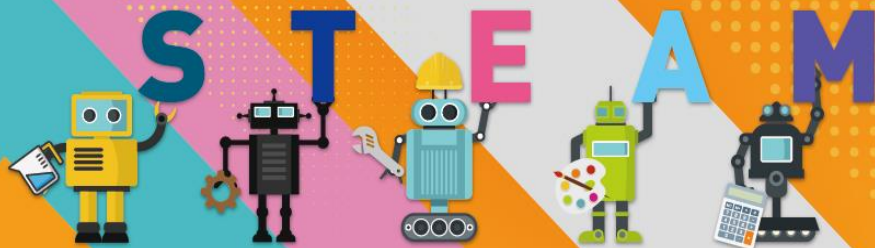


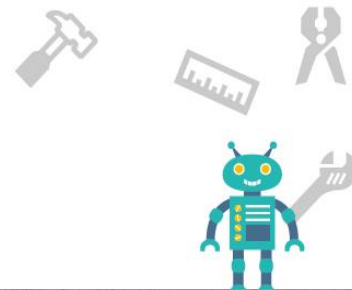
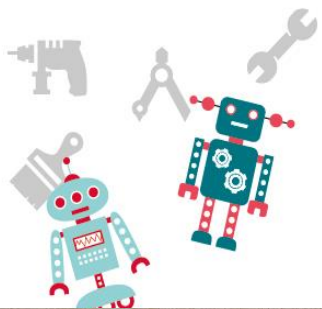
吸管機器人v2

枋寮高中自造者教師社群



F L S H
Fun Maker





材料

TT直流減速馬達(扭力1:120)



兩入3號電池盒
(附開關)



3號電池兩顆



一般家庭用牙籤



寬度2cm冰棒棍



直徑6mm吸管

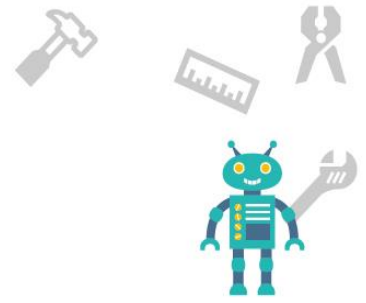
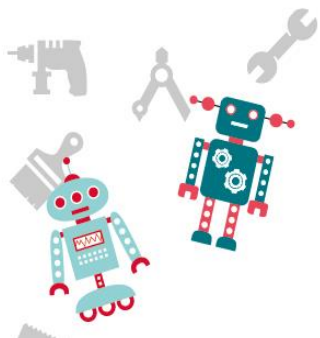


有斜角(較硬)

直徑5.5mm吸管



無斜角



工具

剪刀



剝線鉗



小號熱熔膠槍



尖嘴鉗

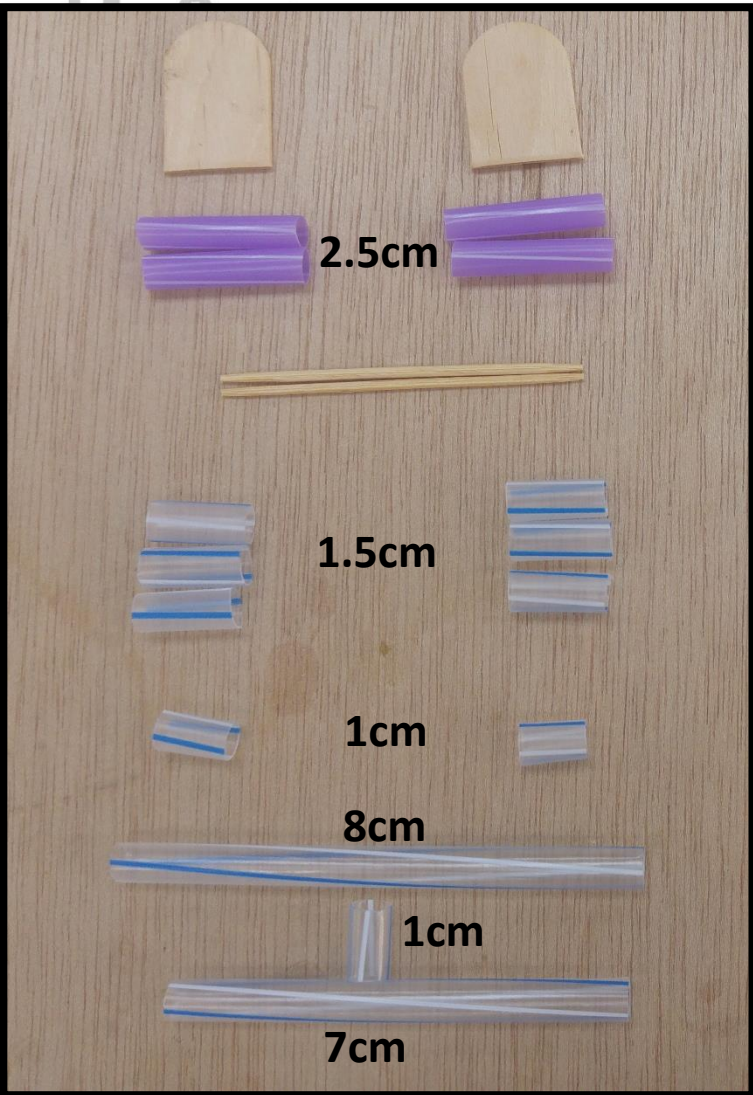


大於10cm的尺

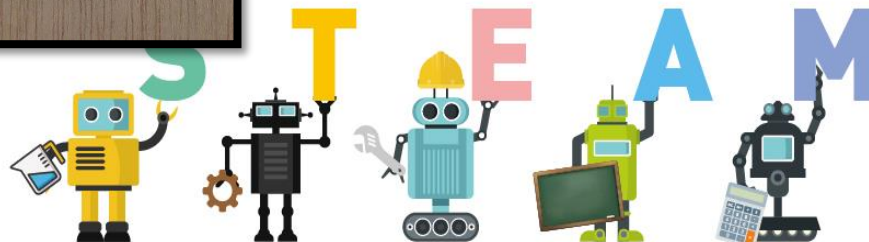


材料裁切

- 口徑較大的吸管需裁切成 $8\text{cm} \times 1$, $7\text{cm} \times 1$
 $1.5\text{cm} \times 6$, $1\text{cm} \times 3$
- 口徑較小的吸管需裁切成 $2.5\text{cm} \times 4$
- 牙籤只要裁掉兩端尖尖的部分
- 2cm寬冰棒棍：
 $2.5\text{cm} \times 2$ (也可自由發揮)



FLSH



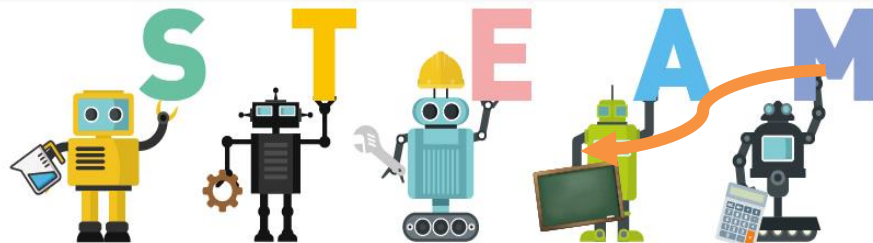
Fun Maker



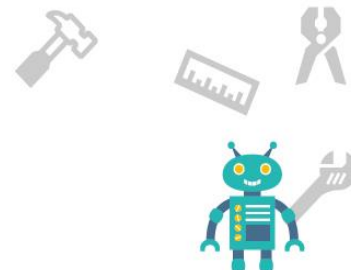
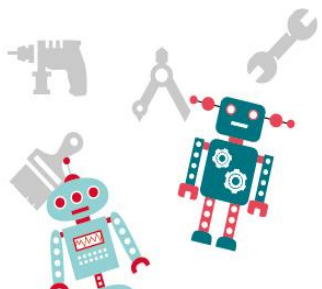
使用熱熔膠槍注意事項

1. 使用熱熔膠槍要注意被燙傷，如果沾到熱熱的膠且感覺會燙時，趕緊弄掉，並報告老師。
2. 上熱熔膠後，要把吸管固定好，最好等熱熔膠乾得差不多後，再繼續下一個動作。
3. 黏合吸管時，可以考慮在桌上排好形狀，先黏合上層，等乾了之後，再翻面黏下層。

