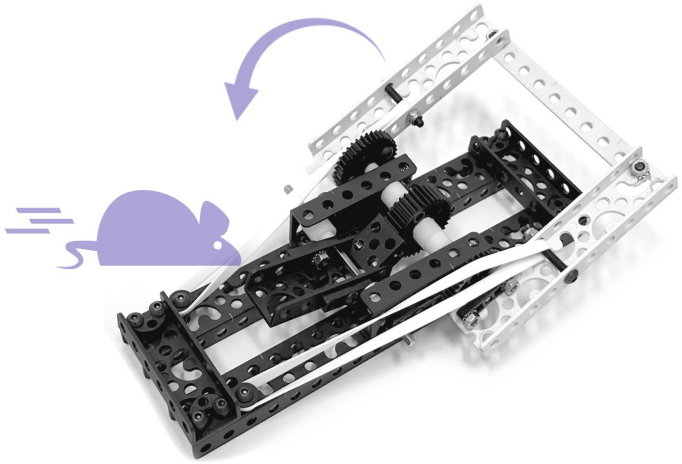
捕鼠器

课程目标

- 了解棘轮棘爪机构的特点
- 设计制作一个捕鼠器模型
- 测试模型，理解棘轮棘爪是“单向间歇”运动机构



THE COPYRIGHT BELONGS TO RESENWINFULL COMPANY
COPYING AND DISSEMINATION ARE NOT ALLOWED

观察思考

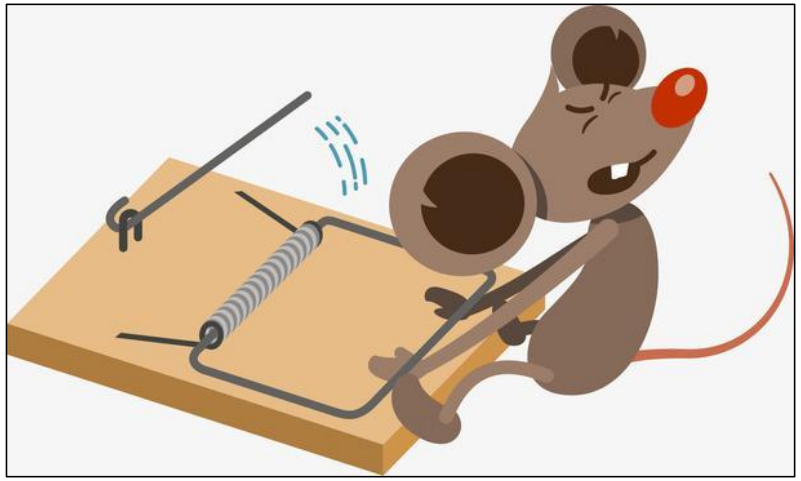


每年都会有大量的粮食被老鼠偷吃，这些粮食都是农民们辛苦劳作的收货和成果。老鼠成群结队出现，非常难捕捉，而且还会传播疾病。

THE COPYRIGHT BELONGS TO RESENWINFULL COMPANY
COPYING AND DISSEMINATION ARE NOT ALLOWED

观察思考

观察下面的图片。想一想，治理鼠灾的方法有哪些呢?



