Y4 - Summer 1 – States of Matter

Things to include each half term:
1 x active learning
1 x outdoor science lesson
3 x experiments/investigations
1 x child-led investigation
3 x examples of working scientifically

Science display: Different particles, Key questions, Key words, Real life examples, Pictures of experiments, Water cycle, Pictures of different Solids, liquids and gases. Key facts about melting and freezing.

Science Adventure
Medium Term Planning

Lesson 1 – Introducing S,L,G
KWL GRID
Give children different Solids, liquids and gases (do not tell them) ask them to group them based on however they think. Discuss the groups.
Introduce Solid, liquids and gases. Do we need to rearrange? Do some fit in more than one category? What is your thinking?
WORKING SCIENTIFICALLY
Remind children of the different mediums. Ask children to go to playground. Ask the children to act out the different mediums.
OUTDOOR LEARNING
Key points – Liquid can change shape and pour.
Solids do not change unless cut.
ACTIVE LEARNING

Lesson 2 – Looking at changing state
Show the children a solid changing to a liquid and a liquid changing to a solid.
What temperature are they changing at?
Can we get anything back?
Give the children some objects and ask them to try and get them back to their original state or ask how they would get them back. INVESTIGATION
Show children the variable of how we melt and freeze.
Children need to know the temperature by end of this lesson.
WORKING SCIENTIFICALLY

Lesson 3 – Gases
Engage children with the balloon and baking soda experiment. EXPERIMENT OUTDOOR
Start lesson with water in 3 different places.
Which do we think will evaporate first? Why?
Predict what will happen – Come back to this next week and check throughout the week.
Experiment with boiling water – What is the water turning into? Place the mirror above the water.
Steam to water – turns back to liquid.
What is happening? Discussion.
WORKING SCIENTIFICALLY
INVESTIGATION

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Science Adventure
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Lesson 4 – Water cycle

Draw graph of results and explanation.
Introduce the water cycle.
What is it?
Why do we need it?
Show the children a video of the water cycle and then act it out.
ACTIVE LEARNING.
Create the water cycle in the cup
EXPERIMENT.
Write up what they can see is happening and the importance of the cycle.

Lesson 5 – Thermal insulators.
Child Led experiment
Give the children 4 cups of liquid that has been frozen so therefore it is a solid. Then give them a range of materials. Which materials will melt the liquid the quickest? How are we going to record our results?
Explanation and graph to record results.
Discuss what a thermal insulator is.
When would we need to use them?
What is the relationship with the material and the results?
WORKING SCIENTIFICALLY

Lesson 6A – Make your own solar still.
Use knowledge of water cycle.
Don't tell them what the solar still does or how it works. Ask them to predict, make, leave and come back to. How did the water become clean?
CHILD LED
WORKING SCIENTIFICALLY

Lesson 6B – Thales
Children are to research this scientist and create a fact file/presentation to present back to the whole class.

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