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黏合吸管轉軸

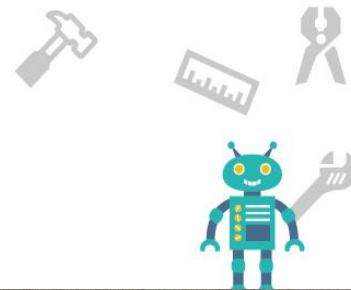
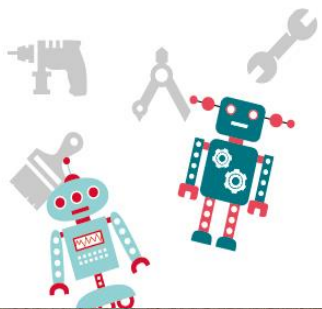
儘量一邊要
成一直線



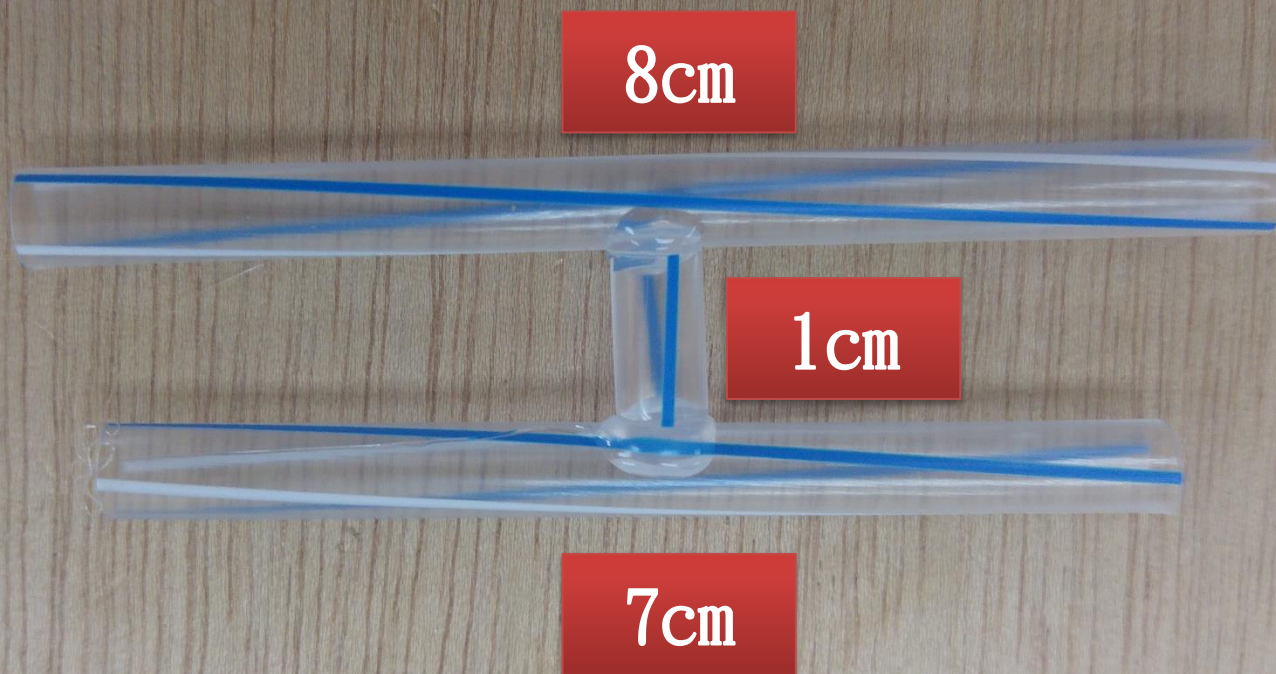
1.5cm

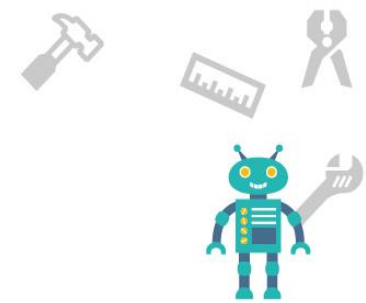
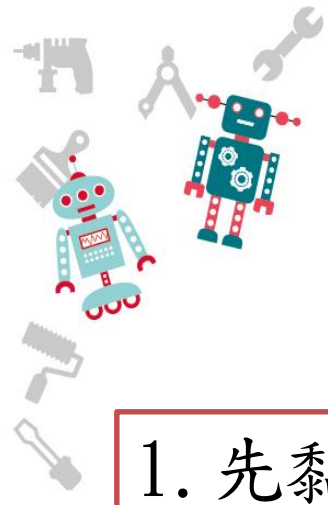


1.5cm



黏合機器人的後支撐腳

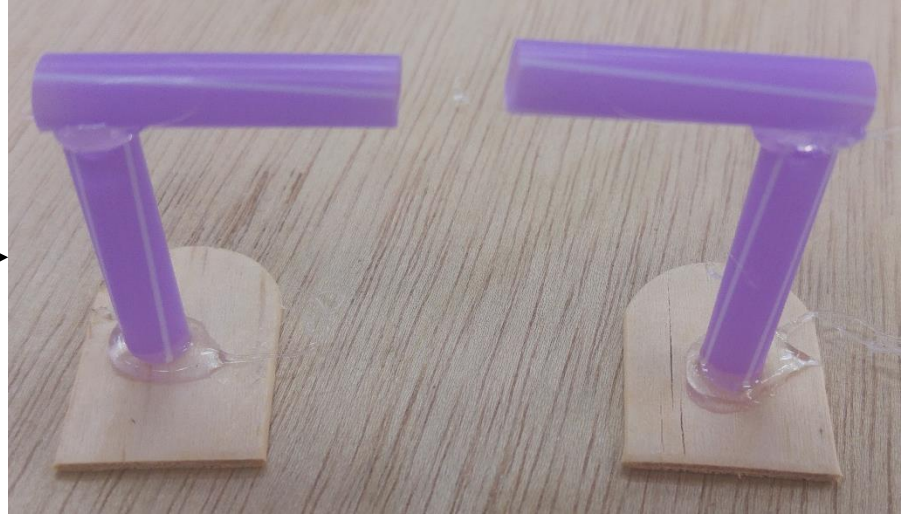
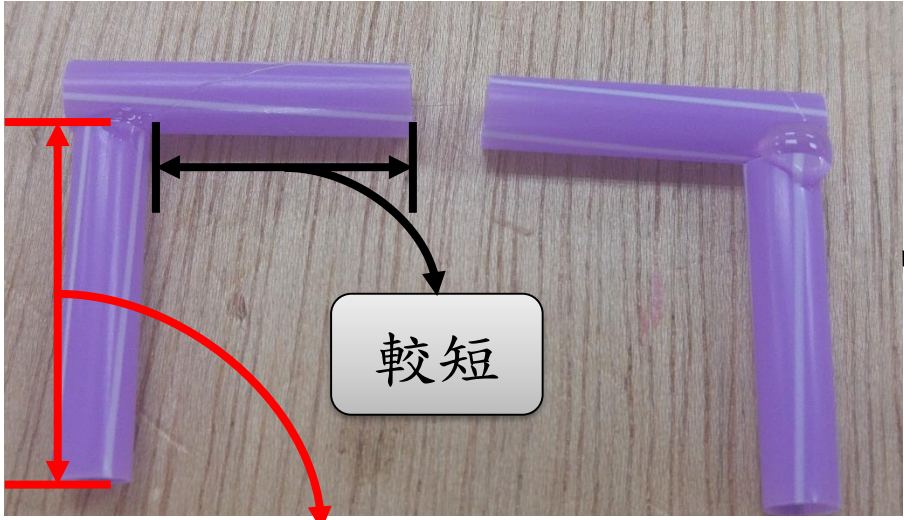