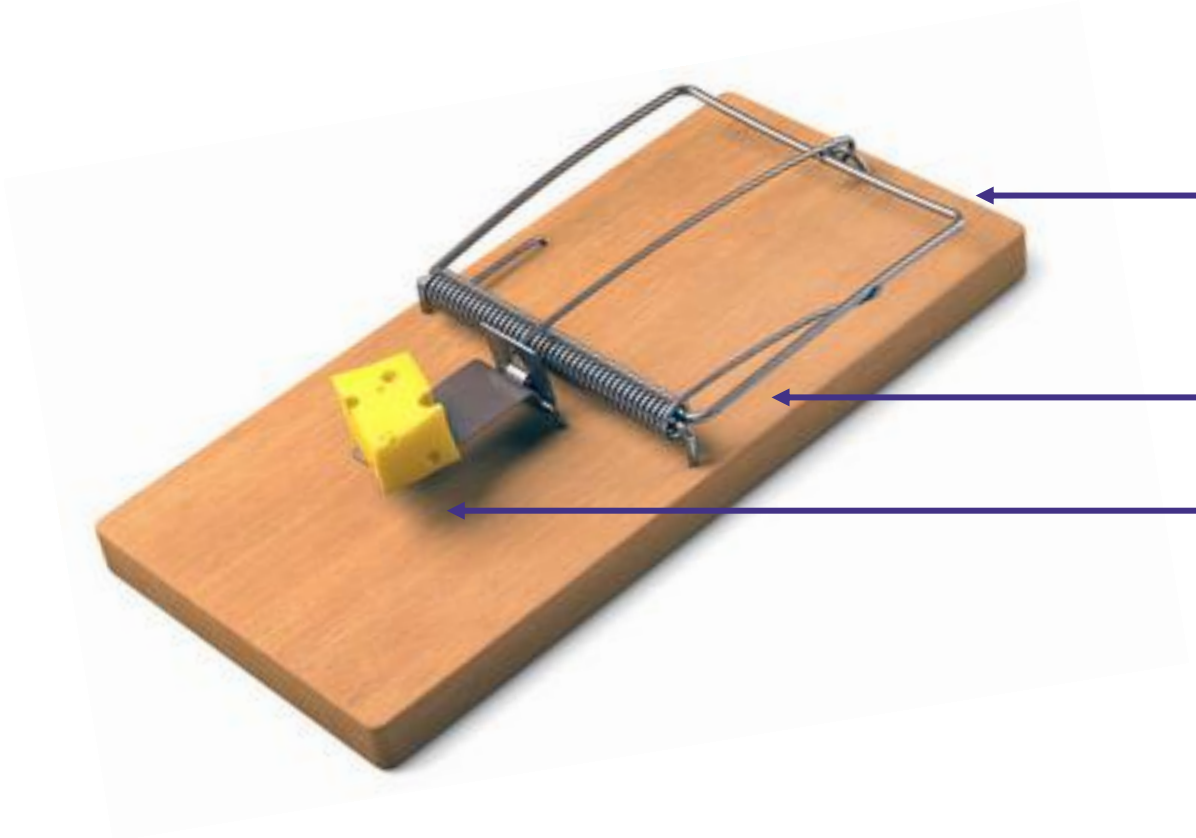




THE COPYRIGHT BELONGS TO RESENWINFULL COMPANY
COPYING AND DISSEMINATION ARE NOT ALLOWED

观察思考

捕鼠器结构分析



1、底座

2、夹子

3、触发开关

THE COPYRIGHT BELONGS TO RESENWINFULL COMPANY
COPYING AND DISSEMINATION ARE NOT ALLOWED

动手做

任务

设计制作一个捕鼠器模型

要求：

夹子的角度可以调节

THE COPYRIGHT BELONGS TO RESENWINFULL COMPANY
