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| Class A |
| **Fire extinguisher task**  Introduction:  *This is to find out what you are thinking so we can plan learning for you. To do this we need you to explain your thinking as much as you can. The only way to get it wrong is to write something that is not your thoughts.*  Play video  After 15(?) min or when students seem to have almost run out of ideas, show key words and ask them to underline them if they have used them already and write some sentences with them in if they can. |
| **Introduction**  *We will be trying out some new videos designed to help learning. Your feedback is welcome so think about what works for you and how they could be improved.*  *In the videos you will hear the words sort, group, classify and organise. These are all about looking for similarities and differences so that similar things can be put together.*  **Play video**  **What do you know sheet**  Briefly discuss questions and then students complete own record |
| **Explain/ practice**  *The video you will see now explains what you need to know about solids, liquids and gases. After you will look at some examples. During the video you will be asked to answer questions on what you have heard and seen. Use the question sheet for this.*  **Show video**, pausing where prompted for students to answer questions.  **Materials investigation (record sheet)**  *Now you get to try this. For each of the materials you have, record whether you think it is a solid, liquid or gas. The most important part though is to explain your thinking. If you finish all of the samples provided, see how many different examples you can find in the room or from your experience.* |
| **Explain - The important stuff sheet**  *This is a chance for you to record the main ideas so you can use them in investigations* |
| **Elaborate**  **Jet trails and mystery bottle**  *In these tasks you don’t have all the information you would like. You need to think about what information you do have and what else this might tell you – a bit like detectives using cluse to solve a crime. The most important thing is to explain your thinking.*  Record thinking on the classifying in action sheet. Support by asking questions to help them make links. *E.g. even if you’ve never heard of Bromine, what do you know about the other part of the label?* |
| **Elaborate**  **Particle drama**  Explain along the lines of:  *All matter is made of particles too small to see. You may have heard them called atoms or molecules.*  *Explain that scientists think that the different properties of solids, liquids and gases can be explained by how these particles move.*   * *Solids are close together and vibrate* * *Liquids they are further apart and move more freely* * *Gases they are even further apart and move faster, bouncing off each other and the walls of the containers*   *Because they are too small to see, we can’t show you evidence but this drama is a model which may help you understand.*  Distribute the cards randomly throughout the class and ask students to find the other members of their group, read the instructions and rehearse their act. (Could split each into two groups so that everyone gets to see their own group as well.)  Run each for 30 seconds. Make links to the actors movement, the particles and the properties of the three states  **Complete solid, liquid gas drama sheet.** |
| **Elaborate**  **Honeycomb**  *What solids, liquids and gases can you find? How do you know?* |
| **Evaluate**  **Fire extinguisher task revisited**  *How do you think differently now?*  Encourage explanation  Add particles to list of key words  **Camp cooking task**  *What information can you provide about storing and transporting these fuels. Explain.*  After 15 min show key words (solid, liquid, gas, particles). Underline or add to explanation |
| **Evaluate**  **How did you go sheet.** |