黏合機器人的前腳

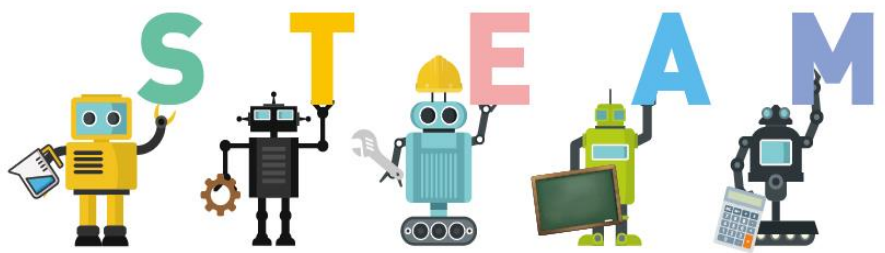
1. 先黏成直角

2. 較長的腳黏冰棒棍



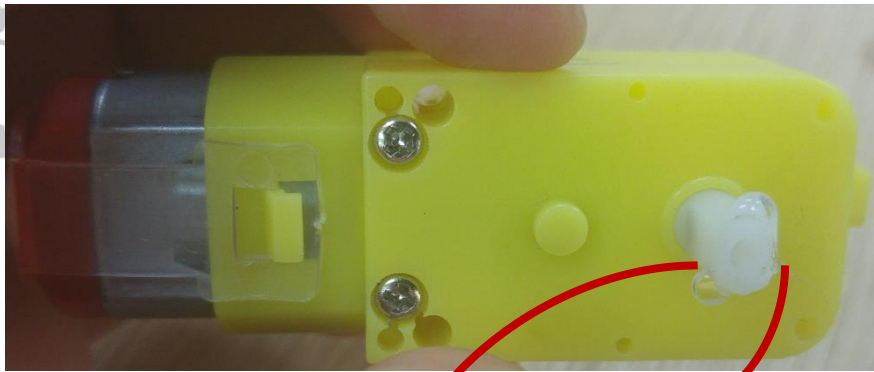
較長

FLSH

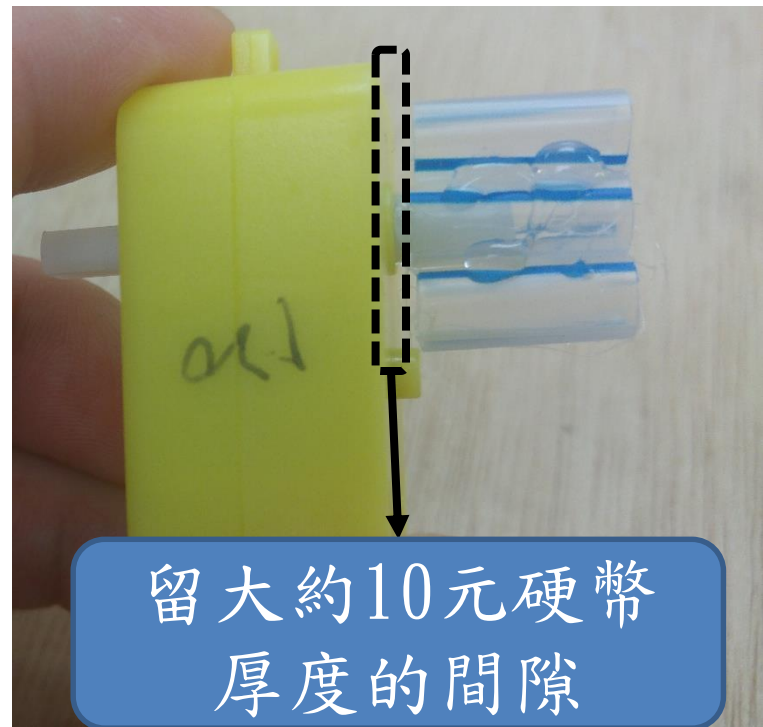


Fun Maker

吸管轉軸與馬達軸心黏合

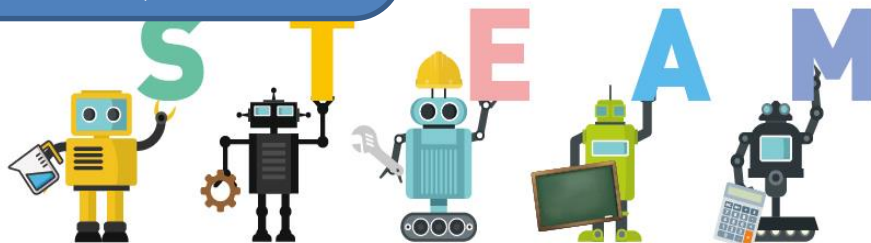


在馬達軸心平平的兩側
點一點點熱熔膠就好，
大約綠豆大小

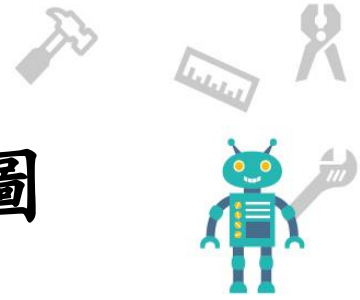
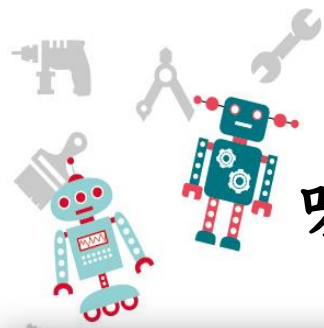


留大約10元硬幣
厚度的間隙

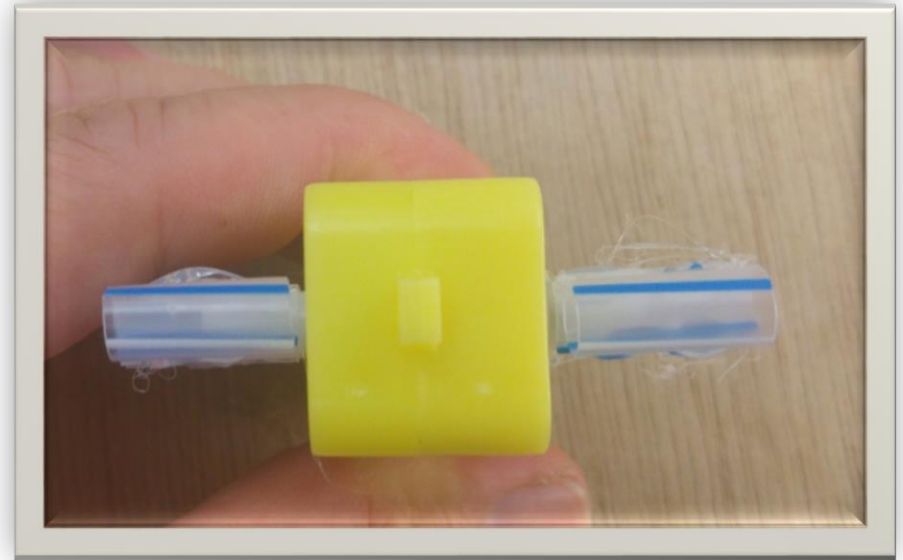
FLSH



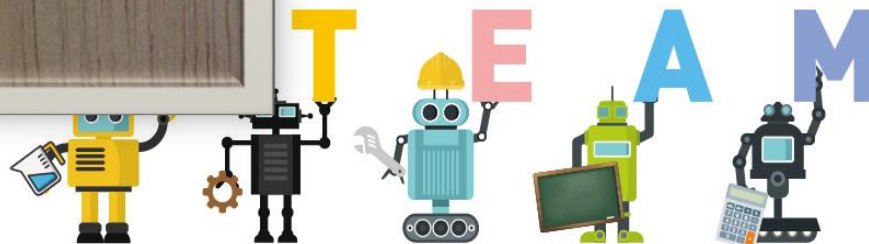
Fun Maker



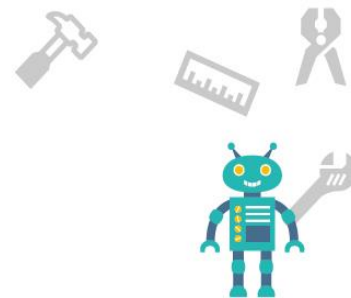
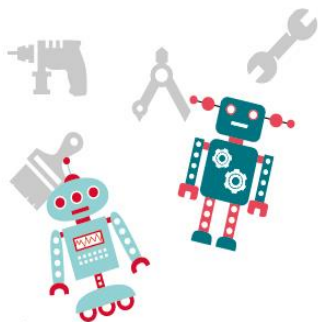
吸管轉軸與馬達軸心黏合-完成圖



FLSH

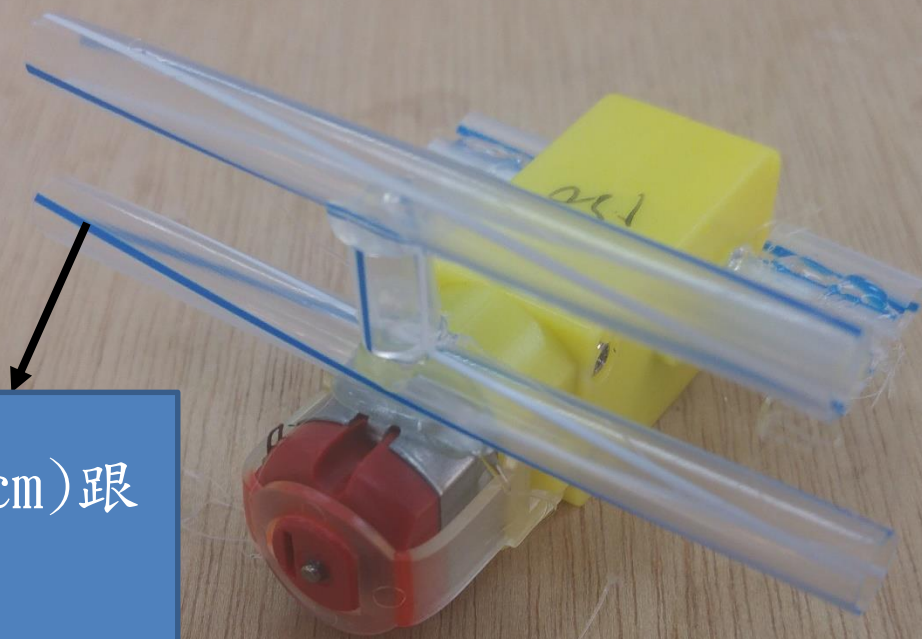


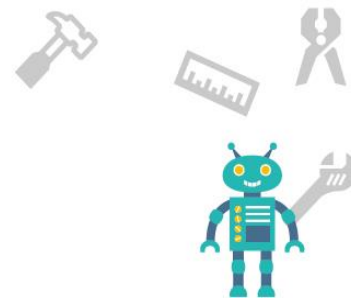
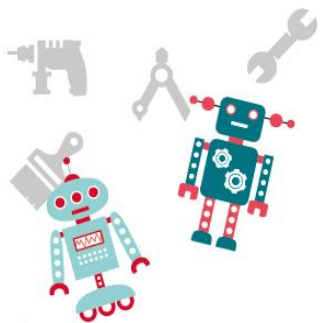
Fun Maker



