Year 5 SCIENCE Topic 3: Materials Matter (6 Weeks)		
Assessment Questions: Do you think climate change is a reversible or irreversible change? How could you separate a solution? Can you name one reversible and one irreversible state of matter? Can you give an example of a mixture and an example of a solution? How could you separate a mixture? What is the difference between a mixture and a solution?		
Values: Perseverance and Respect		
KNOW	DO	UNDERSTAND
NC: compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets **N.C. know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution** **N.C. use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating** **N.C. give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic** **N.C. demonstrate that dissolving, mixing and changes of state are reversible changes** **N.C. explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda** ***Vocabulary:*** *properties, solubility, transparency, conductivity, electrical, thermal, magnetic, solution, mixture, dissolve, filtering, sieving, evaporating, reversible and irreversible.* Children know how to test whether a product's hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets. Children know that some materials will dissolve in liquid; this forms a solution. Children know how to extract the substance from the solution – heating the liquid so it evaporates. Children can give examples of solutions, e.g. tea with a sugar in, or the ocean. Children know what a mixture is and can give examples, e.g. sand and water or sweetcorn in water. Children know that you can use filtering, sieving and evaporating to separate elements of a mixture. Children can use knowledge of solids, liquids and gases to decide which method to choose. Children know why everyday materials are used – e.g. why do people use plastic bags over paper? Children know that some changes of state are reversible – e.g. water, ice, steam or salt and water. Children know that some changes of state are not reversible, e.g. burnt toast, action of acid (link to yr4 learning on teeth and apple juice) or cake mixture → cake.	**WS: planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary** **WS: recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs** **WS: using test results to make predictions to set up further comparative and fair tests** Children can record the data from experiments in tables and then produce graphs showing the changes. Children can group different materials together. Children can make predictions using their scientific knowledge – linking particularly to this NC objective → N.C. use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating Children can draw conclusions and write explanations about what they discover. Children know how to make their test a fair test. Children can talk about which variables they are controlling and how they are controlling them.	*PRIOR LEARNING: Children have studied different properties of materials in year 2. They tested materials, including waterproof, transparent, opaque etc – solubility and conductivity is new learning.* Children understand how their learning in year 4 about teeth and acid links to an irreversible change. Children use their year 4 learning about electricity to test whether different materials conduct electricity. Children learn in year 4 about gases, solids and liquids. Children understand the effect of using plastic as a material on our environment. This will link to English, as they will write a persuasive piece about plastic pollution.

<table>
<tr><th colspan="3">Year 5 MUSIC Topic 3: Materials Matter</th></tr>
<tr><th>KNOW</th><th>DO</th><th>UNDERSTAND</th></tr>
<tr>
<td>I know that:
• Music is structured in different ways (binary, repeated verse and chorus, rondo, use of a coda)
• Jazz music has a traditional set of instruments that are often used and that improvisation is a key element
• Rhythms can be repeated and layered over each other to make a groove.
• Any objects can be used as soundmakers.
<u>Vocabulary:</u>
binary
rondo
coda
verse
chorus
Structure
melody
Improvisation
groove</td>
<td><u>Music express: Year 4 unit ‘recycling’</u>
The children will watch ‘paper tree’ and explore how to make musical sounds out of paper. They will listen to the contrasting sections of the music (binary form) and look at the techniques used to make sounds. The class will then compose a ‘groove’ (repeated pattern of percussion sounds in layers) and evaluate each other's performances. They will listen to and learn the song ‘Jazz Junk teaching’ They will then experiment making a brush-paper snare with recycled materials to accompany the song. They will then listen to the song in more detail, identifying the sounds of the five traditional jazz instruments: drum kit, double bass, vibraphone, trombone and piano. They will then experiment with making these instruments out of junk and follow graphic notation to play the rhythmic patterns. They will perform following a structure where the verse is repeated as an instrumental section before the song ends with the chorus and a coda. Once they have followed the score (and sung along if possible), they will look at how some of the sections are improvised and that this is a feature of jazz music.

The children will see if they can add their own improvisations. The children will then move onto exploring a piece of music called ‘Recyling Bin Bhangra’. They will find that this is in a rondo structure (ABACA+). They will rehearse the different chants and rhythms in groups and then put together, following the structure. They will then use recycled objects as instruments to improve the performance. Finally, they will listen to ‘the seagull on the tip’ which combines a flute melody with the bhangra rhythms with a rondo structure. The children will then have the opportunity to compose their own recycling rondos, to include an improvised melody or rap.
Cross curricular links:
This links to materials matter – the children can collect items which need recycling in order to make them into music. In the following DT week, they then design and make their own instruments.</td>
<td>This follows on from Year 3 where the children looked at the structure of music and have learnt about binary form, rondos and the use of a coda. This unit builds on their previous knowledge and puts it into the context of the Jazz genre. They have experienced improvising as a class but have not tried this in a solo way over the top of their peers’ music making.

<u>NC Areas covered:</u>
• Pupils explore structure, timbre, and appropriate musical notations
• Pupils play musically, with increasing confidence and control
• Pupils appreciate and understand a wide range of music, across a range of genres and traditions
• Pupils use their voices expressively
• Pupils understand and explore how music is created, produced, and communicated</td>
</tr>
</table>