



www.saferglasgow.com



Sail Training

Glasgow Community and Safety Services

Sail Training Lesson 1

Sail Training - Teacher Information



Education Curriculum Resources Sail Training Lesson 1 Teacher Information

Title - "Get Me Out of Here".

Lesson: Boat manoeuvring.

Aim: To provide an understanding of the logistical and physical requirements needed to manoeuvre the yacht safely from its berth.

Curricular area

Sciences

Cross curricular links

Technology, Social Studies, Language, Health and Wellbeing

Includes: Planning, problem solving, safety and taking social responsibility.

Cross cutting themes

Curriculum for Excellence,
4-15 National priorities,
SQA Modules; problem solving
and working with others

Short description:

This problem solving lesson focuses on the yacht's safe departure from the pontoon. Pupils are engaged in analysing the forces being applied to the yacht and the techniques used to overcome the manoeuvring restrictions.

Through the exercise the pupils will be engaged in learning about forces, pivot points, levers, fulcrums and turning circles. In essence, this constitutes a practical lesson in applied physics, but is related to an active, real life situation in which they are directly involved. Associated learning includes discussion on planning processes, problem solving, safety and social responsibility.

Broader Description:

Part one of the lesson, supported by diagrams and questions featured in the Clyde Challenger work book, involves the pupils examining how the yacht is tied up to the pontoon. They are formed into small work groups and asked to collectively identify the method by choosing the appropriate diagram in the work book and writing in the names of each rope. (Pupils will be asked to be pro-active in gleaning information from the crew members on rope names and purpose.)

Groups will then be asked to identify any natural forces currently working on the yacht; i.e. wind and current. Their directions will be added to the workbook diagram by the pupils.

The 'constraints' on the yacht's ability to manoeuvre directly from the pontoon are then discussed in a manner that invites enquiry and suggestion from the pupils e.g. what is meant by 'turning circle', what do you think stern/

bow swing is? (What other vehicles suffer from this effect; i.e. busses, trains, aircraft), Can any one think what is meant by 'paddlewheel effect', is the steering effective when the yacht is sitting still?

Now knowing all the information relating to the 'problem', the pupils are asked to work in groups to come up with a solution as to how the yacht can be safely manoeuvred away from the pontoon.

The basic solution they will be guided towards is the need to widen the yacht's angle of departure in order that it has space and time to overcome any of the identified forces and manoeuvring constraints affecting it. (Wind, current, paddlewheel effect, turning circle, steerage, etc.)

Sail Training Lesson 1

Broader Description: Continued

With the support of staff and crew, pupils will now work together to decide on the methodology of achieving this. A hint may be given at this time linking them back to the method of mooring the yacht by mentioning the answer is via the use of the ropes. Once the solution is reached they can be engaged in a discussion as to what sequence of action is required to achieve the desired end.

In addition, they should to be encouraged to consider the stage ahead; i.e. that once the yacht has left the pontoon, that the chosen method has also allowed enough manoeuvring room to avoid collision or grounding. This provides an additional lesson in forward planning and spatial awareness.

The final part of this lesson is a practical demonstration of the method by the crew as they move the yacht off the pontoon for its journey on the Clyde.

Reinforcement of this lesson can be achieved from the Skipper as the yacht returns to the pontoon. The leverage on the 'breast line' can be demonstrated and the pupils involved in passing warps to the shore crew. The yacht can then be seen to be tied up as before.

The information gathered in the work book can be used to review the lesson once the pupils have returned to school.

They can also be utilised again if the pupils are intending to undertake a follow-up trip, reminding them of the previously learned knowledge and preparing them to move onto the next stage of learning.

Associated Learning

Jargon: The specialised naming for items on the yacht is primarily for identification purposes; i.e. to ensure specific ropes are released ensuring the safety and security of the ship whilst manoeuvring.

The point is made that Jargon is commonly associated with the work place and linked with efficiency, safety and professionalism. Pupils are encouraged to consider the importance of learning the jargon used in a work situation; particularly in order that they can feel an ownership of the new situation, be better accepted by existing staff and be seen to be more efficient.

Forward planning and Spatial Awareness: The lesson requires pupils to make analysis of what is likely to happen in the future once the yacht has been released

from its berth. Constrained by her ability to manoeuvre they have to assess what room will be required to accommodate the yacht's turning circle. They then need to assess what position she needs to attain to ensure adequate manoeuvring space.

The exercise essentially provides a training experience in pre-planning, organising and co-ordination of systems; all essential employment skills.

Working Together: Pupils will experience the need for them and the crew to work together to achieve the desired outcome of safe departure.

As well as being directly involved in working in small groups to resolve the "Get Me Out of Here" problem they will witness the crew working together to manage the yacht in a variety of situations. The coordination between them demonstrates the benefits and efficiencies of good teamwork.

Teacher's Preparation

Teachers are welcome to take the opportunity of discussing a variety of the underlying subjects/issues with their pupils before the event. However, it is recommended that discussions should not directly pre-empt the experience the pupils will have aboard the yacht. For example, teacher may wish to raise the issues of communication and teamwork prior to the pupils visit, utilising their experience on the yacht to reinforce their lesson.

Sailing lends itself particularly to practical physics and the "Get Me Out Of Here" lesson touches on levers, pivots and fulcrums; forces, tangents and vectors.

Adaptable levels of enquiry and involvement to suit ability: All our sail training lessons are designed to be flexible and can be worked to emphasise particular issues or subject lines as teacher wish. The delivery staff will ensure that each lesson is adapted to suit individual pupil ability.



www.saferglasgow.com



Glasgow Community and Safety Services, Westergate, 11 Hope Street, Glasgow, G2 6AB
Telephone: 0141 276 7400 Fax: 0141 276 7699 Email: gccsenquiries@glasgow.gov.uk

Glasgow Community and Safety Services is a limited company incorporated in Scotland (No. 130604) and a registered charity (SC017889). Managing Director: Phil Walker