COPYING AND DISSEMINATION ARE NOT ALLOWED

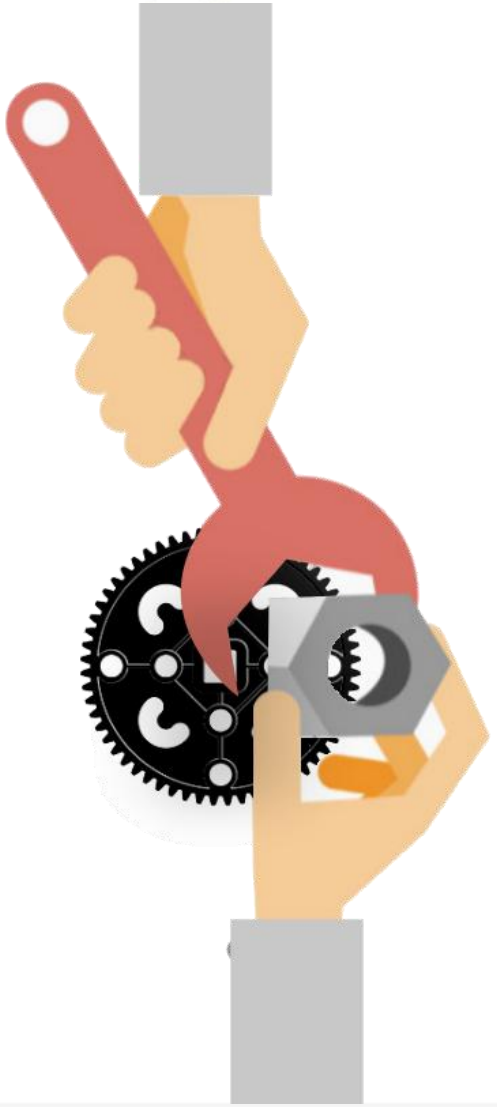
安全提示

（1）请小心使用坚硬、尖锐以及细小的零件。

（2）运行过程中，请勿触碰电机、齿轮等运动部位。

（3）在使用及充电的过程中，请注意用电安全。

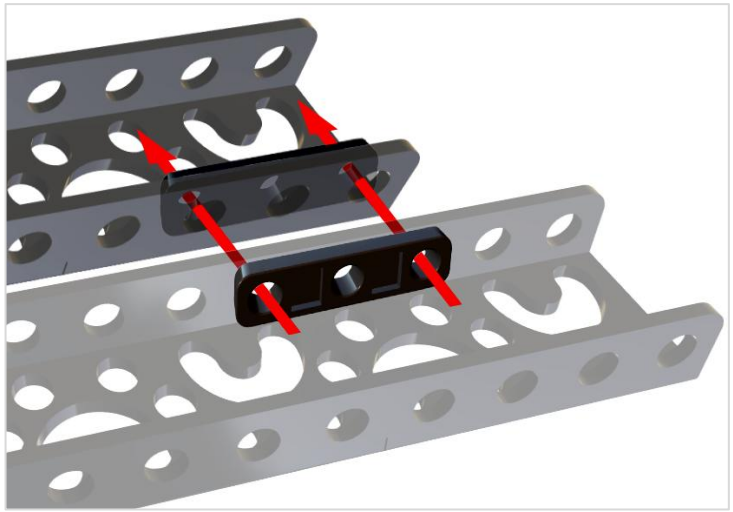




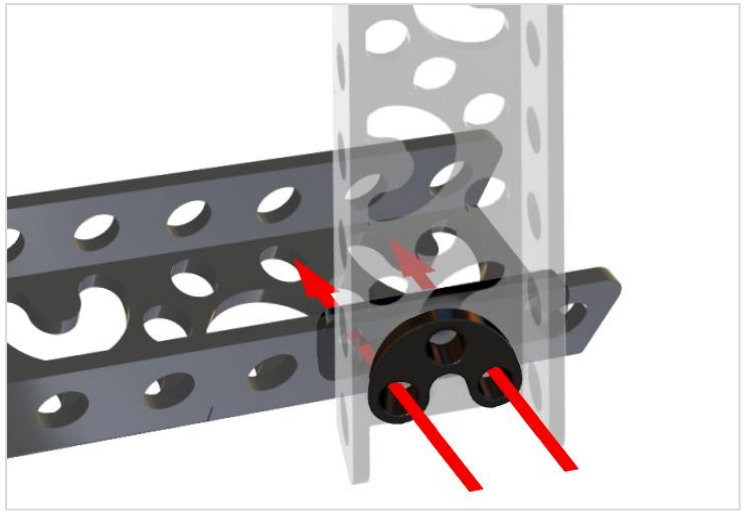
THE COPYRIGHT BELONGS TO RESENWINFULL COMPANY
COPYING AND DISSEMINATION ARE NOT ALLOWED

