

## Dye House (Ground Floor)

- 10. Washing** - The hanks are made into a chain and are moved through the water to remove the added oil and any dirt.
- 11. Dyeing:** The hanks are hung on rods and lowered into the stainless steel dye vat and are boiled in the dye mixture for an hour.



## Turbine House (Ground Floor)

### 17. Hydro-electric Turbine:

Trefriw Woollen Mills was originally a “pandy” or fulling mill to which local people brought their hand-woven cloth to be finished. The soft water from the river Crafnant was used to wash and shrink the cloth and to drive the water wheels. The water wheels were dismantled in about 1900 when hydro-electric turbines were first installed. In 1952 a new intake was built 340 metres upstream, giving a head of (37m). The water flows down a pipe to the turbine house, where a Boving pelton wheel (1947) drives an alternator, which generates electricity to power the machinery. In 2012 the steel pipe (badly damaged in the previous winter) was lined with a plastic pipe.



TREFRIW  
woollen mills

100% wool  
Dry clean only  
Woven in Snowdonia

Trefriw, Conwy Valley  
North Wales LL27 0NQ  
Tel: 01492 640462  
www.t-w-m.co.uk

When Thomas Williams bought the Mill in 1859 it had already been functioning for at least 30 years as a mill with carding, spinning, weaving, dyeing and finishing, and it is still owned and run by the same family.

Our Welsh “tapestry” bedspreads, throws, travelling rugs, tweeds, cushion covers, dinner sets, ladies’ garments, hats, caps, bags and purses are exclusively available from our mill shop and website. We also buy in pure wool knitwear and sheepskin goods to complement our products.

## Trefriw Woollen Mills Ltd ,

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# SELF CONDUCTED TOUR GUIDE

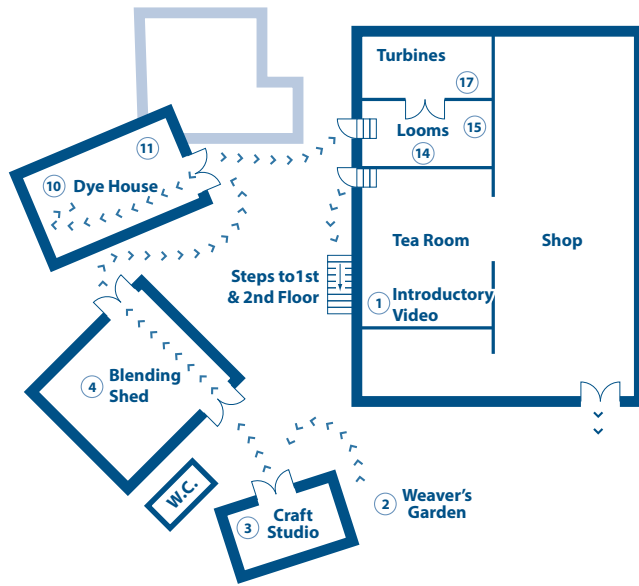


Welcome to **Trefriw Woollen Mills**. We hope you enjoy your visit to our mill museum where we manufacture traditional Welsh “tapestry” bedspreads, travelling rugs, tapestry by the metre and tweeds from the raw wool using machinery which is over fifty years old. Please be aware that machines operate according to production requirements.

**People with walking difficulties can access the weaving shed and turbine house through the shop**

(Please ask a member of staff).

## Ground Level



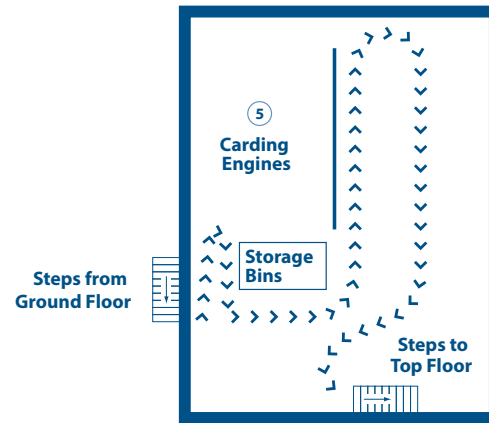
### 1. Introductory Video

2. **The Weaver's Garden** contains plants which provide fibres, soap, natural dyes, moth repellents and textile tools.

3. **Craft Studio** - Rag rug making or hand spinning demonstration. Try weaving yourself on hand looms. Open June-September, Tuesdays, Wednesdays and Thursdays.

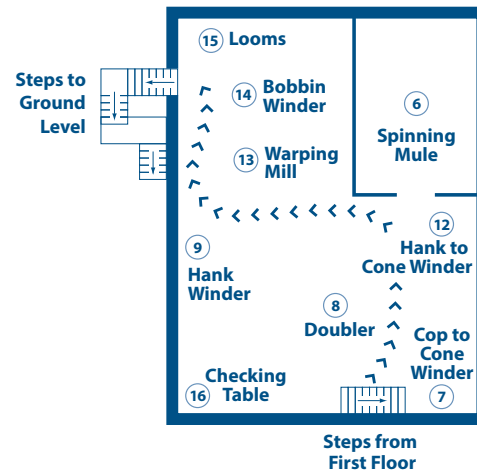
4. **Blending Shed** : Several types of raw wool are weighed and laid in layers. Oil is added to help the wool pass through the machinery. The wool blend is fed first into the Shaker and then the Fearnought - large rotating drums covered in coarse teeth which begin the process of opening up the fibres. The blend is blown through a pipe to storage bins near the carding engines (first floor).

## First Floor



5. **Carding Engines**: The rollers are covered with small metal teeth. Every time the wool is transferred from one roller to another the wool is straightened and mixed. The resultant fine web of wool is split into slubbings (twistless threads) and collected on condenser bobbins.

## Top Floor



6. **Spinning Mules**: The slubbings are taken to the mules where they are stretched and twist is added, thus making a thread.

7. **Cop to Cone Winder**: The cops from the spinning mule are wound onto cones to make larger, more stable packages.
8. **Doubler**: Two threads are twisted together.
9. **Hank Winder**: The yarn is wound from the bobbins to hanks ready for washing and dyeing.

10/11. **Dye House**: Situated at ground level.

12. **Hank to Cone Winder**: The dyed yarn is wound from hanks to cones for use on the warping mill.

13. **Warping Mill**: The warp consists of the threads in the loom that run the length of the cloth. Here, the colour sequence of the warp is set up on the warping frame. The yarns are then wound onto the large drum in sections (about 15 sections for a bedspread). The warp is then wound onto a beam which fits into the back of one of the looms.

14. **Bobbin Winder**: (also on ground floor) The yarn is wound from cones to bobbins for use as weft in the shuttles.

15. **Dobcross Looms**: (also on ground floor) Every thread in the warp passes through a metal eye which is attached to one of the shafts. As the shafts are raised and lowered, the threads on them are separated to form a 'shed' through which the shuttle travels, leaving a trail of yarn (weft) which is beaten into the fell of the cloth. The pulleys on the wide chain control the shafts (i.e. the pattern) and those on the narrow chain select the shuttle (i.e. weft colour).

16. **Checking Table**: At the end of the process all products are checked.