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All activites hit 3 core areas of EYFS

		Year group	Accessible	Ambitious
✓Why seeds grow? What does a seed need to germinate? -Root systems, Deciduous tree. Acorn in a bottle of water		➔ **EYFS** Knowledge and understanding of the world ➔ Year 1 - Plants ➔ Year 2 - Plants ➔ Year 3 - Plants	Grow a stick of willow in a cup - observe root growth and leaf development	Keep Control experiment. Add sugar, salt to water: predict and measure
✓Properties of materials - scavenger hunt (do a hunt for five minutes)		➔ **EYFS** Creative development ➔ Year 1 - Everyday Materials ➔ Year 2 - Everyday Materials ➔ Year 5 - Forces	Provide a collection of materials (sandpaper, plastic etc) Ch find matching materials in nature.	Ch use reasoning to explain their choices. Answer questions such as ' What is the best material for an umbrella; lining a dog basket; windows for a greenhouse
Pushes and Pulls - pulleys, swings, see saw, (Forces in motion)		➔ **EYFS** Knowledge and understanding of the world ➔ Year 3&5 - Forces	Set up sizes, rope lengths etc for children to investigate.	Predict and measure: Size of wood used Angles Shape/size of pivot Length of rope (swing)

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All activites hit 3 core areas of EYFS

		Year group	Accessible	Ambitious
✓Kinetic to Potential Energy Energy transfer - Make MiNi Bow and Arrows		**EYFS** Knowledge and understanding of the world Year 1 - Use of everyday materials Year 2 - Use of everyday materials Year 3 - Forces and magnets Year 4 - Electricity Year 5 - Forces Year 6 - Electricity	Use toy cars/bikes to put concept into context	Propose the Law of Conservation of Energy and discuss. Ch produce drama, using key-words, to explain
Transpiration in action - plastic bag over a leaf to watch the water escape Both take time to observe….		**EYFS** Knowledge and understanding of the world Year 1 - Plants Year 2 - Plants Year 3 - Plants Year 5 - Living things & Habitats	Fresh leaf in a bowl of room temp water, bubbles of oxygen form around the leaf.	Select different tree species, location, times of year and compare transpiration levels.

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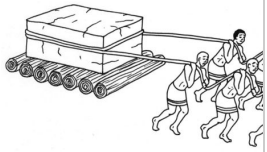
		Year group	Accessible	Ambitious
Pine Cone Hydrometer Accurate weather station?		**EYFS** - Understanding the world Year 1 - Seasonal changes / plants Year 2 - Plants Year 3 - Forces Year 5 - Forces Year 6 - Evolution	Ch observe puddles, play equipment as it dries out & gets wet. Bring some inside (radiator) to see what happens and discuss.	Use a Hydrometer to measure relative humidity levels. Move cone into different areas - wetter, drier - and locations and note changes. Also discuss times when pinecone does not accurately predict weather changes
Drag a pallet - friction - link to how Egyptians moved stones for pyramids		**EYFS -** Use of everyday materials Year 1 - Use of materials Year 2 - “ “ Year 3 & 5- Forces	Ch select different materials to pull, choose the best and discuss why.	Look at changes using a variety of surfaces; adding water to ground; number of people pulling. Bring scales out to weigh pallet and increase/decrease
✓3D shape strength - Build with bamboo & rubber bands		**EYFS -** Mathematics Year 1&2 - Use of materials Year 3 & 5 - Forces	Use mathsticks/small sticks and blutack - improve fine motor skills Provide examples to scaffold learning	Investigate strongest 3D shape

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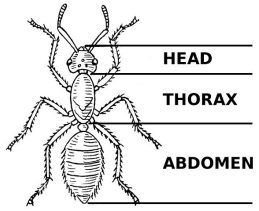
✓Wood water content - sinometer		**Year group** **EYFS -** Mathematics/Understanding the world Year 1- Seasonal changes Year 2 & 3 - Plants Year 4 - States of Matter Year 5 - Habitats Year 6 - Evolution	**Accessible** Use of vocabulary - very wet, very dry Sort sticks into piles	**Ambitious** Discuss range e.g. 15-70% Optimum for fire <20% (seasoned) Physical graph/diagram
Mini-beast Snap - grouping minibeasts once they have been found. Are they all insects? Annelids, Molluscs, Myriapods etc. Ch learn how to identify insects (Lation insectum - cut up into sections) from other invertebrates		**EYFS -** Understanding the world Year 1 - Animals Year 2 - Animals & habitats Year 4 - Animals & habitats Year 5 - Animals & habitats Year 6 - Living things & habitats & inheritance	Simple identification of minibeast names Ch group them/put them into friendship groups	Sort based on physical features, using key vocabulary Use 'convince me' as an invitation for ch to discuss their choices for classification.

