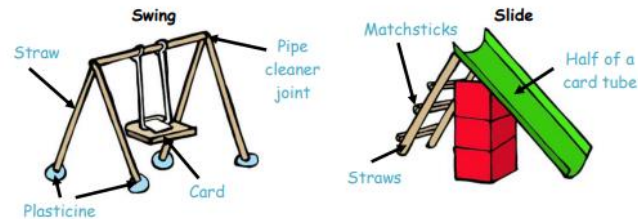




Freestanding Structures: Year 1 Knowledge Mat


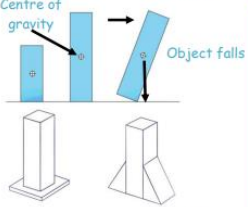

Subject Specific Vocabulary	
Freestanding structure	A structure that stands on its own foundation or base without attachment or anything else.
Frame structure	A structure made from thin components e.g. tent frame.
Shell structure	A hollow structure with a thin outer covering.
Stability	In relation to a freestanding structure, the extent to which it is likely to fall over if force is applied.
Buttress	A structure added to a wall, tower or framework to make it more stable and/or reinforce it.
Brick bonding	Arranging bricks in a wall to improve the performance of the structure or improve its appearance.
Mock up	3D representation of a product.
Rigid	Unable to bend or be forced out of shape.



Design
Generate ideas based on simple design criteria and own experiences, explaining what they could make.
Develop, model and communicate ideas through talking, mock-ups and drawings.
Make
Plan by suggesting what to do next.
Select and use tools, skills and techniques, explaining choices.
Select new and reclaimed materials to build structures.
Use simple finishing techniques suitable for the structure being created.

Evaluate
Explore a range of existing freestanding structures in the school and local environment.
Evaluate product by discussing how well it works in relation to the purpose, the user and whether it meets the original design criteria.

Health and Safety
Remove any jewelry, tie hair back tuck in tie, roll up sleeves and check shoelaces are tied.
Listen carefully to instructions.
Use equipment carefully.
Don't run with scissors.

Technical Knowledge and Understanding
<p>Know how to make freestanding structures stronger, stiffer and more stable.</p>  <p>Centre of gravity</p>  <p>Object falls</p> <p>As a freestanding structure becomes taller its centre of gravity rises. Stability in a structure can generally be increased by making the base wider, making the base heavier or adding buttresses.</p> <p>Ask the children to build and explore a variety of freestanding structures through focused tasks. Use a range of construction kits.</p> 
Know and use technical vocabulary relevant to the project.