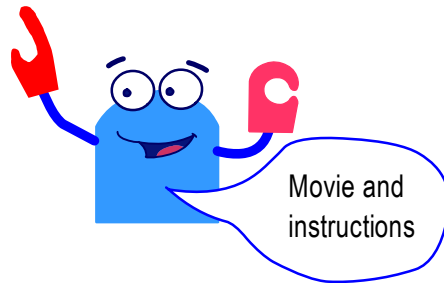
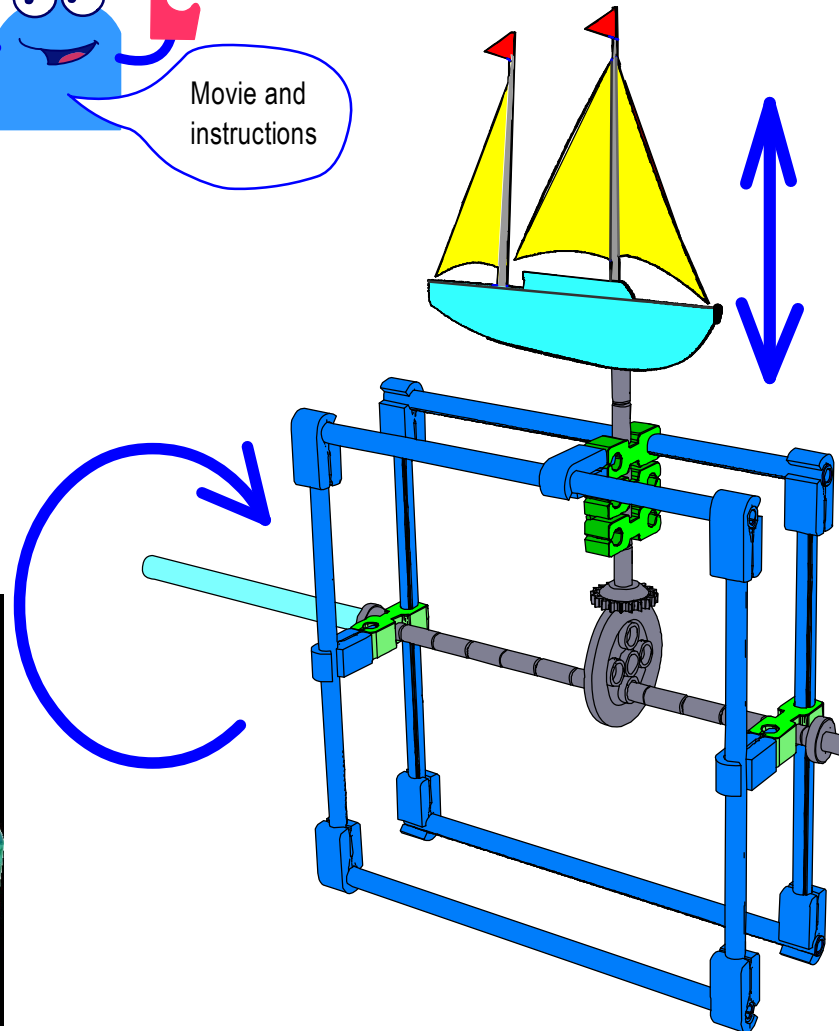


## Contents

P1 Introduction  
 P2 Parts List  
 P3 Making 1  
 P4 Making 2  
 P5 Photos  
 Movie  
 Movie 2  
 Video



## Cam operated



## You will learn and achieve

**Knowledge** - cam and follower, rotary to linear motion, axle, calibration friction, ratio, bearing, center of gravity, stability.

### Making

Design of theme to be used.  
 Research ideas, Assembly and constructions skills - testing then adjusting to get best results using an adjustable kit.

Adjusting. Decoration,

### Design Challenges-

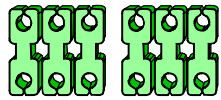
- Design of theme
- Design of moving part(s)
- Add more cams
- Drive it using an electric motor (add pulley to axle)

Trim all sharp edges after cutting

**BEWARE**  
Only cut connector as needed  
as some must not be cut

card  
A5 size

2 x holographic or coloured card  
for decorative purposes



2 x Multiblocks (green)



3 x clip connectors (blue)



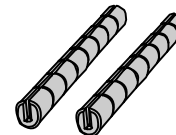
1 x 28 mm cam /wheel



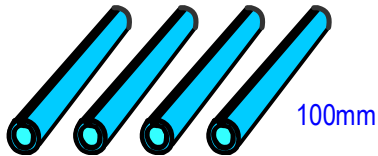
1 x 20T bevel gear



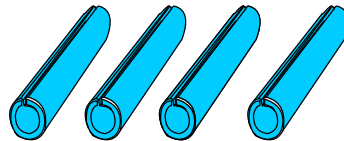
2 x 4mm grey collars



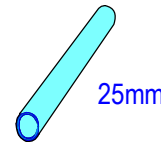
2 x 4mm snap rod



4 x blue slit rod  
100mm



4 x blue slit rod 80mm long



1 x 5mm dia. light blue tube  
25mm



Bag



Making  
SHEETS

Abrasive  
paper

## Easy Assembly

The rods are easier to insert into the connectors if twisted as they are pushed into place.  
Younger students should 'round off' and smooth the tube and rod ends using the abrasive paper.

