	Synthetic polymer	Warm, light, <i>wool-like</i>	Sweaters, blankets

**Exam tip:** For raincoats prefer *nylon/polyester* (low water absorption, quick-dry). For daily school uniforms, *cotton-polyester blends* add breathability + easy care.

## Choosing Clothes by Climate & Activity

### Climate

- **Hot/Humid:** cotton/linen; light colours reflect heat.
- **Cold:** wool or acrylic layers trap warm air.
- **Rainy:** coated nylon/polyester; tight seams.
- **Desert sun:** loose, light-coloured cotton; head cover.

### Safety & Activity

- Cooking/Labs: **cotton** (synthetics may melt); avoid loose sleeves near flame.
- Sports: stretch & quick-dry synthetics; breathable mesh panels.
- Night cycling/jogging: reflective strips improve visibility.

## Traditional Dresses & Uniforms

### India - Examples

- **Maharashtra:** nauvari saree.
- **Kerala:** mundu with neriyathu.
- **West Bengal:** taant/red-bordered saree.
- **Kashmir:** pheran (warm gown).
- **Punjab:** salwar-kameez; kurta with pajama/dhoti.

### Uniforms - Why?

- Identify profession/role quickly.
- Functional features: pockets, flame-resistant fabric, camouflage.

### Common Uniforms

- Doctor: white coat; Nurse: scrubs.
- Lawyer: black coat & band.
- Police: khaki; Soldier: camouflage.
- Firefighter: flame-resistant suit; Chef: white coat & hat.

## Care & Storage of Clothes

- Read care labels; wash delicately for silk/wool; avoid harsh detergents.
- Sort by colour and fabric; wash delicates separately.
- Dry darks/silk in shade; cotton can sun-dry to remove germs.
- Store **clean and fully dry**; use mothballs or neem leaves for wool/silk.
- Mend small tears and reattach buttons early to prevent larger damage.
- Be planet friendly: repair, reuse, donate, upcycle.

## Safety Rules (Home, Road, Playground, Class/Lab)

### Home & Electricity

- Keep floors dry; wipe spills immediately.
- Use tongs/thick cloth for hot vessels.
- Never touch electrical devices with wet hands; avoid loose wires.

## Road & Playground

- Walk on footpaths; cross at **zebra crossings** on green pedestrian signal.
- Look *right-left-right* before crossing; never distract the driver.
- Wait your turn on swings/slides; no pushing or running across moving equipment.

## First Aid Basics

### Cuts & Scrapes

- Wash under running water; dab antiseptic.
- Cover with sterile gauze; change if soaked.

### Minor Burns

- Cool under running water **10-20 min.**
- **Do not** apply ice, ghee, butter or toothpaste.
- Cover with sterile, non-fluffy dressing.

### Nosebleed & Fainting

- Nosebleed: sit, lean **forward**, pinch nose 10 min.
- Fainting: fresh air, loosen tight clothes, raise legs slightly, avoid crowding.

**When in doubt:** Call a trusted adult or medical help. First aid is the *first* help until professionals arrive.

## MCQ Achievers (5 tougher items)

1. **A fabric for a raincoat should be chosen mainly for its \_\_\_\_\_.**
  - A. high water absorption

- B. ability to trap air
- C. low water absorption and quick drying
- D. shine under sunlight

2. **Which pairing is correct?**

- A. Linen – animal fibre
- B. Wool – traps air well
- C. Rayon – natural plant fibre
- D. Jute – used for silk sarees

3. **While storing woollens for months, the most important step is to keep them \_\_\_\_\_.**

- A. slightly damp with perfume
- B. unwashed to preserve oils
- C. clean and completely dry, with mothballs/neem
- D. ironed while still wet

4. **A child has a minor burn from hot tea. The first action should be to \_\_\_\_\_.**

- A. apply toothpaste
- B. cool the area under running water
- C. rub with butter
- D. cover tightly with a woollen cloth

5. **Identify the region most closely linked: *nauvari* saree.**

- A. Kerala
- B. West Bengal
- C. Maharashtra
- D. Kashmir

► Show Answers

Read property ? match to use ? choose answer. That is the Olympiad way!