**Design & Technology**

**AQA GCSE** Logo

Description automatically generated with low confidence

**The six Rs**

**Materials required for questions**

* Pencil
* Rubber
* Calculator

**Instructions**

* Use black ink or ball-point pen
* Try answer all questions
* Use the space provided to answer questions
* Calculators can be used if necessary
* For the multiple choice questions, circle your answer

**Advice**

* Marks for each question are in brackets
* Read each question fully
* Try to answer every question
* Don’t spend too much time on one question

**Good luck!**

**Q1.** What does "refuse" mean in sustainability?

**A** Accepting free promotional items

**B** Saying no to single-use plastics

**C** Throwing away broken items

**Q2.** Which "R" encourages fixing items instead of throwing them away?

**A** Recycle

**B** Repair

**C** Rethink

**Q3.** What is an example of "re-use"?

**A** Melting plastic to make new products

**B** Composting food scraps

**C** Using a glass jar for storage instead of buying new containers

**Q4.** Which "R" is most effective in reducing waste at the source?

**A** Refuse

**B** Repair

**C** Rethink

**Q5.** Before a consumer makes a product purchase, they should consider the six Rs shown in Table 6. Analyse and evaluate how the six Rs may help a consumer make an informed decision whether to purchase or not. **(8 marks)**

**Answers**

**Q1**. B

**Q2**. B

**Q3**. C

**Q4**. A

**Q5**.

Reduce:

* saving materials and/or energy in production
* efficient manufacturing
* use of sustainable materials, eg consumer may look for FSC mark on a timber product
* reducing product parts or variety of materials used.

Refuse:

* the customer needs to reflect and decide if they really need the product, eg latest phone, or will an upgrade do
* use of chemical products harmful to the environment, eg biological detergents
* reject the use of unsustainable materials or products that are unethical, eg high CO2 emission vehicles.

Reuse:

* can a product be reused or repurposed, eg bags for life, rechargeable batteries, refillable bottles and containers
* visiting charity shops to purchase clothing which may have had little use or have been an unwanted gift
* upcycling of furniture, ie ‘shabby chic’.

Repair:

* rather than disposing of a worn or broken product, can it be repaired
* purchasing a reconditioned vacuum cleaner creates a satellite industry and job opportunities for people in society possible working from home
* also meets a need of a consumer if they do not have the disposable income to buy new all the time
* buying simple products that are repairable to ensure they will have an extended life and not require new materials and resources to be consumed.

Recycle:

* manufacturers should be clear how products can be recycled (labels, stickers, instructions) at the end of their useful life if they cannot be reused etc
* by EU law electronic manufacturers have to abide by the WEEE directive of 2006
* are materials used that can be recycled, eg Marks and Spencer removed glitter from all Christmas cards in 2019 as they were virtually impossible to recycle in this condition
* purchase products made from limited materials and not requiring extensive and complex separation.

Rethink:

* consider how a product can be made in a more sustainable way and promote this/highlight this to customers, eg two hour charge time of the Tesla and 200 miles plus range
* rethink the ways we travel and commute
* are materials sourced locally
* sustainable production
* is the product sustainable itself, eg does it use solar power.