## Tools

### Snips

Use to cut Kre8 connector hinges, plastic sheet, light blue tubing etc  
*Note - Scissors are not very satisfactory as they do not have serrated blades.*



### Emery Cloth

Use fine 'emery cloth' or other 'abrasive paper' to round and smooth the slit rod or blue tube ends to make assembly easier.

Abrasive  
paper

### Pencil and Rule

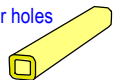
Use to mark lengths of blue tube or slit rods before cutting.  
Can also be used on plastic sheet before shapes are cut out.



Also needed - Roll of clear tape or similar to hold hands on.

## Optional Extras

Kre8 square tube - can be used instead of the 4mm snap rod  
it has the great advantage that it does not rotate inside the square guide holes. (To use the 20mm bevel gear holes will need drilling 5mm)



If you want have two cams working on the same axle you will need the following extra parts



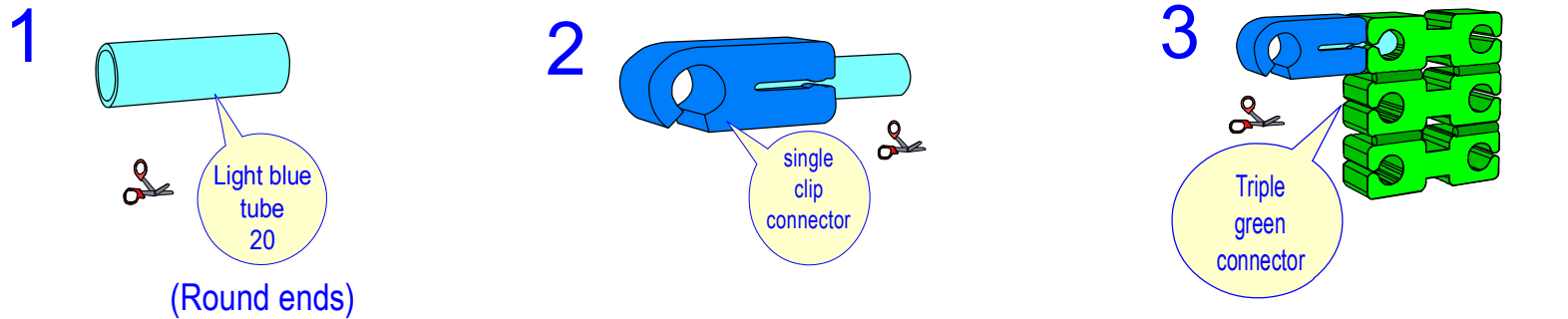
Copyright S. Dunn 2007

**Note** - To make assembly easier - smooth and round the ends with **abrasive paper** before pushing into the connectors.

