

## Ideas for integrating Waste into the Curriculum using Domains and Learning Focus Levels

		Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
<b>Physical, Personal and Social Learning</b>	<b>Health and Physical Education</b>	Environmental Games; Describe what must happen to waste to keep us and the environment healthy; Investigate how waste removal and landfill sites are managed so that community health is maintained; Use school Canteen to review packaging/waste; healthy vs. non healthy nutrition; School clean up day; What happens to human excrement?; Ways to get usable energy from human waste.					
	<b>Interpersonal Development</b>	Working and learning in teams; Eco Captains; Waste Wise Monitors; Peer leaders working with younger students to maintain waste systems eg worms/chooks and emptying compost buckets; Understanding waste problems globally- diff cultural beliefs/behaviours; International case studies; How do we affect waste produced in other countries?; Social responsibility to look after environment; 'Do the right thing' role play.					
	<b>Personal Learning</b>	Setting goals and managing resources; Recognising and enacting appropriate values within and beyond personal context; Think Globally, Act Locally, Respond Personally; How can students positively contribute to reduced waste production?; Use different learning centres; Guest speakers on waste topics.					
	<b>Civics and Citizenship</b>	*Shopping Corner- what is rubbish?  *What is rubbish at home and at school?  *Clean Up Aust. Day.  *Responsibility/rights of consuming items.	*Recycling and reuse stations in classrooms.  *School Clean up Day.	*Invite a guest speaker eg local Waste Education Officer, set up worm farms & veggie garden  *Follow a waste trail from package to end. *Investigate laws relating to waste disposal from local industry.	*Explore "waste" in different cultures.  *Make chart/ timeline to show the changes in waste materials over the last century.  *Research the issues surrounding Nuclear Power and waste.  *Role of government in managing waste	*Research the different roles that the three levels of Government play in waste reduction. *Participate in an excursion that inspires students to take action at school & in local community. *Elect Environment Captains & work with local organisations on a waste issue.	*Develop an action plan which demonstrates knowledge of a local waste issue and suggest strategies to raise community awareness of it.  *Develop a campaign to prevent littering/ dumping of rubbish in a local park etc.
<b>Discipline-Based Learning</b>	<b>The Arts</b>	*Create a puppet and story using waste materials.  *Act out being a piece of litter on its journey from home to landfill or MRF.  * Identify and draw some of the recycling codes/logos found on packaging.	*Using waste materials make a range of percussion instruments to make different sounds.  *Create and perform music & dance about waste or littering.	*Use a range of materials to construct an image of the future world or a future home, including ways that people of the future save resources.  *Interview someone about an environmental issue.	*Produce a TV show about recycling or a local issue involving waste.  *Compare traditional Australian artworks & materials used to make them to what we use today.	*Locate and experiment with appropriate natural & reused materials to develop music ideas.  *Use a range of collected waste materials to create a 2 or 3D presentation of an environmental issue.	*Develop a drama/ dance & perform for an audience the benefits of recycling & other positive effects in helping to reduce our waste problem. *Prepare a brief requiring the production of a webpage to help consumers shop more wisely so they produce less waste. *Make a sculpture for school garden made out of recycled materials

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	<b>English</b>	<p>*Match key words and objects in a story about recycling. Relate the story to their home.</p> <p>*Develop an Alphabet of "waste".</p> <p>*Read Big Books and simple readers on waste and recycling.</p>	<p>*Read and respond to short text or readers about litter in the environment.</p> <p>*Write a short piece about how litter can harm wildlife.</p>	<p>*Write, then tell the story about the trail of a piece of litter. Present different endings/scenarios for the piece of litter and discuss these with other students. Develop a character for the piece of litter.</p> <p>*Excursion to a MRF, identify issues on correct sorting for recycling and hygiene and design a poster to inform others.</p>	<p>*Collect a folio of newspaper articles (local, national and global) research one of these and write a letter of opinion/ support for the issue.</p> <p>*Locate information about recycling in the local area.</p> <p>* Develop a survey to determine any issues of supplying smaller bins to households to encourage less waste.</p>	<p>*Justify interpretation of environmental issues presented in a range of print and non-print texts by selecting supporting evidence. Identify similarities and differences in these texts produced by different people.</p> <p>*Write an argument that states and justifies a personal viewpoint about a waste issue.</p>	<p>*Using the Victorian Gvt "Our Environment Our Future" framework write a report describing what strategies are in place to address the issues of litter and waste and give an opinion as to whether or not these are effective.</p> <p>*Working with a local business, research ways they can and are working towards reducing their waste. Write a report with recommendations for the business.</p>