搭建提示

轴承块的用法



使用 **条形轴承块** 使结构连接更稳固

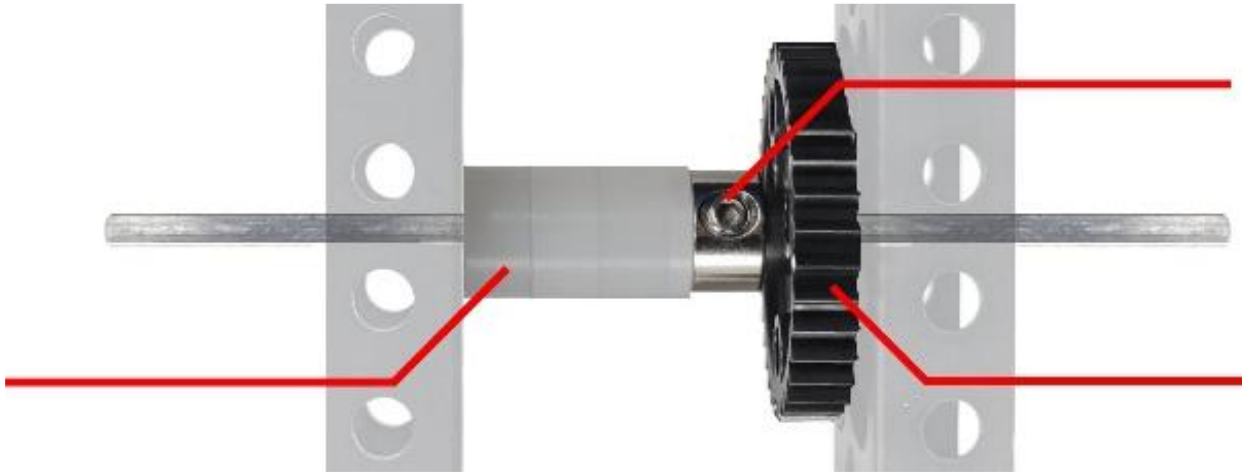


使用 **U形轴承块** 使结构连接更稳固

THE COPYRIGHT BELONGS TO RESENWINFULL COMPANY
COPYING AND DISSEMINATION ARE NOT ALLOWED

搭建提示

垫片和细轴杯士的用法



拧紧细轴杯士 上的螺丝，来 **固定** 细轴的位置

使用 **垫片** 填充 **空隙**，可减少轴的晃动幅度

合理使用垫片和细轴杯士，可使齿轮或车轮 **平稳转动**

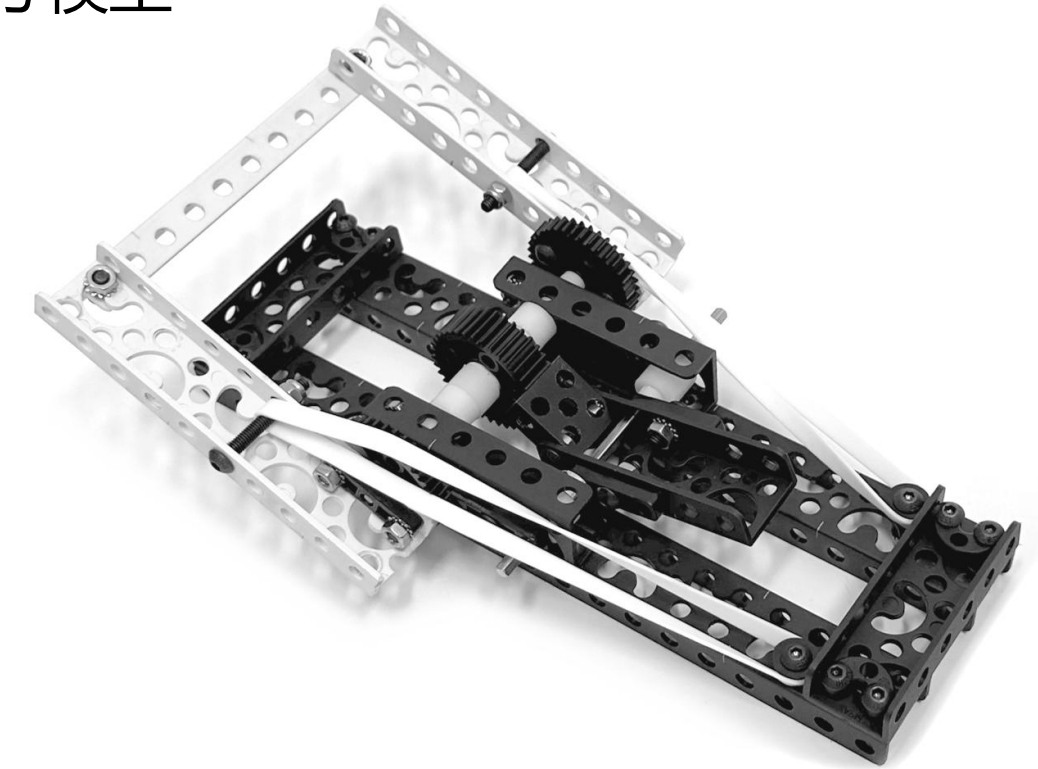
THE COPYRIGHT BELONGS TO RESENWINFULL COMPANY
COPYING AND DISSEMINATION ARE NOT ALLOWED