Sizes in mm

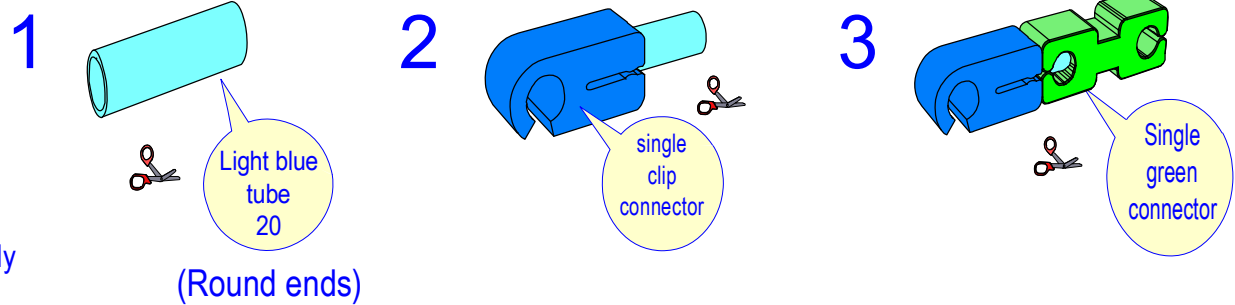
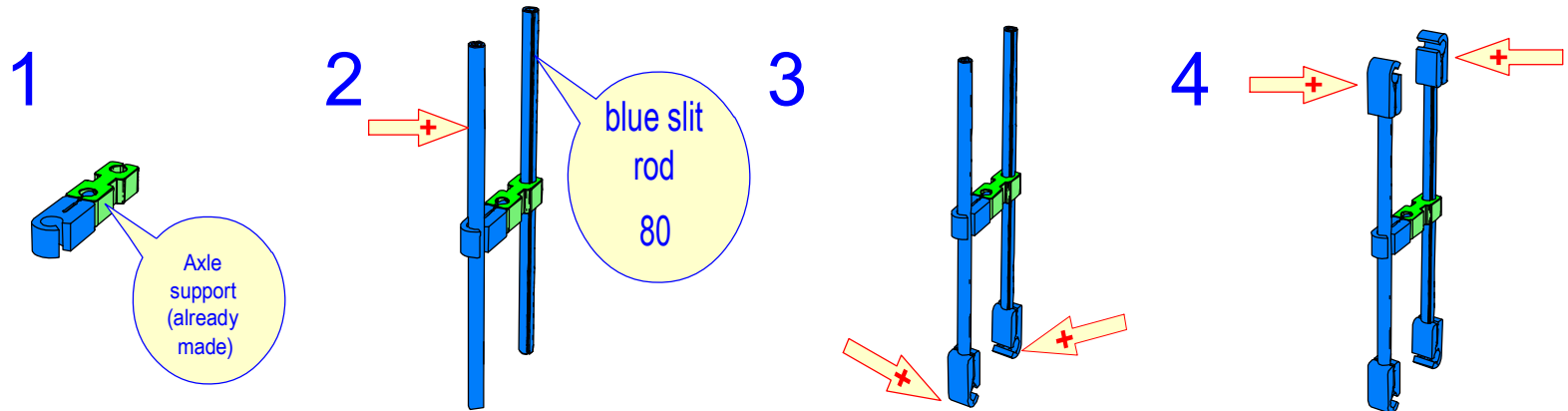
### Follower Guide

You need to make **ONE** of these guides for the can follower to move up and down in. Use when you get to step 7 on next page.



