

ACTIVITY TEN: STOPPING SINKING

Learning Objectives

ALL: Students will know some different natural examples of animals that can walk in muddy areas

MOST: Students will know how to prevent sinking when walking using a shoe design

SOME: Students will know the problems associated with constantly damp conditions

Resources

Tray(s) containing:

- a boot (doc martin style)
- thin wire (e.g. chicken wire)
- curved pieces of wood (broken chair)
- canvas (some rough fabric with holes in could also work)
- laces or string
- strips of pieces of metal or wood (to simulate shrapnel)

STARTER

Ask students to brainstorm animals that live in wet conditions: e.g. hippos, ducks, pond-skaters

INTRODUCTION

Link the brainstorm in the starter to the shape of the animal's feet in comparison to its body mass (you could use pictures linked to numbers on a match up activity here to promote the idea that although insects such as pond-skaters look like they have very pointed feet, they have a very low body mass).

Make sure that students are aware that the bigger the surface area of the foot in contact with the ground the more spread out the mass is and the less likely the animal is to sink.

MAIN TASKS

Discuss the conditions in the trenches and no-man's-land - that they were often waterlogged mud and that the service men found it very hard to get and keep their feet dry.

At this point it could be linked to trench foot, [Historical Context 15. The Effects of War](#) and the weakening of the skin surface when it gets wet (discuss how skin becomes wrinkled when you are swimming/in the bath too long to link to students' experiences).

Have a tray of the resource materials that simulate what would have been available to the servicemen who would need to design a better shoe to help those at the trenches. Discuss how these could be put together.

Students should design a shoe to prevent the soldiers sinking in the mud on A4, using only a boot and the tray of resources (which you could have in the middle of each table if you have enough).

Extension

Students could research Trench foot and find out some of the symptoms and treatments to add to their design as annotations.

REVIEW

Students vote on the best design at their table

They present their best design to the class as a group

The class vote on the best design using post-its with a reason written on it.