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<b>Humanities</b>	*Sort classroom items suitable for recycling.	*Journey of the Aluminium can	*Make a chart or timeline to show the changes in packaging over time.			
<b>Economics</b>	*Collect food waste suitable for the compost/worm farm and explain why this is important to us and the environment.  *Save Money by reusing things	*Invite a Grandparent to talk about waste in their younger days.  *Identify items made from recycled materials.  *Create a tip mural - draw things that people send to the tip. Could there be a better use?	*How much energy and money do we save through recycling?  *Compare waste management systems in different countries.	*Identify the types of manufactured resources and goods in Aust.  *Describe how cost to the consumer, education, changing values, commodity prices & technology have affected the recycling of certain materials eg. Paper *Wants vs needs-wasteful society	*Conduct research into the environmental impacts of logging of native forests for the purpose of paper production. Prepare a report on this. *Investigate the relationship between the current use of resources for packaging and the availability of these for future use. *CERES 2030 Trail	*Investigate and evaluate the local councils or school environmental policy.  *Economic growth, standard of living and waste- China & India growing middle class-increasing waste production. What can be done to address this huge environmental problem?
<b>Geography</b>				*Investigate the impact of litter and chemicals on the marine environment. Use maps of Port Phillip or Westernport Bay to map entry points of stormwater pipe drainage. Visit sites around the bay to observe and record the changes before and after rain.	*Land use and rubbish where is it coming from?  *Mapping of rubbish	*Develop a plan to decrease stormwater litter within the schools catchment. *Investigate the changes to the earths atmosphere caused by human activities and assess the contributing factors to these changes such as waste disposal, manufacture of packaging and methane from landfill.
<b>History</b>				*How has waste management changed in Australia over time?	*Investigate the change in human consumption patterns and waste disposal over time.	*Nuclear testing/war-waste repercussions for the future
<b>Languages Other Than English</b>	*Painting, songs, dance with a recycling/composting theme	*Make a 3Rs poster in LOTE language.	*Set up a shopping corner. Role play shopping for items that are "better choices" reducing waste to landfill in LOTE.	* Write a waste wise menu for breakfast, lunch and dinner in LOTE language.	*Compare the amount of rubbish per person LOTE country produces to Australia-why is it different?	* Research and report on the issues of landfill/waste disposal in other countries.

