



Objectives and Sticky Knowledge

Previous Knowledge Recap:

- To sketch, measure and plan the chase of the vehicle
- To investigate how wheels work as part of a full mechanism including axels and axel holders
- To adapt mechanisms, measure and cut accurately to a design brief
- To follow a design brief to achieve an end product



Land Objectives and Sticky Knowledge:

<p>Draw simple diagrams to plan a moving monster.</p>	<p>Cut and assemble, using tools such as card, paper, glue and paper fasteners.</p>	<p>Explore and discuss existing objects that have linkages, levers and pivots.</p>	<p>Identify inputs and outputs as part of a mechanism, understand how linkages, levers and pivots operate together</p>
<ul style="list-style-type: none"> • I can help devise whole-class design criteria for what our moving monster should do • I can think of two of my own points to add to the class Design Criteria • I can draw two moving monster designs that meet all points of my Design Criteria • My design includes the linkage I will use to make my monster move • I can evaluate how functional my monster is and whether it meets the Design Criteria 	<ul style="list-style-type: none"> • I know how to make linkages by connecting levers and pivots • I know that materials can be selected according to their characteristics • I can design and make the features of my monster 	<ul style="list-style-type: none"> • I understand that linkages use levers and pivots to create motion 	<ul style="list-style-type: none"> • I understand that mechanisms are a collection of moving parts that work together in a machine • I know that there is always an input and output in a mechanism • I can identify mechanisms in everyday objects • I understand that a lever is something that turns on a pivot • I understand that a linkage is a system of levers that are connected by pivots

Links with 'Communication' Golden Thread:

Links with CST and CKA Values Crown:





Design criteria	A set of rules to help designers focus their ideas and test the success of them.
Evaluation	When you look at the good and bad points about something, then think about how you could improve it.
Input	The energy that is used to start something working.
Linkage	Lengths of material (for example, metal or card) that are joined together by pivots, so that the links can move as part of a mechanism.
Mechanical	Something that can move because several pieces work together like a machine.
Mechanism	A collection of parts that work together to create a movement, eg: a bicycle.
Output	Output is the motion that happens as a result of starting the input.
Pivot	The central point, pin, or shaft on which a mechanism turns or swings.
Survey	To ask a group of people questions about something and to use their answers to make improvements.

Moving monster

What materials could you use to represent fur, scales and claws?

The four types of motion:

Linear motion
Movement in a straight line in any one direction.

Reciprocating motion
Movement in a straight line, back and forth, in any direction.

Rotary motion
Movement in a circular motion.

Oscillating motion
Movement in a curve, back and forth.

- Sky Objectives:**
- Generate and communicate ideas using sketching and modelling.
 - Make a structure according to a design criteria.
 - Evaluating own design against a design criteria given.