Science - Year 4

State of Matter – Block 4SM

States of Matter Scientists

Session 1

Resource Pack

Solid	Liquid
Keeps its shape	Spreads out to fill the bottom of a container
Cannot flow	Can flow
Has a fixed volume	Has a fixed volume
Cannot be compressed	Cannot be compressed easily
Cannot move through it	Can move through it
Particles packed close together and can only vibrate	Particles can move or slide over each other
Feels hard	Feels wet
Maintains its shape and its volume	Maintains its volume but not its shape

Filming Science Expert Episodes
(Information for teachers)

At the end of each session, or at a separate time after the session but before the next one, allow chn some time to present their learning in a short 'Science Expert' episode. This should get quicker throughout the block as they become used to what is expected.

Explain that throughout this topic they will be become experts on states of matter and at the end of each session chn will work in groups to present a science episode showcasing everything they have learnt in that session. They will then recreate their science episodes at a final 'Class Science Fair' where visitors (parents/governors/other classes, etc.) will be invited in to learn from you.

Watch a short clip http://www.bbc.co.uk/iplayer/episode/b069yq0t/nina-and-the-neurons-get-building-1-triangles (you may have to copy and paste this link) as an example of using a simple practical enquiry and evidence to answer a question. There are a range of 'Nina and the Neurons' investigations.
If available, put on a lab coat and protective goggles and demonstrate presenting a science episode, using some of the pouring, stirring and observation tests as evidence for classifying different materials as a solid or a liquid.

You model asking questions and answering them (set up another adult or child to ask a question). "Is this a solid or a liquid? Here are some simple things you can do to find out." Cover some of the tricky materials such as sand and explain how people can classify it.

Put the class into five groups. Within each group, 2 or 3 people could present, someone could sort the resources, another could ask a question and another could be the cameraman. This may take a while for the first session, but it should become quicker throughout the block. The films can be used as another form of assessment. They can also be shown at the science fair. If there are not enough cameras for one per group, they can mime the camera action and the teacher can choose one group to present and be filmed at the end.

By ending each session in this way, this should develop and provide evidence for the Working Scientifically objectives: *setting up simple practical enquiries AND using straightforward scientific evidence to answer questions or to support their findings*, as well as helping to consolidate their learning.