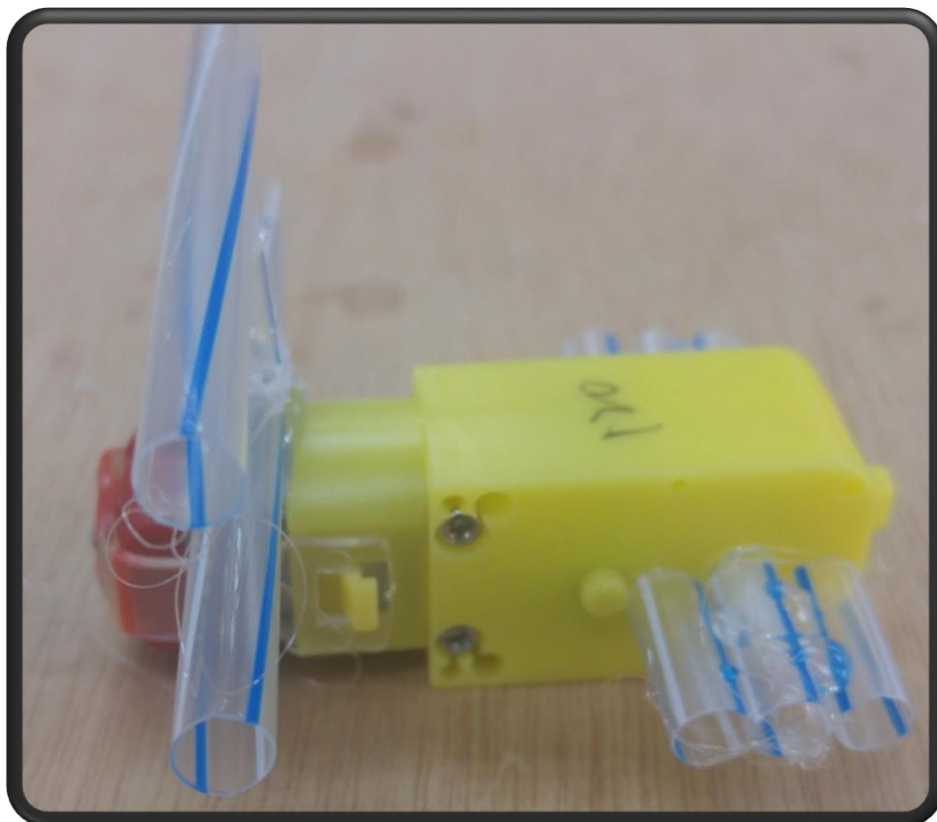
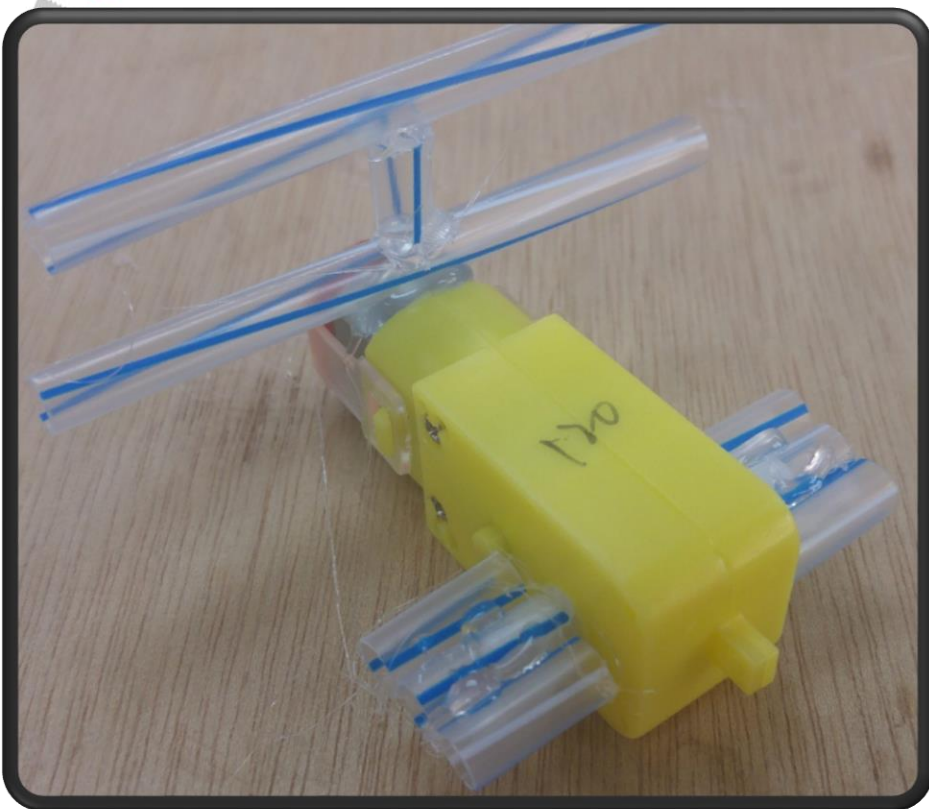
黏合後支撐腳

較長的吸管(8cm)跟
馬達黏合

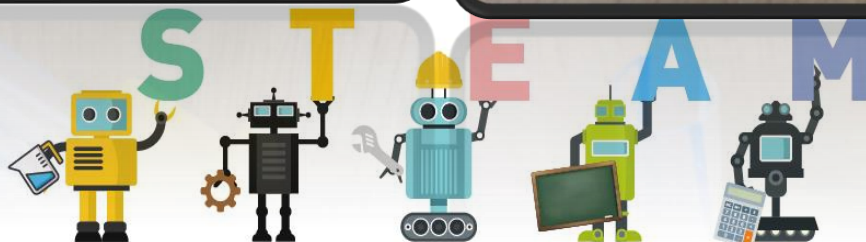




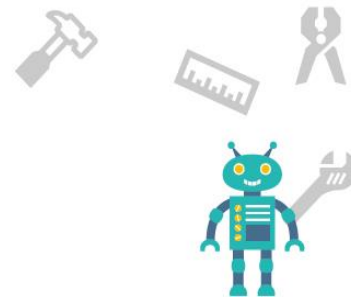
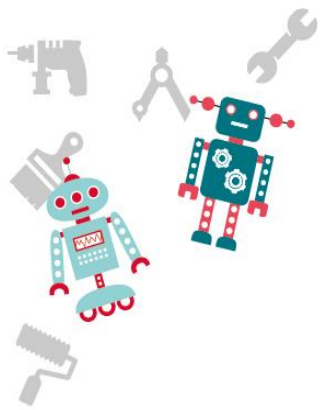
後支撐腳-完成圖