动手做

STEAM 创意课堂

捕鼠器参考模型



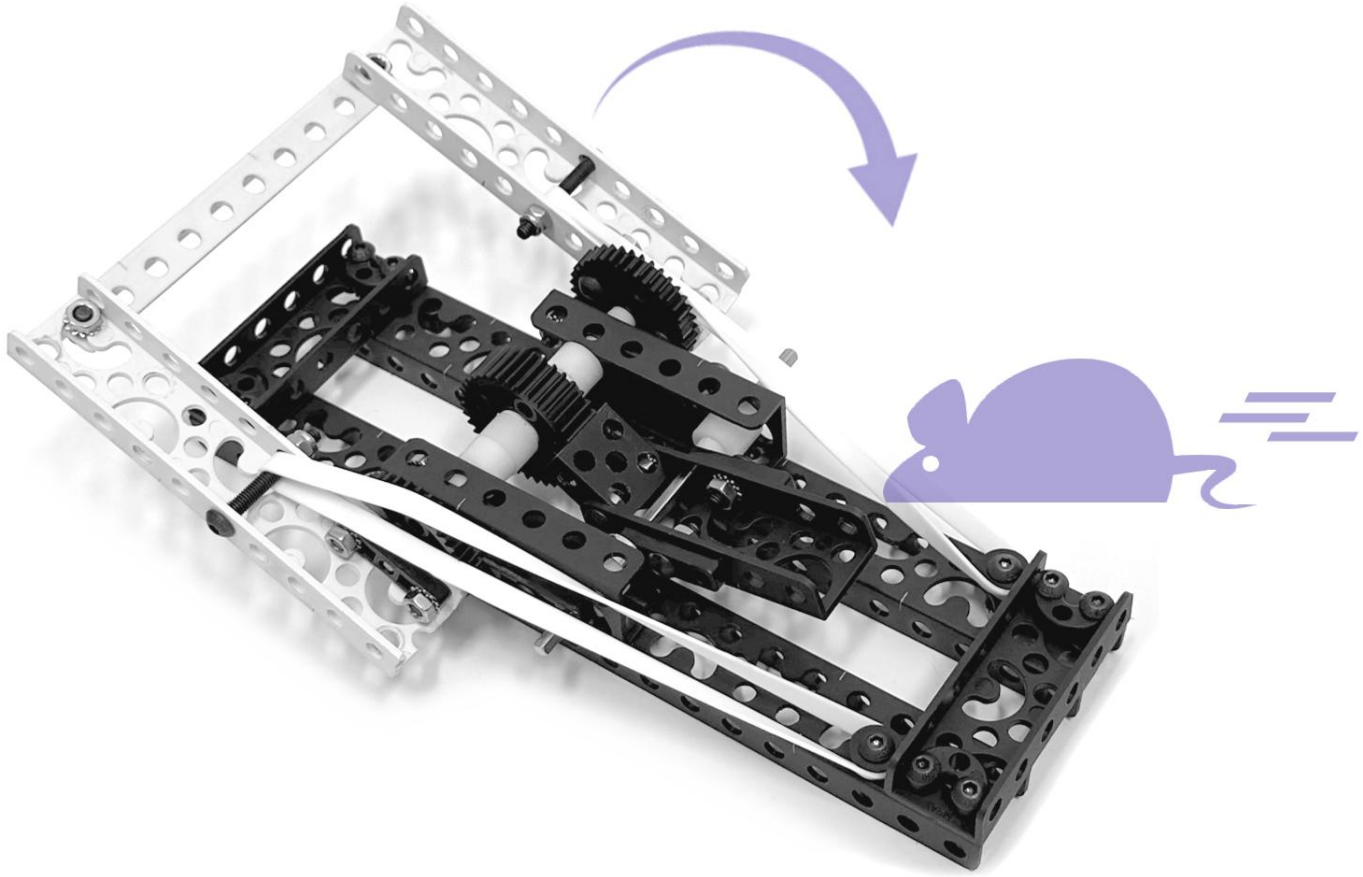


THE COPYRIGHT BELONGS TO RESENWINFULL COMPANY
COPYING AND DISSEMINATION ARE NOT ALLOWED

动手做

STEAM 创意课堂

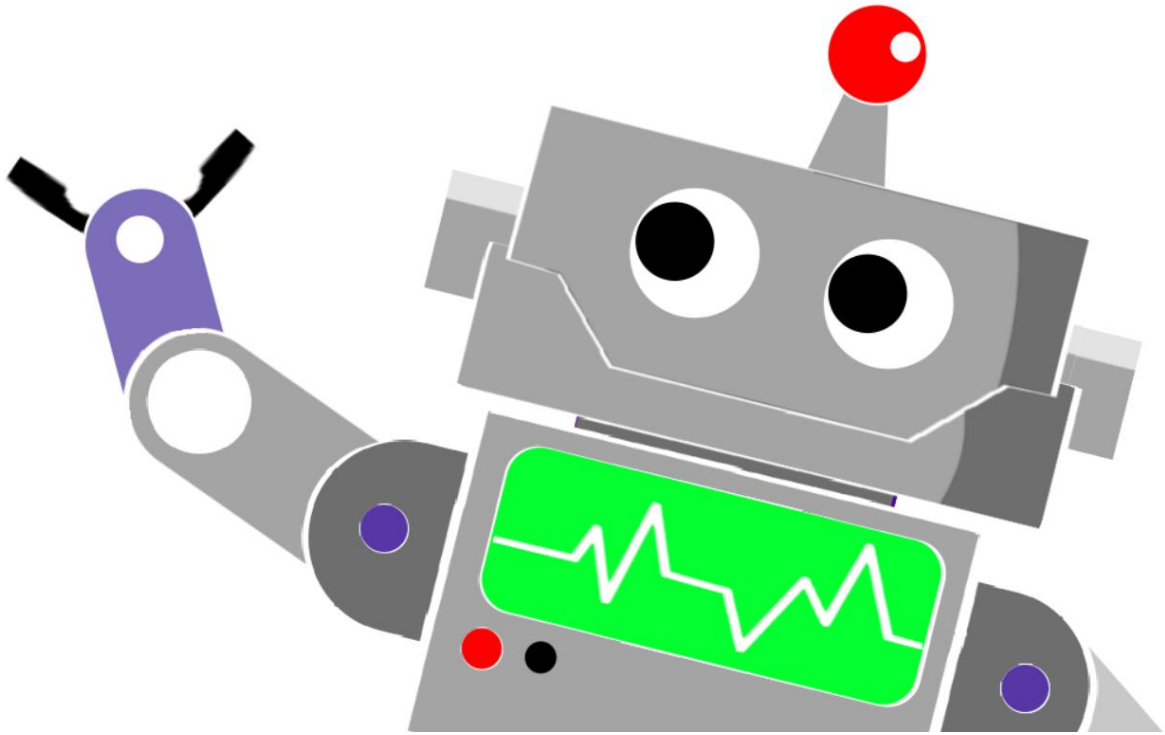
捕鼠器参考模型



THE COPYRIGHT BELONGS TO RESENWINFULL COMPANY
COPYING AND DISSEMINATION ARE NOT ALLOWED

反思总结

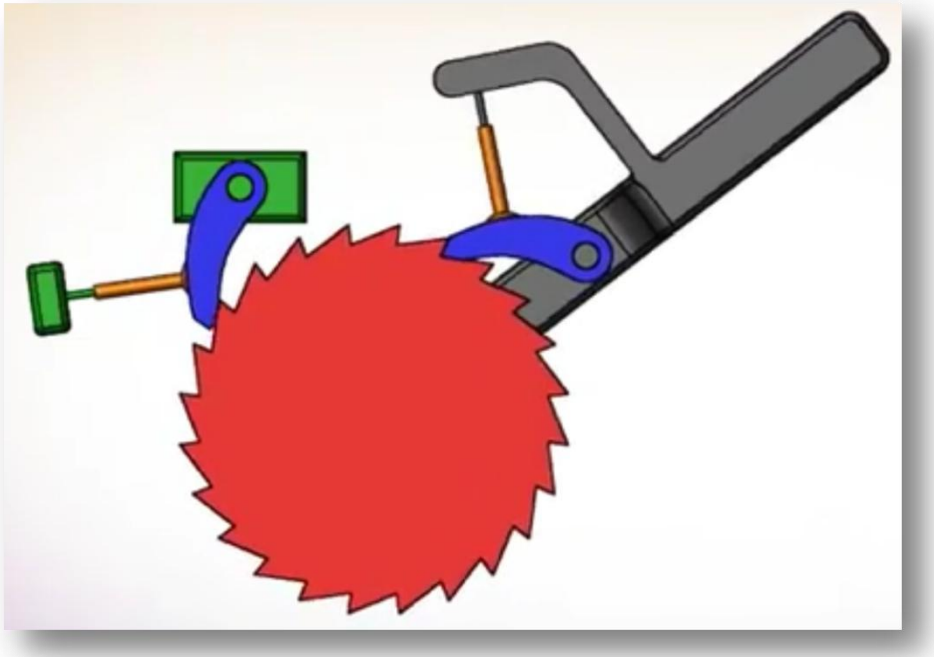
想一想，捕鼠器是如何实现角度调节的呢？



THE COPYRIGHT BELONGS TO RESENWINFULL COMPANY
