



ANSWERS

1

Boat part	Property 1	Property 2	Best material
Hull	Strength	Stiffness	Carbon fibre composite
Sail control rope	Strength	NOT elastic	Spectra strands
Wing	Strength	Stiffness	Carbon fibre composite
Hydrofoils	Strength	Stiffness	Carbon fibre composite

2

- a If the student has correctly put 'Carbon fibre composite' for the hull material, it's because carbon fibre composite is extremely rigid and strong, and will keep its shape.
- b Marine plywood, although a good material in water, wouldn't be able to bear the load of the boat if made as streamlined as possible, whereas the carbon fibre composite hydrofoils can be extremely thin in some places, and retain their strength.
- c The team would choose carbon fibre composite over aluminium because it is more lightweight than aluminium, which therefore reduces the overall weight of the boat and helps the boat go faster.

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Dependent on student's choice of sport.