FLSH

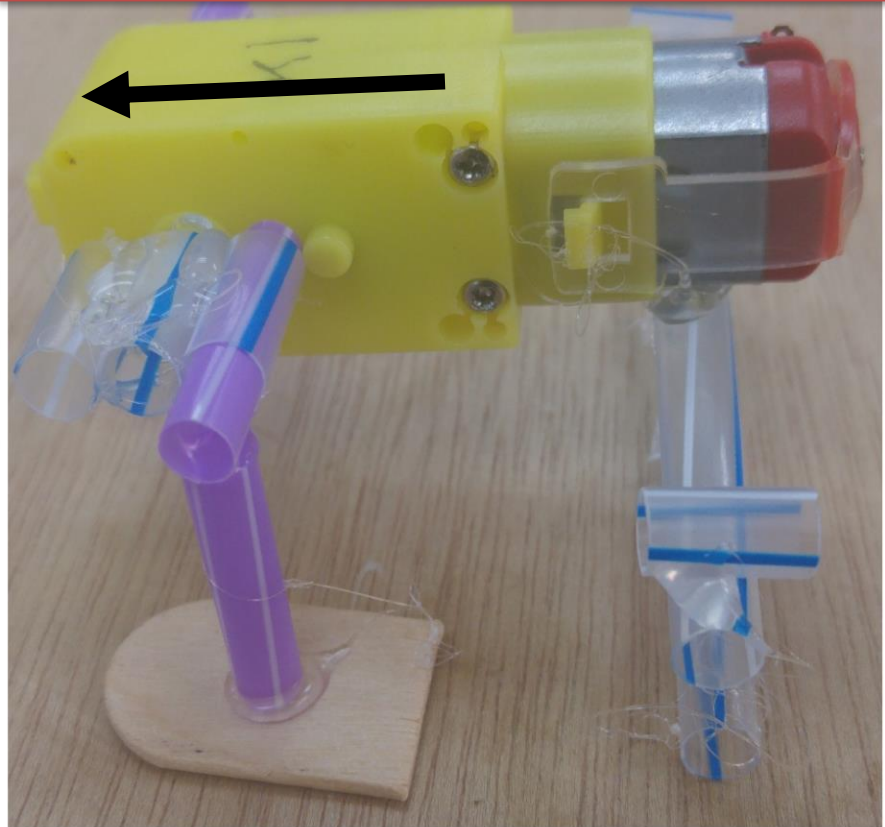


Fun Maker

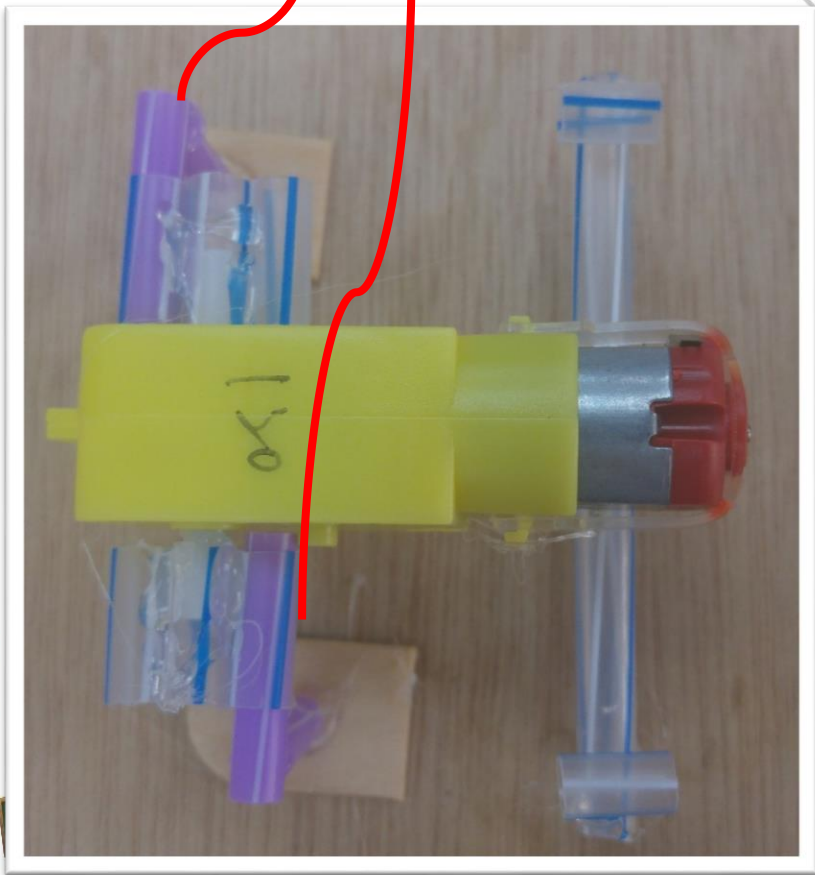


裝上前腳

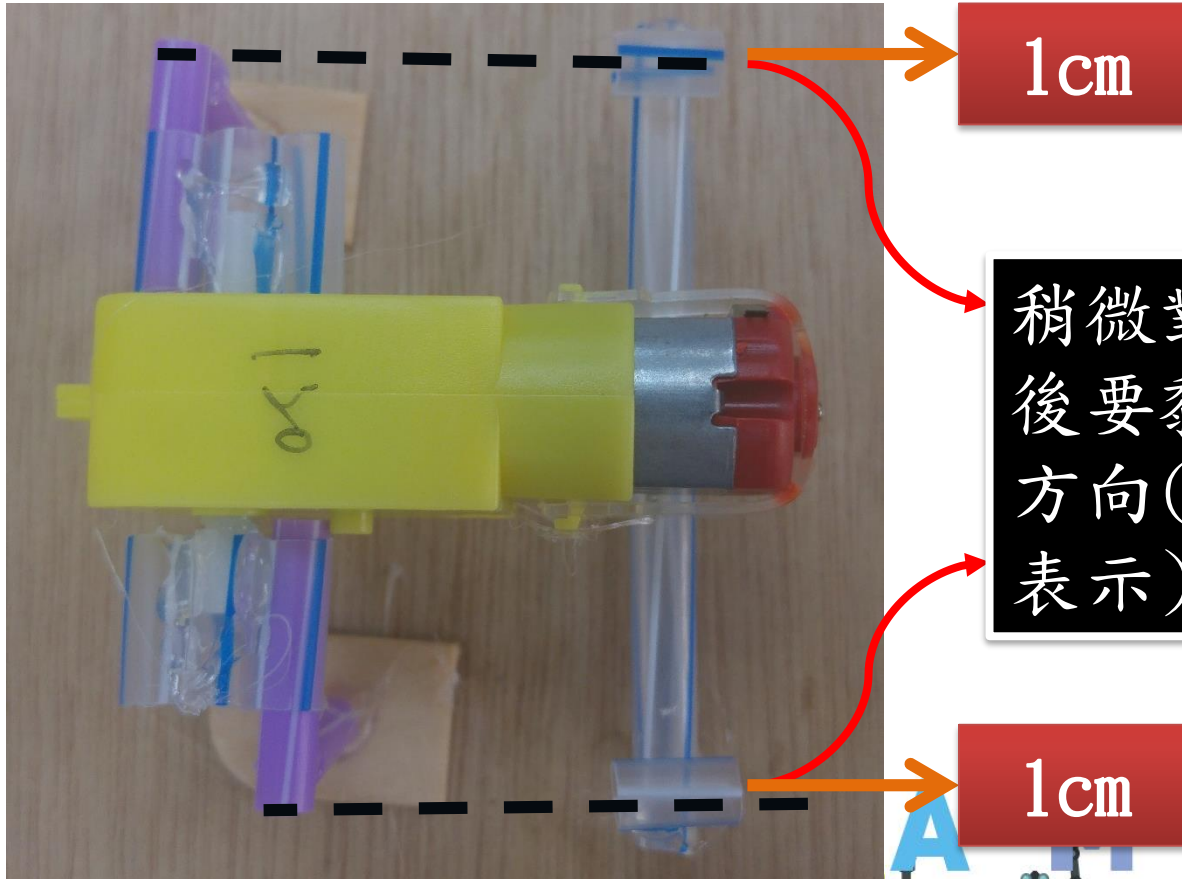
箭頭方向是機器人的前面

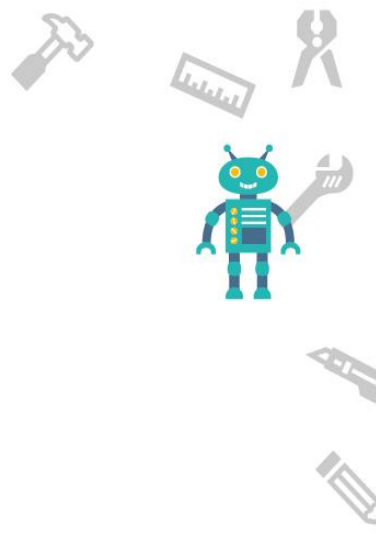
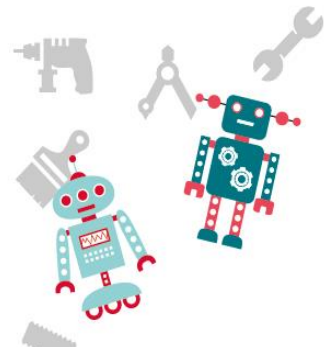