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<b>Mathematics</b>	<p>* Use shopping items to count 0-20 and backwards. Describe and draw their shapes, compare weights and best value for money, best value for the environment.</p> <p>*Litter Monitoring.</p>	<p>* Tally the frequency of items of waste the class produces from their lunch. Represent the results in a bar graph.</p> <p>* Using a variety of packages, sort three-dimensional objects by given criteria .eg. Their use, number of sides.</p> <p>*Litter Mapping.</p>	<p>*Use a map of the school grounds and paths showing the location of rubbish bins and recycling stations. Locate the shortest path to go past every bin, describe the location of the rubbish bins and recycling stations using grid references.</p> <p>*Organise a rubbish free lunch day, estimate the reduction in rubbish on the day.</p> <p>* Create a timetable so that every student takes a turn to collect recyclable materials and empty and clean the compost bin.</p> <p>*Conduct a waste audit on the school.</p>	<p>*Estimate the amount of rubbish that each student produces in one day.</p> <p>*Survey students attitudes to littering in the school, compare this to parents and teachers.</p> <p>*Enterprise project- recycling store or system at school.</p>	<p>* What is the schools consumption of paper. What areas of the school consume the most and the least paper. Present information on a spreadsheet.</p> <p>*Energy production from waste calculations.</p>	
<b>Science</b>	<p>* Identify things that can be composted - use a feely bag. Look at size, texture and where it came from.</p>	<p>* Investigate worm lifecycles.</p> <p>* Identify external features of compost animals.</p> <p>*Perform science experiments to see which materials will rot or change over time either in a compost heap or on the ground.</p>	<p>*Grow grass in Petri dishes with cotton and seeds. Use fresh water, oily water, water with detergent and vinegar. See which grows and relate this to plants in our environment and waste affecting our water supply.</p> <p>*What happens to recycled items?</p> <p>*Litter/recycling program involvement.</p>	<p>* Draw a flow chart of waste and natural water from the school to the closest lake/ river/ stream- storm water pollution from litter.</p> <p>*Investigate products made from recycled materials that are being used for insulation and report on the mechanisms of heat transfer for each product.</p>	<p>*Use the properties of materials in the recycling stream to suggest ways that materials can be efficiently separated at a MRF.</p> <p>*Outline and analyse several environmental problems caused by inappropriate disposal of toxic substances.</p> <p>*How can we better package items to reduce resource wastage &amp; be more sustainable?</p>	<p>*Investigate the sources of waste generated within the community. Consider the waste treatment and management options.</p> <p>* Calculate the schools and individual ecological footprints.</p>
<b>Interdisciplinary Learning</b>						
<b>Interdisciplinary Learning</b>	<b>Communication</b>	<p>*Research information about a compost creature. Use pictures to show different parts of body. Students develop a poster on the class rules for putting food waste in their worm farm.</p> <p>*Establish rules for worm farms.</p>	<p>*Invite a speaker to classroom to talk about waste/ worms/ recycling. Students can ask pre-prepared questions.</p>	<p>*Visit a local landfill site, then make a presentation to the class about the importance and reasons for the 3R's +C.</p>	<p>*Design &amp; implement a survey or questionnaire on students in the school &amp; littering. Use video to record the responses. Consider rules which could help the litter problem at school. Use the information to develop a school litter reduction plan. Present the findings &amp; recommendations to the class.</p>	<p>*Put together a campaign for the local shopping area to become plastic bag free.</p> <p>*Produce a documentary style TV show on Australia's policy on sending many recyclable plastics overseas for processing or export of uranium. Provide discussion questions to the selected audience.</p>

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<b>Design, Creativity &amp; Technology</b>	*Explore the use of common materials eg paper, cardboard, wood, wool, where these materials come from and what resources we need to make them.	*Using a range of different types of pots, (eg concrete, ceramic, plastic, paper) students describe their characteristics and properties and explore the suitability and usefulness of each. Students can make their own pot from waste paper and newsprint (or steel, plastic and glass).	*Design a poster to show the different ways materials are sorted at a MRF (based on excursion).  *Design a usable item made from recycled materials	*Design a suitable Chook shed to house and feed chooks living on site at the school. Make a model to show the class. Discuss other student's designs & agree on the most suitable.	* Investigate the increasing use of plastics in vehicles & the waste produced/ environmental impact of this trend  * Design and create environmentally friendly packaging for a confectionary company.	*Develop a design brief eg. Clothes made from waste materials that can be recycled. Or the reuse of used coffee grains from espresso machines in the hospitality industry, diverting it from landfill.	
<b>ICT</b>	*Use a simple computer drawing program to create shapes of some packages and recycling symbols.	*Using a range of recyclable and non recyclable items, students set up a spreadsheet to represent info about the products. What is the item, what is made of, shape, size texture, can it be recycled.  *Access a website eg <a href="http://www.ollierecycles.com.au">www.ollierecycles.com.au</a> for waste activities	*Follow instructions on a CD Rom eg Ollie Recycles activities. Communicate ideas/ discussion via email between students about the CD.	*Participate in a sustained correspondence through a medium such as email, online forums, exchanging ideas and opinions on texts about recycling, litter or a local waste issue.	*Using a range a multimedia explain the impact that litter and waste has on the environment and on our health.  *Create website/blog related to waste	*Working as a team, develop a campaign to reduce the amount of waste produced by the school. Create a website to support your campaign.	
<b>Thinking</b>	*Investigate the differences and similarities in worms for worm farms, compost heaps and garden. Their purpose and function and how they can help us.  *Classification of recyclable waste	*Explore and discuss different types of packaging and their function and purpose.	*Discuss and debate the reasons why people litter. Invite a speaker to present their thoughts on this topic.	*Investigate a local community issue on waste. Eg life of landfill, sewage outfall to bay/beaches. What is the problem and investigate some solutions.	*Research differing opinions and purpose of waste reduction events and their long term effectiveness in changing behaviour towards littering. eg. Clean up Australia Day, rubbish free lunch days, recycling week.	*Research information about plastic recycling. Explore differing perspectives and collect evidence to support or reject.	