The aim of this document is to give students the opportunity to think about the need to select a specific metal - or alloy, for a specific application.
RESEARCH: Part 1)

Research the difference that exists between a metal and an alloy.

RESEARCH: Part 2)

Steel is a very strong alloy. Find out why steel is very seldom used for the manufacture of marine propellers.
RESEARCH: Part 3)

Most of the time, Bronze is used to manufacture propellers.

Find out if it is the same kind of bronze that is used to cast statues. Research the composition of the bronze used for casting statues, and the composition of the bronze used to cast propellers.

RESEARCH: Part 4)

By now, you should have found that the bronze used to make propellers is a special kind of bronze. It is a bronze of Aluminium.

Research why Aluminium would be included in the alloy. (Hint: research the properties of alumine, which is also called Aluminium oxide).
You can investigate the history of bronze and in particular what is called the Bronze Age. You will discover that even thousands of years ago, tradesmen were conveying goods from the west of what would become England many thousands of years later, right up to the far reaches of eastern Europe.

Another interesting topic would be the casting techniques used by the Vikings to make bronze jewelry and ornaments.

Happy Research!

Bronze Axe Heads

Bronze Ornament

Bronze Swords

Viking Bronze Ornament in the Urnes Style

Bronze Sun Chariot