兩隻腳要一前一後

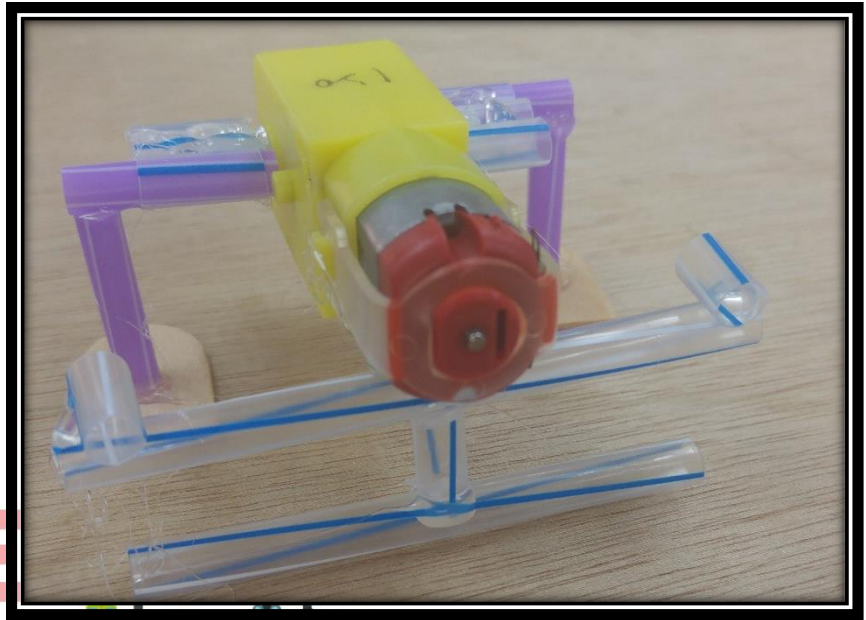
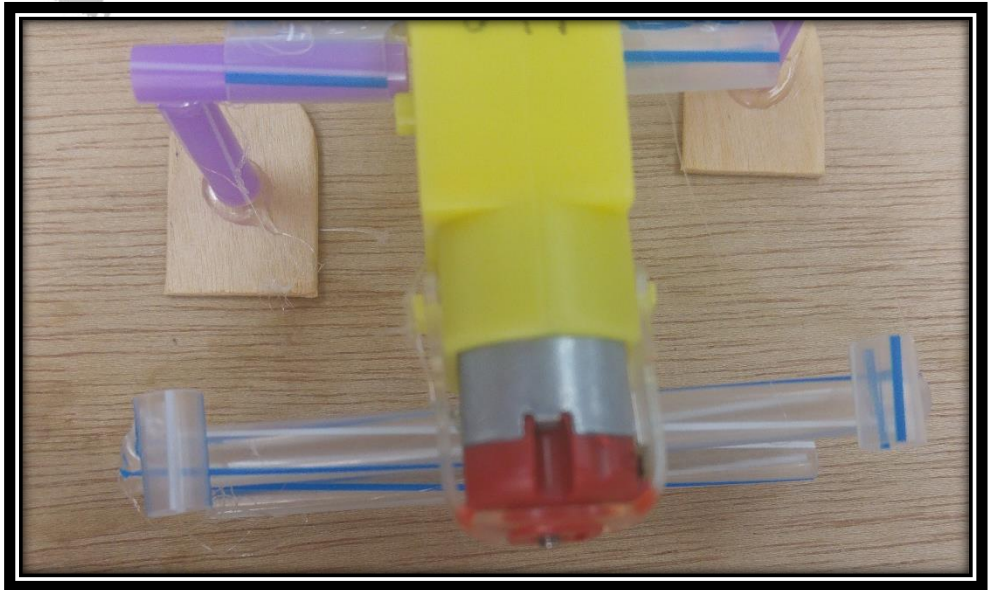


黏合支撐牙籤的吸管

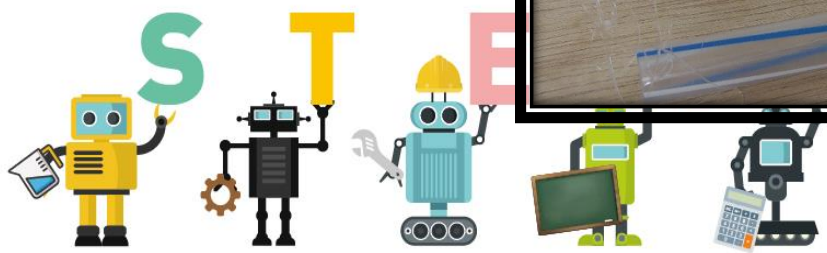




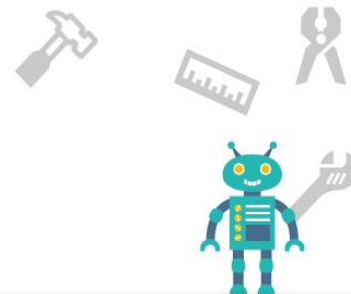
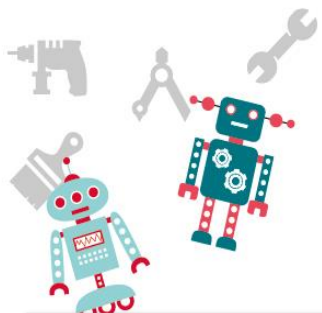
黏合支撐牙籤的吸管-完成圖



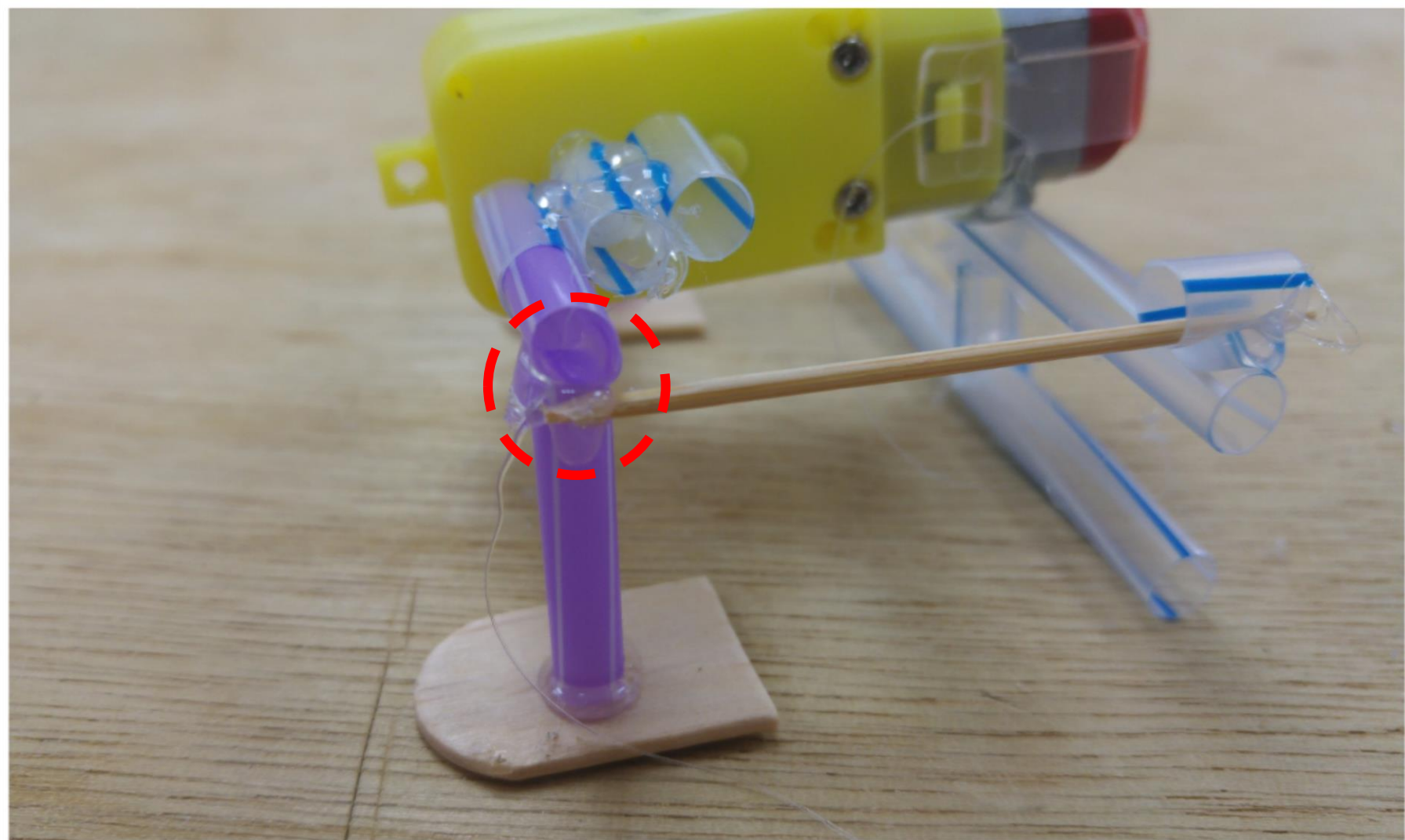
FLSH

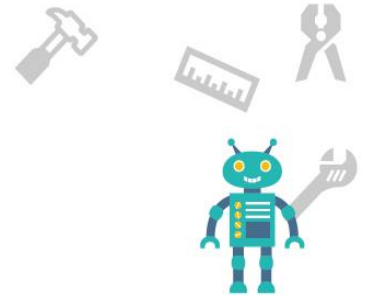
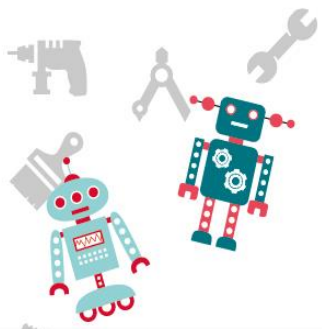


