**Functional Textiles Quiz**

Please answer the following questions to the best of your ability.

**Your name**

**1. Functional textiles are ………………………. with a …………………………function in mind, which is……………………..on their……………………… use.**

* woven
* knitted
* manufactured [correct answer]
* specific [correct answer]
* non-specific
* irregular
* dependent [correct answer]
* unconnected
* flexible
* final [correct answer]
* variable

Feedback for incorrect answers

* *Functional textiles are* ***manufactured*** *with a* ***specific*** *function in mind, which is* ***dependent*** *on their* ***final*** *use.*

**2. Wicking is when fabric sets alight quickly.**

* True
* False [correct answer]

Feedback for incorrect answers

* *Wicking is when perspiration is drawn away from the skin so that it evaporates quickly. It is a key part of moisture management that keeps the body cool and regulates body temperature.*

**3. Gore-Tex® is a fabric used for outdoor clothing. Which three properties from the list below make it suitable for this end use. Select three answers.**

* Easy to dye different colours
* Lightweight [correct answer]
* Stretchy
* Waterproof [correct answer]
* Breathable [correct answer]
* Good drape

Feedback for incorrect answers

* *Gore-Tex® is a lightweight, waterproof and breathable membrane that is sandwiched between the outer layer of the garment and the lining.*

**4. A phase changing material is one that can change colour according to its temperature.**

* True
* False [correct answer]

Feedback for incorrect answers

* *Phase changing materials can change from one state to another, such as from a solid into a liquid.*

**5. Which of the following fabrics contains phase changing material?**

* Nomex
* Stomatex
* Gore-Tex
* Outlast [correct answer]
* Kevlar
* Microban

Feedback for incorrect answers

* *Outlast utilises phase change materials (PCM) that absorb, store and release heat for optimal thermal comfort.*

**6. Which of the following would you expect to be wearing Nomex? Select three answers.**

* Police officer
* Firefighter [correct answer]
* Train driver
* Racing driver [correct answer]
* Fighter pilot [correct answer]
* Lorry driver
* Ambulance driver
* Builder

Feedback for incorrect answers

* *Firefighter, racing driver, fighter pilot. Nomex does not melt, drip or support combustion in the air so it is therefore flame resistant. It is included in protective clothing when there is a high risk of coming into contact with flames or high temperatures.*

**7. Kevlar is used to make bulletproof and stab proof fabric. Which of the following sports would you also expect to see it used? Select four answers.**

* Gymnastics
* Motorcycle racing [correct answer]
* Rock climbing [correct answer]
* Basketball
* Horse jumping [correct answer]
* Swimming
* Karate
* Skiing [correct answer]

Feedback for incorrect answers

* *Motorcycle racing, skiing, horse jumping - all use protective clothing such as back supports or helmets. Rock climbing need strong and lightweight ropes. Kevlar is five times the strength of steel in terms of its high tensile strength-to-weight ratio. It is increasingly being used for a whole range of sporting equipment as well as clothing.*

**8. Microban is an additive that can be incorporated into polymer-based fibres and fabrics. What is its main purpose?**

* To protect fabrics from bacteria [correct answer]
* To protect fabrics from staining
* To protect fabrics from shrinking

Feedback for incorrect answers

* *Microban® is an anti-microbial product that gives protection from bacteria, mould and mildew - it also prevents odours. It is widely used in hospitals to keep fabrics hygienic e.g. curtains.*

**9. Speedo Fastskin was based on whales and is an example of biomimicry.**

* True
* False [correct answer]

Feedback for incorrect answers

* *Fastskin was based on how sharks move through the water at speed due to the tiny v-shaped ridges on their skin.*

**10. Complete the following sentence, selecting from the words below. The Lycra content in cycle jerseys allows the garment to............... and ........................their shape.**

* Breathe
* Stretch [correct answer]
* Lose
* Recover [correct answer]
* Sweat

Feedback for incorrect answers

* *Stretch and recover. Lycra is a trade name for an elastane fibre. It is not a fabric in its own right and is added to other fibres to make a yarn that is able to stretch with the body and yet maintain its original shape, avoiding any bagginess.*

**11. Where would you expect to see retroreflective fabric used?**

* On a glow in the dark t-shirt
* On a hi -vis jacket [correct answer]

Feedback for incorrect answers

* *Retroreflective fabric is the grey strip that is sewn onto hi-visibility garments which are in turn made from fluorescent fabric. The fluorescent fabric works well in daytime and dusk light levels, but the retroreflective strips light up when another light source lands on them - making them good for night time visibility.*

**12. Where would you find super absorbent fabric? Select three answers.**

* In food packaging [correct answer]
* In a hanging flower basket [correct answer]
* In a mattress protector [correct answer]
* Padding under military uniforms
* In children's soft toys

Feedback for incorrect answers

* *Super absorbent fibres and fabrics can soak up liquids without swelling - so are useful in meat packaging for example or to protect mattresses from spillages.*