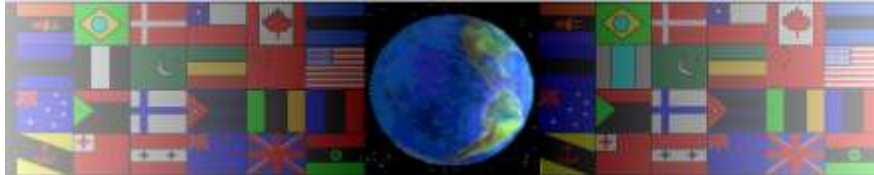


# THE STORAGE / DISPOSAL OF RADIOACTIVE WASTE PRODUCED BY NUCLEAR POWER STATIONS

V.Ryan © 2000 - 2009

On behalf of The World Association of Technology Teachers

## W.A.T.T.



World Association of Technology Teachers

This exercise can be printed and used by teachers and students. It is recommended that you view the website ([www.technologystudent.com](http://www.technologystudent.com)) before attempting the design sheet .

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# THE STORAGE / DISPOSAL OF RADIOACTIVE WASTE PRODUCED BY NUCLEAR POWER STATIONS

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1. The production of wastes by nuclear power, its storage and handling are of great concern to the public. There are three levels of nuclear waste, low activity or low level, intermediate activity or intermediate level and high activity or high level wastes. Describe each of these levels. Include examples of the types of waste and a description of how they are stored.

## LOW LEVEL WASTE

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## INTERMEDIATE LEVEL WASTE

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## HIGH LEVEL WASTE

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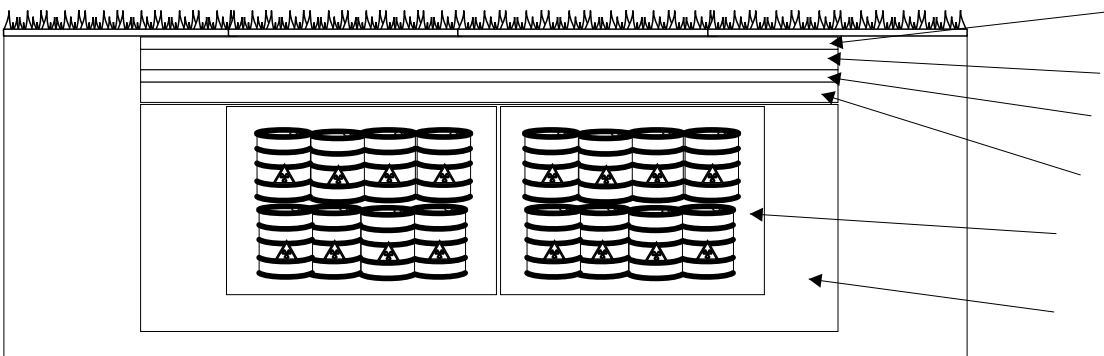
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2. The diagram below represents the storage of intermediate level waste. Complete the diagram by adding the correct labels, identifying the layers of material surrounding the waste. Add appropriate colour and shade.



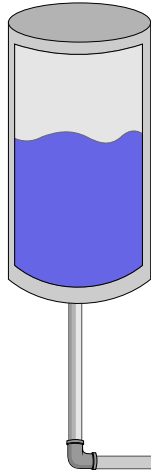
STORAGE OF INTERMEDIATE WASTE

# THE STORAGE / DISPOSAL OF RADIOACTIVE WASTE PRODUCED BY NUCLEAR POWER STATIONS

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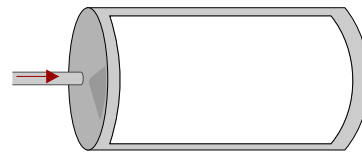
3. The incomplete diagram below shows the glass vitrification process of high level waste. Complete the diagram by adding the missing parts and any appropriate labels.

HIGH LEVEL WASTE IN STORAGE TANK

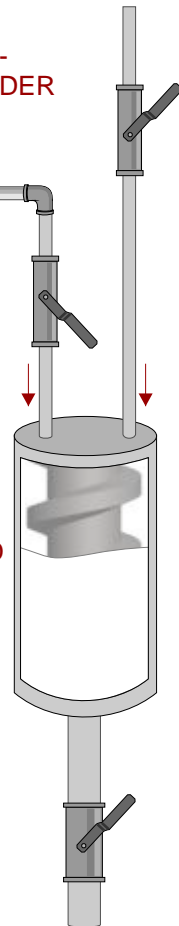


GRANULAR GLASS MATERIAL

ROTATING HEATED TUBE - LIQUID DRIED TO FORM POWDER



DRIED WASTE AND GLASS MATERIAL MIXED IN MIXING CYLINDER - 25% WASTE 75% GLASS



HIGH LEVEL GLASS VITRIFIED WASTE PLACED IN STAINLESS STEEL CONTAINER

4. In your opinion, do you think producing electricity through nuclear power is safe? Explain your answer.

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5. Is it wise for countries that rely on oil, coal and gas to produce electricity ignore the need to develop nuclear power stations? Remember to consider - the green house effect, global warming, pollution and world politics when answering this question.

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