Fun Maker

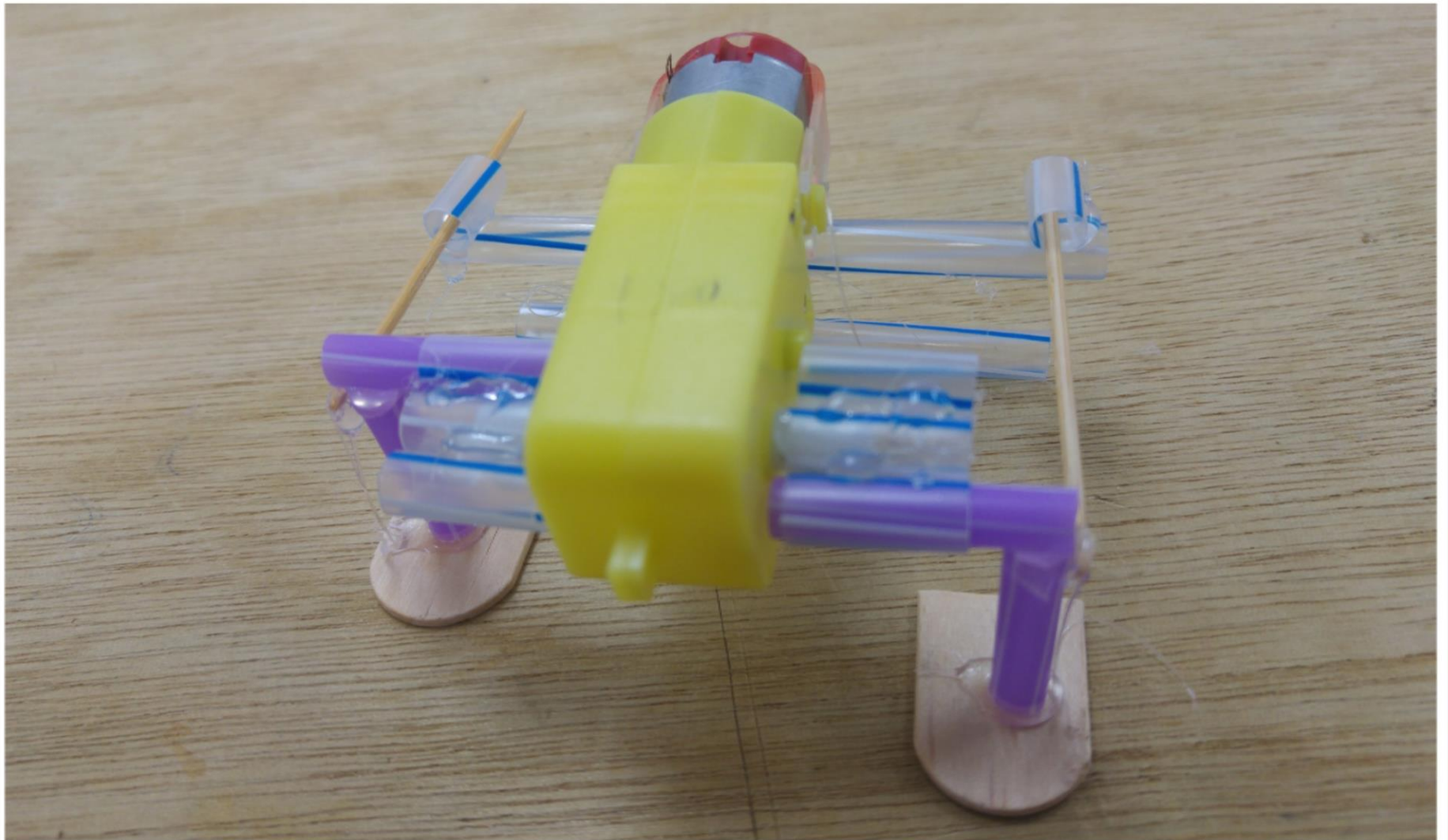


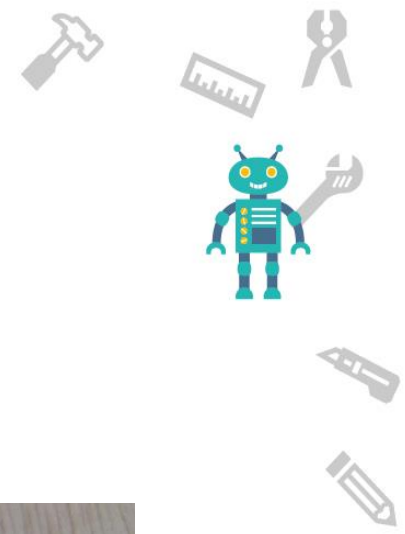
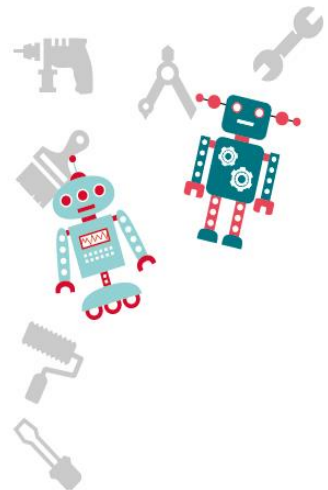
黏合牙籤和前腳





黏合牙籤和前腳-完成圖



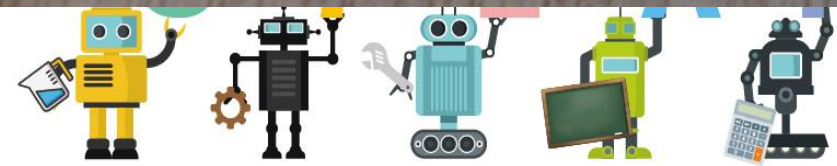


剝線鉗介紹

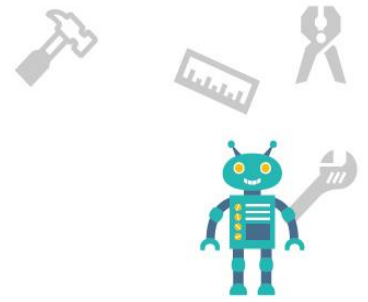
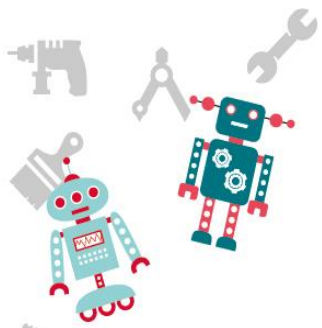
由粗到細



FLSH



Fun Maker



如何使用剝線鉗

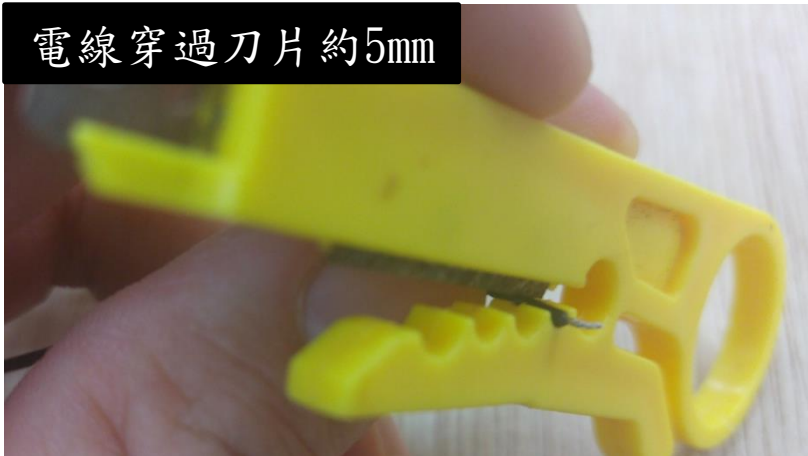
穿過最細的孔



電線要穿過去

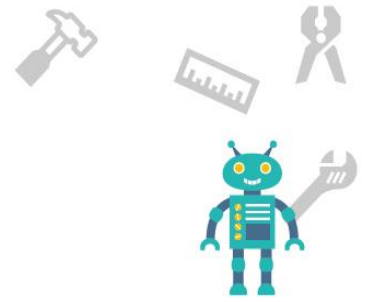
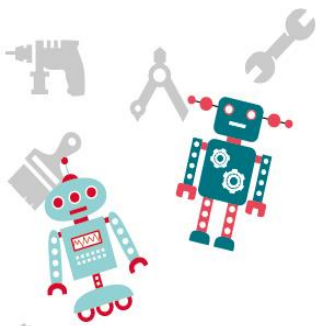


