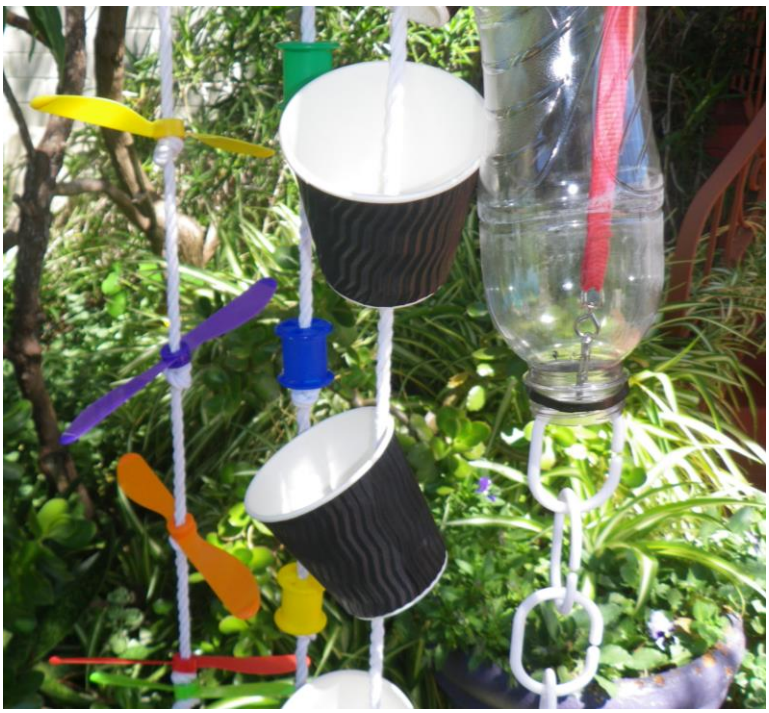
Name _____

Rain Chain - Student Worksheet

We shall be using our knowledge of Science, Technology, Engineering, English and Mathematics to create a model "rain chain", test its effectiveness and suggest improvements.



These are some ideas for "rain chains"

At the top of each chain is an inverted cool drink bottle with the base cut off to represent the down pipe from a roof gutter.
The lower end of rope needs to be weighted or pegged down as it can flash (move) about in wind and rain.
The end of the chain should hang into a water-collecting container.

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MOST IMPORTANT POINTS

The whole idea of using a prototype (test model) is that it permits you to work out how your model could be improved. This saves money and time.

It is as useful to find out what doesn't work as it is to find out what does.

Method **Read everything before you start!**

1. Select a design and materials

Quickly brainstorm ideas or consult the Internet to "rough out" a diagram of your chain and to present this along with a list of the materials and tools you will need to your teacher for approval.

Sketch	Materials
	Cool drink bottle with base cut off

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What website did you use? _____

Ask another student to see if anything has been missed out before handing this list to your teacher for their approval.

2. Assemble the prototype (test model)
Write down any safety concerns you may have and how you will overcome them on your worksheet below.

Concern	This problem will be overcome by:
	

Collect your equipment and assemble your prototype. Note any changes you have made to improve on your original design.

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Improvements

_____

_____

_____

Good working scientists always note what didn't work so that later experimenters will not try the same wrong approach again.

3. Trial the prototype (Adjust Adapt Improve)

Pour 200 ml of water into the inverted cool drink bottle at the top of your chain and observe the effect of water on the ground below. (sandpit or soil). Adjust the equipment until it works well.

4. Measure against a standard (FAIR TEST)

Measure the effectiveness of your chain against the standard downpipe. A plastic cool drink bottle with the base removed, held at the same height in the same weather conditions and filled with the same amount of water as your prototype will represent this.

What one thing did we change? _____

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What one thing did we measure? _____

Did everything else stay the same? _____

What tools can you use to measure this data?

_____

_____

5. Write a short tone poem about your rain chain

6. Suggest a "catchy" name for your invention.