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All activites hit 3 core areas of EYFS

		Year group	Accessible	Ambitious
✓ Hapa Zome (Japanese: 'Leaf Dye') - photosynthesis, plants, transfer of pigment		**EYFS -** Understanding the world Year 1 - Plants, Seasonal changes Year 2 - Plants & light *(Y3) Year 4 - Habitats Year 5 - Living things & habitat Year 6 - Light & Evolution	Press flowers and leaves between books/flower press	Ch make their own hammer and investigate the impact of materials, flower colours and varieties on end product.
Wormery (science links) Detritivores vs Compost Cup (tablespoon of water every couple of days) bacteria & fungus decomposition	 	**EYFS** - Understanding the world Year 1- Animals Year 2 - Plants Year 3 - Plants, rocks Year 4 -State of matter, habitat Year 5 - Materials, habitats, animals Year 6 - Evolution,Animals, Habitats	Dig for worms and investigate where and what time of year you find most worms. Do a worm dance (tap feet on ground) to imitate rain, as birds do. See the worms emerge and discuss why they do this.	Have a class wormery and investigate how the compostable items are broken down over time. Introduce a biodegradable bag and observe

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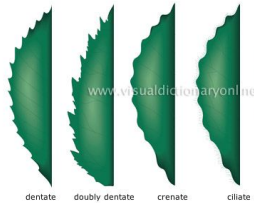
		Year group	Accessible	Ambitious
Willow - roots, sheer size and speed of growth. A simpler activity than growing a bean seed in cotton/paper towel		**EYFS** - Mathematics, Understanding the world Year 1 - Plants Year 2- Living things, Plants Year 3 - Plants, Light Year 4 & 5 - Living things, habitats Year 6 - Evolution, Habitats, Light	Place flowers in a cup of food colouring and observe the colour moving into the flower.	Adapt the temperature at which the willow is kept, noting impact. Alter light levels, container size. Measure water acidity over time.
Adaptations - leaf edges (14) beak shapes (9) Darwin, Galapagos islands, sycamore helicopters flight school		**EYFS -** Mathematics Year 1- Plants Year 2 - Plants & Habitats Year 3 - Plants Year 4 -Living things, habitats Year 5 - Habitats Year 6 - Evolution, Light	Compare sizes, in relation to how many toys can fit on the surface of each Reduce the number of leaves investigated.	Look for links between leaf edges and the origin of a particular species (native and non-native). How have they adapted to their environment? Look for patterns - Venn Diagram

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✓Venn diagrams, physical graphs etc	 	**<u>Year group</u>** **EYFS** - Mathematics Year 2- Living things & habitats Year 3 - Plants & light Year 4 - Habitats, States of matter (sort ice, water, steam) Year 5 - Properties of materials Year 6 -Habitats, Light	**<u>Accessible</u>** Less objects Simpler sorting for x and y axis	**<u>Ambitious</u>** Look for patterns in nature
✓Changing states of materials over a fire/tealight *Flammable *Inflammable *Non-flammable				

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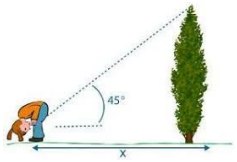
All activites hit 3 core areas of EYFS

		Year group	**Accessible**	**Ambitious**
Filtration - using a milk bottle Fab for Early Years				
Environmental Impact - leaving an area outside to rest/ regenerate				
Poppy seeds - viability of germination - some seeds 2000years old				
✓ Age of trees - measure, walk away and look between your legs (give instructions) to estimate height			Context: 600 year old Ash trees on Chosen Hill...they were 72 years old before Henry 8th was even born, before the sun being the centre of the solar system was taken seriously(174yrs old),invention of the telescope (189 yrs old), Darwin's origin of species (440yrs old), Einstein's Theory Of Relativity (486yrs old).	

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