COPYING AND DISSEMINATION ARE NOT ALLOWED

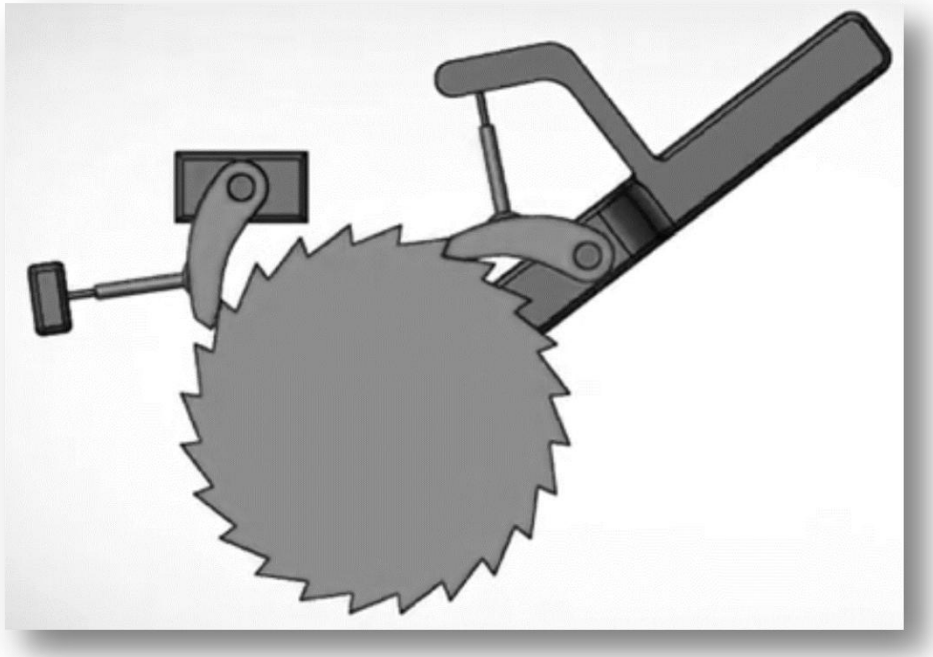
反思总结

捕鼠器的棘轮棘爪机构



THE COPYRIGHT BELONGS TO RESENWINFULL COMPANY
COPYING AND DISSEMINATION ARE NOT ALLOWED

反思总结



棘轮棘爪的特点：

单向间歇运动机构

THE COPYRIGHT BELONGS TO RESENWINFULL COMPANY
COPYING AND DISSEMINATION ARE NOT ALLOWED

反思总结

生活中还有哪些地方存在棘轮结构？





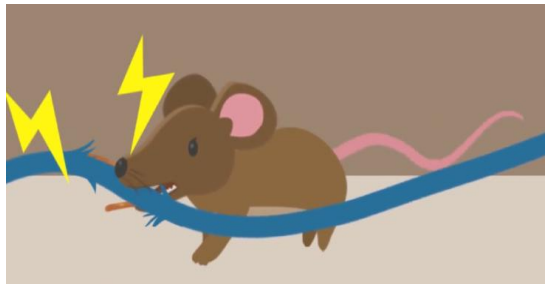




THE COPYRIGHT BELONGS TO RESENWINFULL COMPANY
COPYING AND DISSEMINATION ARE NOT ALLOWED

反思总结

你知道老鼠有哪些危害吗？



老鼠有磨牙的天性，会啃噬电线、电箱、衣柜、衣物等。



老鼠经常出没于下水道、厨房、垃圾堆等。会携带大量病毒病菌，对人类健康带来重大威胁。



老鼠喜欢打洞，这会破坏建筑物的基础，导致塌陷和局部塌方。



老鼠经常盗抢粮食，挖掘天地，破坏树木。对林业和农业发展造成影响。

THE COPYRIGHT BELONGS TO RESENWINFULL COMPANY
COPYING AND DISSEMINATION ARE NOT ALLOWED

反思总结

总结

棘轮结构具有什么样的特点?

生活中还有哪些棘轮结构?

THE COPYRIGHT BELONGS TO RESENWINFULL COMPANY
COPYING AND DISSEMINATION ARE NOT ALLOWED

STEAM 创意课堂

下节课见