電線穿過刀片約5mm

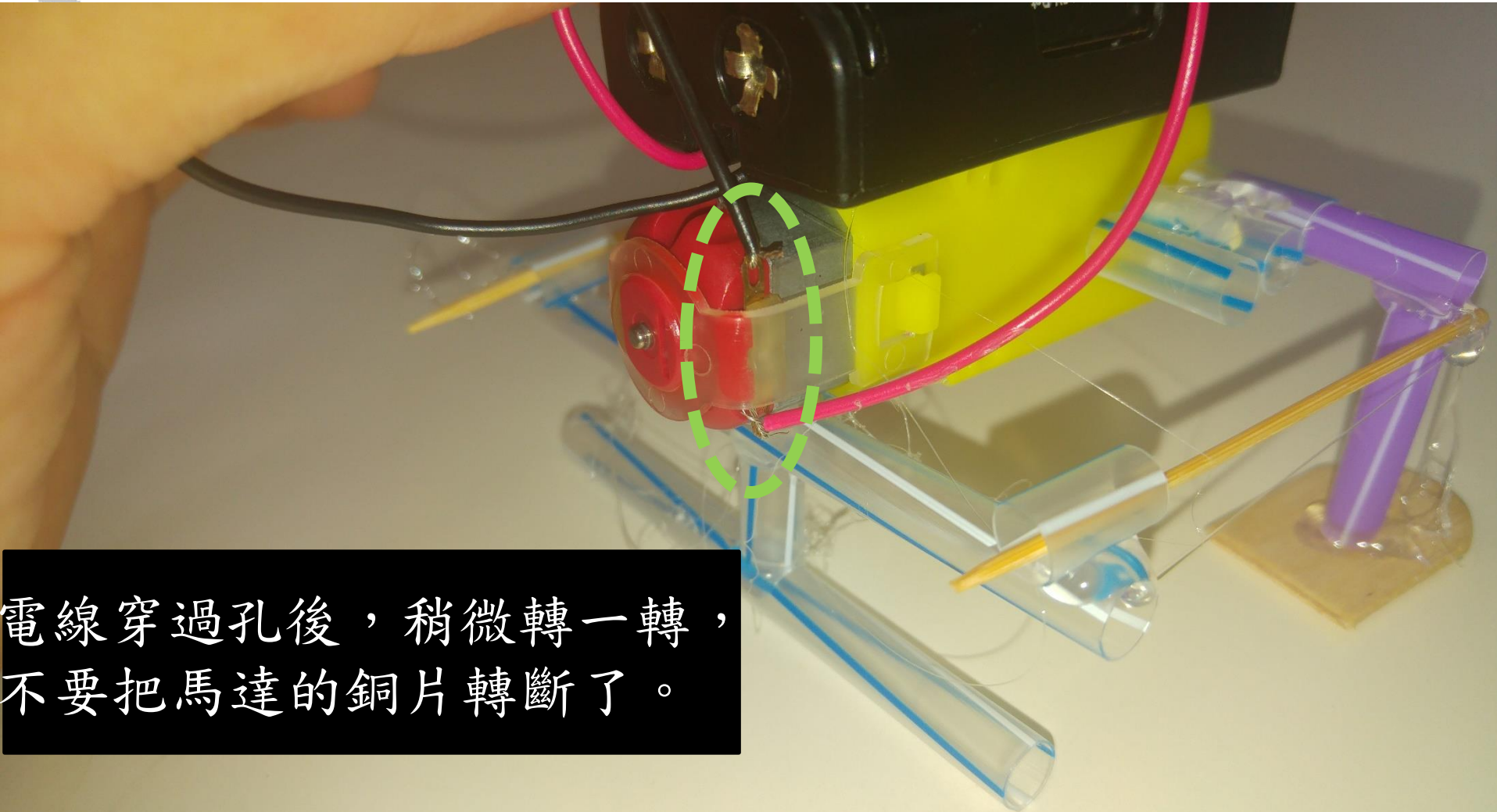


一手抓住電線一手壓剝線鉗，拉開

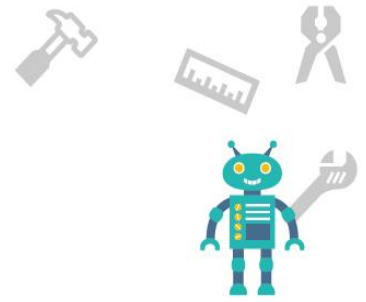
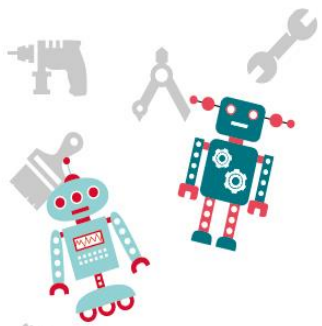




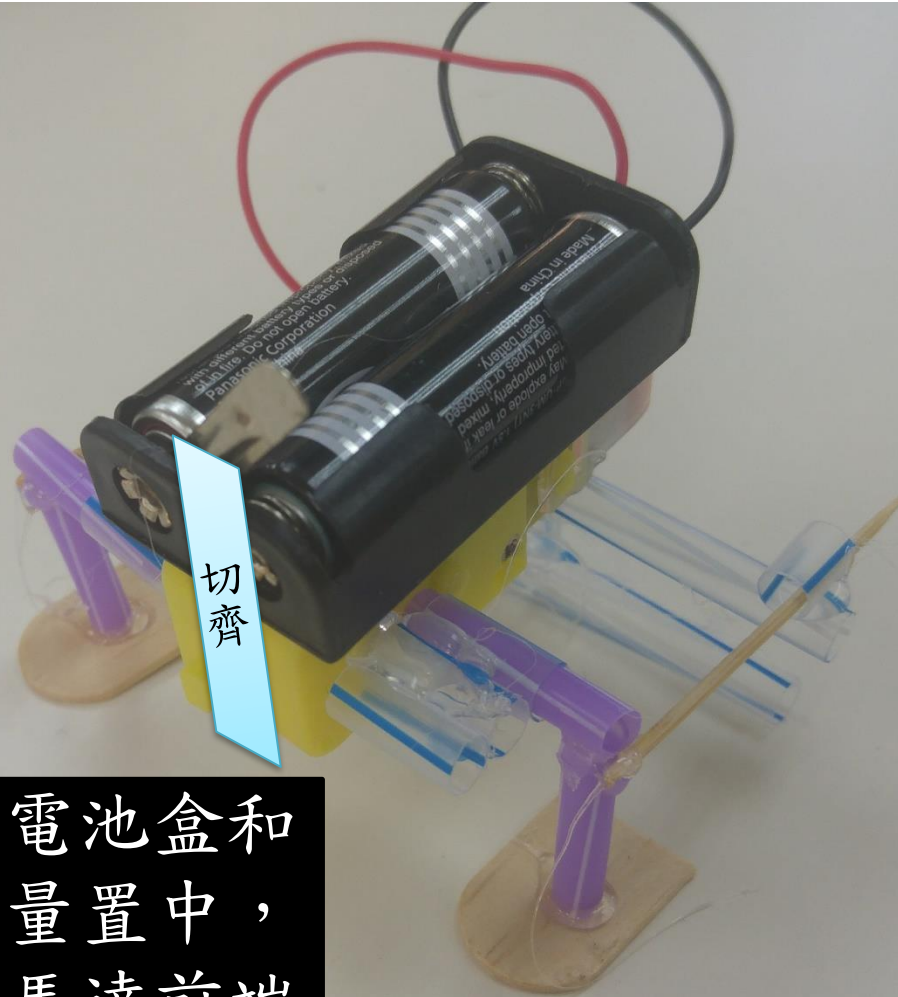
電池盒電線穿過馬達銅片的孔



電線穿過孔後，稍微轉一轉，
不要把馬達的銅片轉斷了。



吸管機器人完成



熱熔膠槍直接黏合電池盒和馬達，左右位置儘量置中，有開關的前緣對齊馬達前端