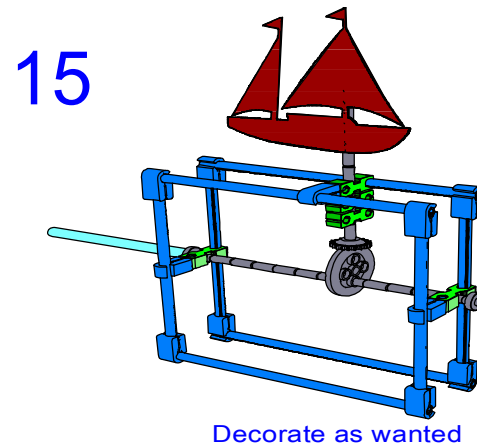
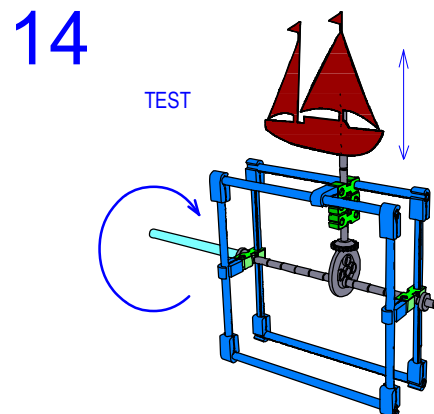
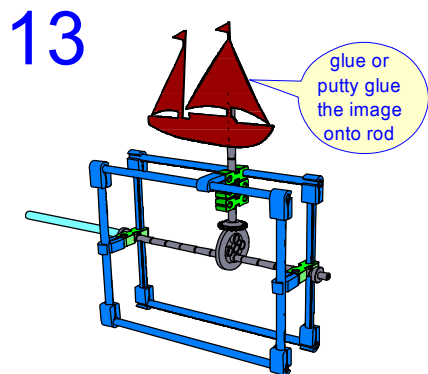
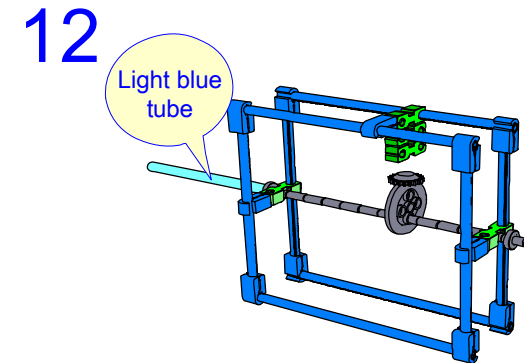
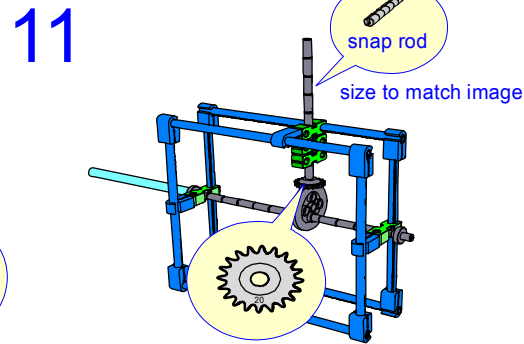
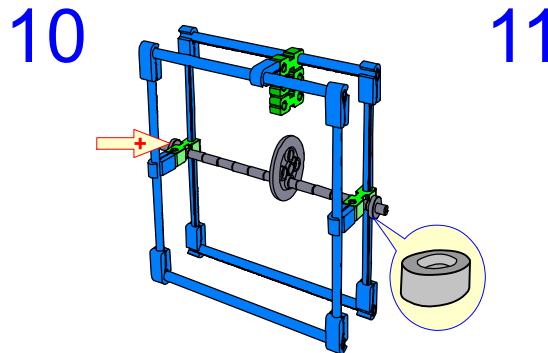
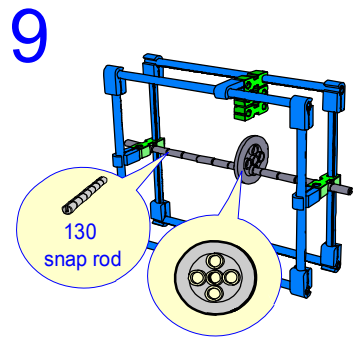
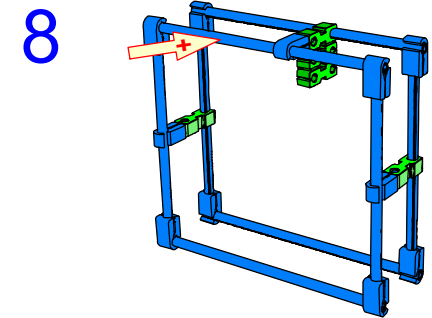
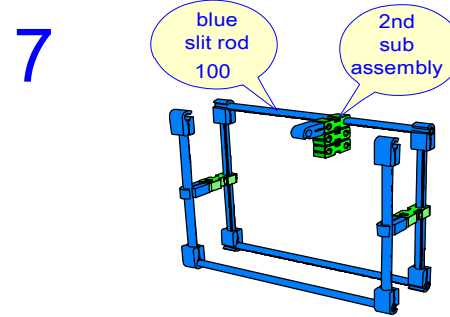
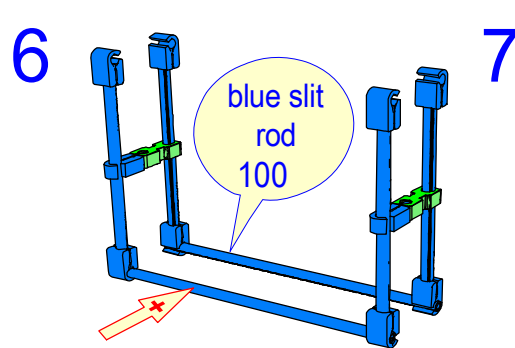
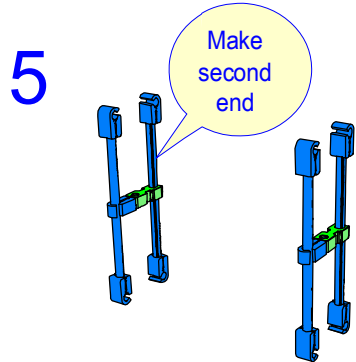
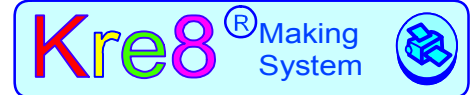
### Automata Assembly

Use the parts just made for the main assembly following this sequence.



# 4

## 2 - Step-by-Step Kre8® Automata - Making



## 16 Decoration

Decoratation is up to you.  
You may want to add a front piece of card or plastic sheet to decorate and hide the mechanism. You can also add a back piece such for clouds etc. Both front and back can be made from A5 card pieces. Parts can be help on temporarily with sticky putty



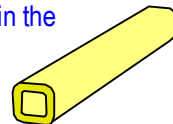
### Girl dancing

Turn handle and the girl dances

VERY USEFUL

The Kre8 square section tube (yellow) can be used in the square holes to stop shapes spinning.

Details of examples under cams via sitemap.



### Ghosts

Turn handle and watch the ghosts dance



### Two boats all at sea

Two cams used to move boats.  
(It is also powered by an electric motor which is hidden at the back)