Teacher Answer Key

Case Study

1. In a satin weave, yarns float over four or more yarns before interlacing, so those long floats sit exposed on the surface with nothing anchoring them, which is why they snag easily. Twill crosses the yarns constantly to make a diagonal wale, which produces a strong fabric that hides soil, so denim resists both the snagging and the abrasion of carrying books.

2. Woven fabric frays because cutting severs the yarns and the cut ends are no longer anchored by the yarns crossing them, so they slide free. A nonwoven has no yarns at all, since the fibers are bonded directly to each other, so a cut edge has nothing to unravel and does not ravel or fray.

Multiple Choice

1. C

2. A

3. D

Matching

1-D, 2-A, 3-E, 4-C, 5-B

Fill-in-the-Blank

1) spinning, 2) twill, 3) off-grain

Short Answer (Sample Responses)

Q1: A weft knit is fed by one yarn traveling across the fabric, so when a single loop breaks the neighboring loops can release in sequence down the column, which is the run that destroys tights. A warp knit uses many yarns at once, each looping down its own column, so a break does not cascade through the rest of the fabric.

Q2: Bias tape is cut at forty-five degrees because that is where woven fabric stretches most, since pulling on the diagonal lets the yarn crossings shift like a hinge instead of resisting. That stretch is what allows the tape to curve smoothly around a neckline or armhole without puckering.

Q3: Nonwovens have no grain and do not fray, which makes them ideal for interfacing that must be trimmed and can be cut in any direction. They are also weaker than woven or knitted fabric of the same weight and cannot really be repaired, since there is no yarn for a stitch to catch, so they fail as a main garment fabric.