Name of Lesson: Marvellous Materials

Key Stage Level: KS1 **Subject: Science** **Prepared By: Diane Green** **Time: 40-45 mins**

Overview & Purpose:	**Education Standards Addressed:**
• **To identify common materials** • **To learn what 'recycle' means** • **To identify some items that can be recycled** • **To begin to understand that recycling is a good idea** **(NOTE: This lesson plan can be tailored to various needs)**	**This lesson covers what materials items are made from, what it means to recycle and why we should be recycling.**

	Teacher Guide	
Discussion **5-10 mins**	**Show children some common waste items** E.g. plastic bottle, scrunched up newspaper, plastic and card food packaging, glass jar, aluminium can, metal can, wooden object, scrunched up kitchen foil etc. Do they know what each item is made from? Clarify the difference between product and material. Where do our materials come from? Show pictures of sand, a tree, aluminium mine etc. • **Product:** A newspaper can be made from a tree. • **Material:** Wood is used to make a table.	**Materials Needed:** • Common waste items clean and safe to handle • On the presentation, include pictures of tree, sand, aluminium mine, landfill, Energy-from-Waste Facility etc. **Feely bag:** • Items of recycling and what they can be made into
Activity **10-15 mins**	**Feely Bag** **As a demonstration:** Put all the materials into a feely bag and invite one child to place a hand inside, feel one of the objects and describe it to the rest of the class. The class can guess which material and object they think is being described. *Take care with sharp edges	

	This could be done once or twice to the class but then to sustain interest the children would benefit from maybe a range of 6-8 objects in a feely bag to take it in turns in smaller groups of 4-5 to guess and describe. • Alternatively, less resource heavy we often play back 2 back guessing games – so even just from a picture the children describe what the object is like and the other child guesses or draws it on a whiteboard, then they turn around compare and check their guess then repeat.	**<u>Bin Sort Activity:</u>** • Pictures of waste items and recycling bin sheet • Use the version according to which borough their school is located in. 
Discussion **5 mins**	**<u>What would happen if all these things were thrown away?</u>** Discuss the need to mine materials or grow materials to replace them. What is the alternative? Can they be recycled? If so, what can they be made into? • Children probably only know most common examples of trees for wood, paper, etc. **<u>Examples:</u>** Aluminium can be recycled and then not only be made into aluminium cans, but also be made for example, into parts for a car or a bicycle. Recyclable Plastic Bottles can be melted into fibres, which eventually make a fleece or a carpet. Paper can be made from two different varieties of wood: • Hardwood (e.g. Birch) can be used to make writing and printing paper so that it is heavy and smooth. • Softwood (e.g. Pine) can be used to make stronger and more durable for materials, including corrugated boxes.	
Video **5 mins**	**<u>Videos</u>** **Animation:** https://www.ubbgloucestershire.co.uk/education • A two-minute animation to demonstrate how an Energy from Waste facility works, and what happens to the waste when it is brought to the site, where it is burnt to create electricity. **Facility Film:** https://www.ubbgloucestershire.co.uk/resources	

	• A three-minute film to demonstrate how the different areas of the facility work and how the waste is treated, as explained by the Operations and Maintenance team at the Gloucestershire Energy from Waste Facility. There are two films, one of which has subtitles.	
Activity 10-15mins	**<u>Bin Sort Game</u>** Split class into the same groups to do a 'Bin Sort' using pictures of various items and then place them on the sheet in the various recycling bins, boxes or bags etc. for their local council recycling.	**<u>Additional Notes:</u>** We can loan educational facilities both feely bags and bin sort games if necessary. Please contact the Community Liaison Officer through our website
Discussion (Following the Bin Sort Game Activity) 5 mins	**<u>Where can the remaining items go?</u>** • Recycling centre – large appliances, car batteries, electrical items, garden furniture • Textile bank – clothes and shoes • Soap bottle pumps – cannot be recycled • Batteries – collection points • Black plastic – can be recycled, but not scanned by the machines	
Activity 10-15mins	**<u>Quizzes</u>** Various quizzes to choose from. Links to quizzes: https://www.educationquizzes.com/ks1/science/materials-common-materials/ https://www.educationquizzes.com/ks1/science/materials-different-materials-for-different-jobs/ https://www.educationquizzes.com/ks1/science/materials-choosing-the-right-material/ https://www.educationquizzes.com/ks1/science/materials-different-materials-for-different-jobs/ https://www.educationquizzes.com/ks1/science/materials-metal-and-non-metal/	

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