

# Sea to store

The class challenge is to model how a heavy load (in this case penny coins) makes it's way across water, is lifted from a boat to a vehicle then driven to a warehouse where it is hoisted up to be stored. This journey is split into four parts and a group of 6 children will work on each part of the journey. Below are descriptions:

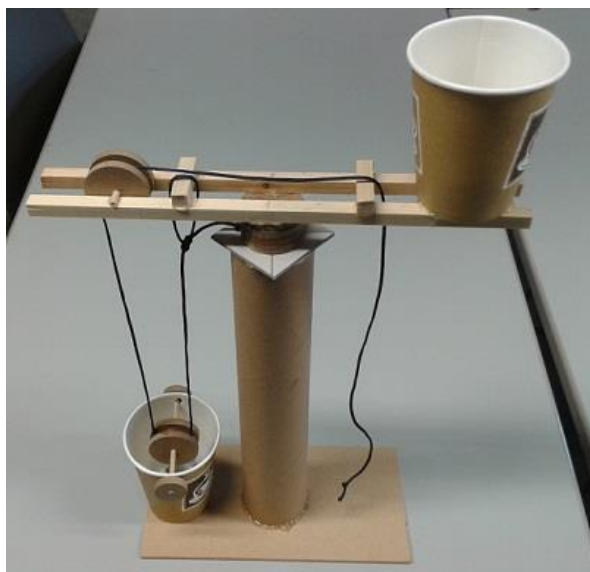
## Floating

In this part of the journey the heavy load needs to be carried across water so you will need to make some kind of float that can be powered by using a battery-powered fan. You will need to think about which materials float, how to make a circuit and keeping the batteries dry!



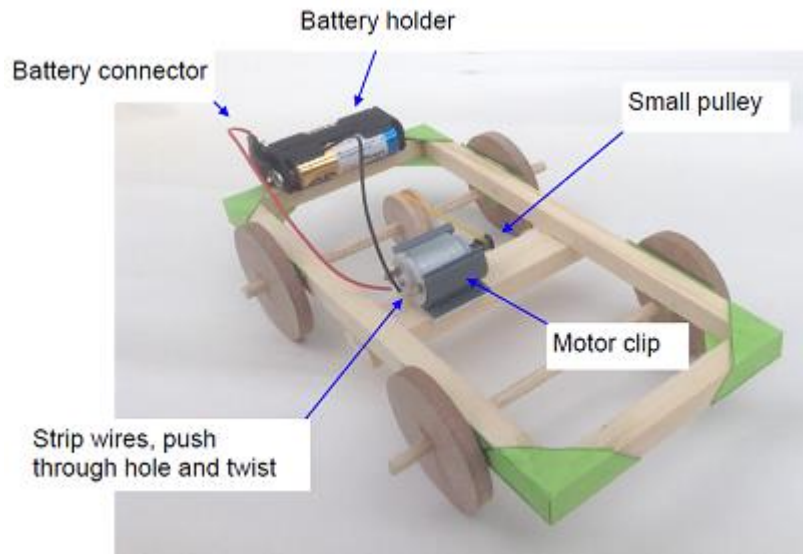
## Loading

The heavy load arrives at the port in a boat or barge and then needs to be lifted on to a vehicle. Your task is to make some kind of device that can lift the load out of the boat/barge, move it to where the vehicle is and then lower it so it can be transported.



## Driving

In order to move the load from the dockside to the warehouse, for storage, it needs to be transported on a vehicle. Your challenge here is to make a self-propelled vehicle that can carry the load. Consideration needs to be given to the speed on the vehicle and it looks good!



## Hoisting

Once at the warehouse the load needs to be lifted out of the vehicle and hoisted up for storage. This activity will be very much like the wind power challenge undertaken at the beginning of the academic year but there will be no restriction on the materials that can be used.

### THE WIND POWER CHALLENGE

Ask pupils to design a simple wind turbine capable of lifting a cup off the floor up to bench height. The winning team will be the one producing a machine that lifts the most weight.

**Possible design**

attachment allowing shaft to spin (made from sellotape)

pencil (shaft)

blades made of card

string

paper/plastic cup containing weights or 1p pieces