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| **School Name:** St. Columba’s Primary School, Elwood. | **Year Level:** 4 | | **Sessions:** 4 |
| **Overall aims/goal of the unit**   * We aim to encourage students to work as a team through emotional and social learning, when both working in groups and independently. * We aim for students to develop a thorough understanding about what a solid and liquids are and the difference between them. * We aim for students to develop knowledge about how solids can be recycled to live in a sustainable world * We aim for students to complete a Scientific Journal that is both cohesive and shows each student's’ understanding.   **Sc School priorities/frameworks and how this unit addresses them**  Through the encouragement of teamwork, we are ensuring that our unit of work promotes the students personal and social capabilities with working with others. Using a science journal, the students will be able to record their new insights and knowledge from what they have learnt across the unit. St Columbas Primary (2017) pride themselves on teaching respect and compassion and instilling these core values into the students.  This unit promotes collaborative work where students will need to use these values to work effectively with their other classmates. In regards to personal and social capabilities, the unit is formed around “effective educational practices” (Braithwaite & Corr,  2016, 166) that ensure students have the ability to improve and enhance their current capabilities with both individual and group work, highlighting  St Columba’s mission to teach their students skills such as cooperation and problem solving.  St Columbas implement the ‘Bounceback’ framework within their school which has a strong focus on social and emotional skills, building relationships and the importance of positive emotions (Noble & McGrath, 2017). The unit upholds these focuses by allowing the students to work with their classmates and develop or build on their relationships, as well as utilising their social and emotional skills. | | **Teaching approach chosen and how will it inform the goals and priorities of the unit and school community**  The “Socio-Scientific Issues” (SSI) approach to teaching science in the classroom will be the strategy used throughout this unit of work. This approach incorporates Vygotsky’s constructivist learning theory in which students have the opportunity to discuss, make decisions, develop their critical thinking and further enhance their reflective skills (Kollmuss & Agyeman, 2002). The Socio-Scientific Issue we will be focusing on is the issue of ‘recycling’ for the benefit of the environment. SSI helps to teach science content in a way that helps students become better at tackling the challenges of real issues in society. It allows them to apply what they learn inside of the classroom, to their outside world (Sadler, 2011; Zeidler et al., 2005).  In this way, our unit of work will become more meaningful and relevant to the students.  Teaching using the SSI approach means there must be an inclusion of social and cultural meaning (Kollmuss & Agyeman, 2002). The reasoning behind choosing recycling as the SSI is due to St Columba’s vast programs and willingness to contribute to a sustainable environment (St Columba’s Primary School, 2017). As students make the connection between the SSI of the unit and how their school values recycling, social and ethical development will prevail (Zeidler et al., 2005).  A SSI approach to teaching science is most successful when students are given the opportunities to work collaboratively and as part of a team (Sadler, 2011). This ties in well with the social and ethical capabilities of the school, which emphasise harmonious work and creating a friendly environment (St Columba’s Primary School, 2017). Sadler (2011) further concurs that in order for these interactions to be engaging, “it is important for all of the participants to demonstrate healthy respect for one another” (Sadler, 2011, p355). | |
| **Victorian curriculum learning area contents AND Capabilities informing the entire unit of work:**  **Content Descriptor:** A change of state between solid and liquid can be caused by adding or removing heat (VCSSU059)  **Eloborations:**  At the conclusion of the unit, students will be able to:   * Investigate how liquids and solids respond to changes in temperature, for example water changing to ice, or melting chocolate * Explore how changes from solid to liquid and liquid to solid can help us recycle materials | **Key science concepts, Skills and Capabilities to be learned:**  **Knowledge:**   * What is a solid? * What is a liquid? * What is the difference between a solid and a liquid? * How can an object change state into both a solid and liquid? * How does the change in temperature of a solid help us recycle? * What are some categories that we sort some solids into and how are they recycled?   **Skills**:   * How to work efficiently in a group * How to record predictions and findings using their senses and prior knowledge * How to classify objects according to their properties * Communicating to peers and teachers efficiently   **Capabilities:**  Personal and Social Capabilities  Overall in this unit of work, we are encouraging students to effectively work together with their peers. By students working in partners or groups, they are able to develop an understanding of empathy and recognise the importance of supporting their peers through the diversity of learners they are around. Within this capability, it is also aimed that students will develop and maintain respectful relationships and strategies to communicate in their groups and with their teacher/s. Through working collaboratively, it is aimed that students will be able to recognise and evaluate emotion to be able to contribute to developing empathy of themselves and others.   * Australian Curriculum and Assessment Reporting Authority [ACARA], 2014   Critical and Creative Thinking  Within this unit, we are encouraging students to be creative and innovative young learners that have the confidence and skills to be critical and creative thinkers. This capability links well with the teaching approach of the unit through being able to critically and creatively think how their actions can affect the environment they live in. Students are encouraged as well as challenged to think beyond basic knowledge to create their own understandings of the world which then fosters their learning to be motivational and explorational to create a sense of purpose to why they learning these certain things.   * ACARA, 2014 | | |
| **Overall structure of the unit:**  **Session 1:**  Goal:  Get to know students and for the students to create an understanding about what will be spoken/learnt about in the following lessons.  **Session 2:**  Goal:  For students in small groups, to investigate and identify solids to liquids and the properties that categorise these and for students to understand that different material can change state  **Session 3:**  Goal:  For students in small groups to develop and consolidate their knowledge of how the change in temperature of a solid can help us live in a sustainable world  **Assessment in brief:**   * Overall unit assessment rubric- students will be assessed on the overall unit in meeting knowledgeable and skill goals for the unit [Found in Appendix] * Observational Note Taking * Exit tickets- students will complete a quick or short reflection in relation to the lesson or future lesson so teachers can gain an insight to the students learning and what can better be improved for next lesson | | | |