

**YR7**

**Science**  
What are unicellular organisms?  
What forces act in boats?  
How is sea water different to fresh water?  
How can renewable energy be used in maritime?  
What are clean fuels and how can they be used in maritime?  
How are flares made and used in maritime?  
How can friction be investigated?

**Y7 MARITIME**

**Geography**

How has Cowes become an important Maritime town?  
Why are rivers important?  
How can the risk of flooding be managed?  
How do flood risks compare in different parts of the world?

**Y7 MARITIME**

**Maritime field trip:** Students visit their local high street to embed their map skills and conduct an environmental quality survey and land use to help them understand and draw conclusions about how Cowes has become an important Maritime town.



**Science**  
What role does the moon have in changing tides?  
How were constellations used for maritime?  
How physical is maritime working?  
What muscle groups are used in sailing?  
How can rusting be prevented?  
Can hydrogen be used in maritime?  
How does salt affect buoyancy?

**Y7 MARITIME**

**Design and Technology**

How can I apply the centre of effort and the centre of lateral resistance to design and build a model pond yacht?  
Students learn how to combine their previous learning of forces in science with their knowledge of careers from their geography maritime land use study to produce a boat that has been tested for efficiency and rigidity. They also learn about the careers linked to each design stage of the boat and how specific subjects at school support them.

**Y7 MARITIME**

**History**  
How did ships help people navigate to and from Great Britain in the past?  
Students study The Story of The Mayflower and Viking longboats  
How was Great Britain connected to the world during the middle ages?

**Y7 MARITIME**

**Science**

What are marine ecosystems?  
How do scientists clean oil spills?  
How does the size of a sail affect speed?  
How do you separate the components of sea water?

**Y7 MARITIME**

**Geography**

Is coastal management in Cowes effective?

**Y7 MARITIME**

**Maritime field trip:** This unique visit takes all students out on a boat to see the varied coastal features on the north coast of the Isle of Wight. The students hear from local experts about how the coastal management techniques were conceived, funded and received by the local people. Students judge how effective the coastal management techniques are and their potential impact on residents. The tour is led by the Cowes Harbour Master who brings his extensive knowledge of the workings of Cowes Harbour.



**Art and Design**

Maritime Heroes and charcoal portraits: How does World Ocean Day influence decisions and support change?  
Who are our Maritime Heroes?  
Can Maritime Art and Design influence the way we see the world or change the way we live?

**Y7 MARITIME**

**Food**

'Welcome aboard!'  
What skills and techniques in the kitchen can be used in a compact maritime setting?  
How can we prepare a balanced and nutritious diet on board a Sea worthy vessel?

**Y7 MARITIME**

**YR8**

**Science**  
What is the process of gas exchange in fish?  
How does air resistance affect sailing?  
How do ships capsize?  
How do ships float and sink?  
How is marine fuel obtained from distillation?  
How does depth affect light intensity and photosynthesis?  
What is ocean acidification?

**Y8 MARITIME**



**Visit from the Shipwreck Museum**

A professional maritime artefact diver visits the academy to talk to students about their work and how science supports them.

**History**

What does the Mary Rose reveal about Tudor Society?  
What can the artefacts found on the wreck of the Mary Rose tell us about life at sea in Tudor Britain?

**Y8 MARITIME**

**Design and Technology**

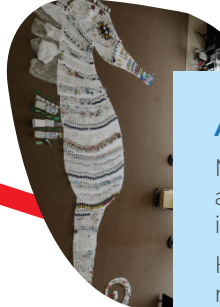
How does the technique of vacuum forming produce the desired shape of a hull?  
How can I apply knowledge of hull design and propulsion to manufacture a straight-line speed vessel?  
How can we develop and apply our knowledge of tools and materials to improve a naval design?  
Students apply knowledge gained from year 8 Science, stability and use this to build a model motor boat that offers a stable platform and travels in a straight line alongside detailed knowledge of maritime careers.

**Y8 MARITIME**

**Art and Design**

Mixed media and printmaking: Learning about micro-organisms and microplastics in the ocean.  
How do I use a variety of media to record marine life forms?  
How do artists, designers and scientists work together to support the ocean?  
How have different cultures represented the ocean?  
How do artists raise awareness about micro-plastic pollution?

**Y8 MARITIME**



**Y8 MARITIME**

**Science**

How do wetsuits provide insulation?  
What nutrients are in a one pot meal?  
What is sonar?  
What fuel is best at powering a boat?  
What is the carbon ocean cycle?

**Food**

**Food, preparation and nutrition**  
How can I prepare and cook food using a hob and oven on a sailboat to produce a well made and nutritious food product?  
How can I ensure that the food produce meets the dietary requirements of a sailboats' crew?

**Y8 MARITIME**

**Y8 MARITIME**

**Geography**  
How does the importance of containerisation effect our economy and its role within the shipping industry?  
Students learn through their county study of China and how shipping routes interconnect countries globally.

**Science**

What are composites and how are they used?  
How are polymers used in maritime?

**Y8 MARITIME**



**YR9**

**Science**  
How is magnetism used in navigation?  
How can stretching be investigated?

**Y9 MARITIME**

**Geography**

How is our physical landscape changing with different forms of renewable energy. Students study the long-term impact of renewable energy, the long-term importance and sustainability.

**Y9 MARITIME**

**History**  
Why is the Empire Windrush considered a significant event?

**Y9 MARITIME**



**Food around the World**

What is a food group and how can I combine with other ingredients?  
How can I analyse food products and improve them for sea voyages?

**Y9 MARITIME**

**Design and Technology**

How can I apply and use my knowledge of sailboat and motor boat production to complete an independent maritime design challenge?  
What shape of sea-going vessel responds better in different sea conditions?  
How can I use my knowledge of industry standard manufacturing techniques and the properties of materials to build an efficient hull and rig?  
Students apply knowledge gained from science lessons on the strength of ropes and sheets alongside their Year 7 and 8 knowledge of efficient hull design to meet a design brief.  
Students take a career path of Materials Engineer, Scientist and a hull designer to investigate the task.

**Y9 MARITIME**

**Geography**

How are coastal communities being impacted by climate change and what is the risk to these populations?

**Y9 MARITIME**

**Art**

Biosphere project: Painting, 3D and screen printing.  
What is the impact on coral reefs by the rising of sea temperatures?  
Why does the Island have a biosphere status?  
What causes coral reef bleaching?  
How do artists raise awareness of threats to marine eco-systems?

**Y9 MARITIME**

**Geography**

How is maritime exploration in the arctic affecting the wealth of international trade?  
Students study the exploration of oil sources in the arctic and consider the response to changes in the North West Passage and concerns about energy security.

**Y9 MARITIME**



**KS4**