Lesson Plan 1

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| Learning Area: The different states of matter | Year Level : 7 | Class Size: 11 students (4 prac groups) |
| Topic: Water | | |
| Curriculum Connections: NSW Board of Studies Science Curriculum Year 7 - 10 | | |

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| Intended learning outcomes | The focus of the lesson will be:   1. observing changes seen during the experiment 2. taking accurate temperature measurements 3. recording observations and measurements 4. working collaboratively within their prac group |
| Link to development | This lesson will present several opportunities to observe the emergence of ability to think and understand. The questions listed below will demonstrate student’s processing information related to what they have observed and measured. |
| Assessment | I will know these outcomes have been achieved by seeing the results and observations recorded in their prac books. I will also be able to encourage observations by asking questions and having discussions with students by moving around and speaking to each prac group during the session.  I will collect responses to questions and samples of discussions as evidence of their learning. |
| Prep (negotiation) | A recap of the previous lesson and then an open discussion on the prac we are going to do I can get a good idea of what the students already know. I can build on their knowledge and experiences through encouraging them to tie today’s observations in with the previous learnings of the Fire and Air topics. |
| Procedure | **Engagement:** To start the lesson, we will recap the previous lesson where we began the write up of the prac. We will talk about where we see ice, water and water vapour and talk about what happens when particles gain energy. I will go over the method they wrote to confirm what they will be doing.  **Learning experiences:** I will need to talk about safety, and will do this by asking them what aspects of the prac are likely to have potential danger and what things we should and shouldn’t do with equipment.  **Classroom organization:** The prac groups will be formed by the students at each bench and each group will set up at one of the gas outlets along the bench.  **Dialogue:** During the prac I will move amongst the students and ask them what they are seeing, encourage them to write down their observations, and if necessary ‘lead’ them to observations by questions such as ‘what is happening to the surface of the water?’ Students will be able to ask questions as I am moving among them.  **Closure:** Once the prac is complete, students will return to their desks and work together so that all students have the results and observations in their books. We will then together prepare the results table and again moving among the students make sure that everyone is able to complete a graph. The end of the lesson will be a discussion on writing a conclusion, and I will ask them to have a go at doing this for homework. We can then us that as the starting point for tomorrow’s class. I will ensure all prac equipment has been put away, the board cleaned and chairs pushed in so the room is ready for another class. |
| Resources | Resources and equipment: Bunsen burners, matches, tripods, gauze mats, beakers, ice, stirring rods, thermometers. I will ensure all of this is available during the break before the class. |
| Questions | ‘What temperature did all of the ice disappear?’  ‘What happened to the surface of the water as it started to boil?’  ‘What else did you see?’  ‘What happened to the temperature readings when you stirred the solution? Why do you think this happened?’  I can encourage students to ask questions whilst moving among the prac groups. |
| Reflection on development | Students were asked to talk about how they see water in these three states of matter in everyday life and in nature. The discussion that ensued demonstrated how they are able to process the information learned during the practical session and related this to everyday life. Evidence of their perceptual skill was shown by their interpretation of sensory information to understand what was happening to the ice and water during the experiment. |
| Evaluation | Moving among the students worked really well. Getting the students to allocate one member of each group to take temperature measurements, one to time the intervals and one to record the results/observations worked really well. They then had to collaborate back at their desks to share the information for the write up. |