

Worksheet 3a

STEM Challenge – Irrigation for Sustainable Pastures



Irrigation is watering crops and pastures when there is not enough rainfall for plants to grow well. It involves using systems like **sprinklers**, **hoses**, and **channels** to give plants the water they need to grow.

In the dairy industry, producers often recycle water used for cleaning to irrigate their paddocks, helping to reduce water waste and grow healthy pastures for their cows to eat.

Instructions

Plan, design, and construct a model irrigation system that can efficiently collect and transport water to a plant. You will need to think about how water will be delivered to the plant, how much water it will need, and how to avoid wasting water. Test your design using water to observe how it delivers water to your chosen plant. Make any changes to improve your design if needed.

Can you design an irrigation system that could be used to irrigate pastures on a dairy farm?





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a) Research different types of irrigation, take notes, and sketch as many ways to design your irrigation model as possible.



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b) Pick your best idea and draw and label your design.



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c) List the materials you will need.



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d) List the steps needed to create your model.



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e) Test your irrigation system. Was it able to water the plant? YES / NO. Make modifications if required.

f) What would you do to improve it next time?