**Year 4 Science – Changing states of materials**

**Ideas to Support your child with Science learning**

**Animals**

Year 4 have a great understanding of animal groups. Sort your favourite animals into groups and think about the characteristics. Use these characteristics to create a classification key. This could be done on 2question on purple mash or writing it out in your book. You could make a quiz using your characteristics and understanding of animal groups. This can be done on 2quiz on purple mash. It could look something like this: <https://wordwall.net/resource/189455/animal-classification>

**Sound**

Children can explore what pitch is and how different pitches are made. The pitch of a sound is how high or low the sound is. A high sound has a high pitch and a low sound has a low pitch. If you have different instruments at home, you can explore which parts of them make a low and high pitch.

You could try this experiment at home: Fill five identical containers with different amounts of water. Strike each container with a suitable instrument e.g. a drumstick and listen to the sound. By listening to the sound, try put the containers in order of pitch- lowest to highest.

**These are some questions you can discuss and think about:**

Which do you predict will make the lowest and highest pitch?

How will you record your results?

How are you going to make it a fair test? What will you change? What will you keep the same?

What are your conclusions and what did you find out?

**Materials**

**Investigation 1:** Children can observe different materials and see how they change state when they are heated and cooled. Discuss different materials that change state when heated and cooled and investigate the melting points. If you have ice, chocolate and butter, you could investigate how long it takes to melt and how they turn from solid to liquid. Children could come up with an experiment plan to test this. Children could record their results in a table. Discuss predictions first and then use your results to see if your predictions are correct.

You could choose how to display your results including writing a paragraph or drawing a graph.

**Investigation 2:** This could be an investigation which is done throughout the day. What will happen to the water at three different temperatures? Have three different bowls, 1 with boiling water, 1 with water at room temperature and 1 with Ice. Investigate what happens to them, if you have a thermometer you could record the temperature and record your findings like the table below.

**Questions to think about:**

How will you make it a fair test?

How will you test the water?

How will you record your results?

What conclusions have you made?

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| **Bowl** | **Temp. at****10.00am** | **Temp. at 10.30am** | **Temp. at 11.00am** | **Temp. at 11.30am** |
| **A (hot)** |  |  |  |  |
| **B (room)** |  |  |  |  |
| **C (ice)** |  |  |  |  |