STEMillions

Lucy Wootton

First released Spring Term 2021

Meal Plan
#076
60 mins

Starters *5-10 mins*

Snack, Cackle & Pop..... 2 mins
Snack: *we ♡ food, grab a snack before beginning!*
Cackle:

I was reading a book on anti-gravity - I just couldn't put it down!

STEMettes

Pop: *Stemillions playlist on Spotify:* *bit.ly/stemillionsplaylist*

Meet Her..... 5 mins
Lucy started Gliding aged 16, and went solo three months later. Starting a new job as an Aircraft Repair Design Engineer (meaning I look at planes when they are broken and work out how to fix them).

Discuss:

- ★ *What do you think of Lucy's job?*
- ★ *How do you think a glider gets up in the air without an engine?*

Desserts *5 min*

Share with us ..... 1 min
Upload photos on Twitter or Instagram and tag @Stemettes and #Stemillions.

Ask Them..... 2 mins
Got a question? Ask Away! bit.ly/Ask-Away

Digest..... 2 mins
Digest this Meal Plan - fill out the feedback form.

Mains *20 mins - choose ONE only*

MAKE..... 20 mins
Ingredients: *Clear 2L bottle with the top cut off, small jar, string, food die, hot and cold water.*

Do you know what a glider can do? It's an awesome way to fly, and glider pilots fly hundreds of kilometres at speeds of over 100kph, just using renewable energy from the sun and the wind. To show how convection makes hot air rise and clouds form; and learn how this helps gliders race.

1. Make a results table something like this:

Thermal/Small Jar	Surrounding air /Bottle	Observation
Warm	Cold	Write what happens
Cold	Warm	Write what happens

2. Fill the drinks bottle (our 'sky'), ¾ full with cold water – leave room at the top as we need to leave space for our jar to fit without spilling any!
3. Make a handle for the jar out of the string. Fill the small jar with warm water and food colour or ink – fill it right to the top
4. Note the time and lower the thermal VERY CAREFULLY into the drinks bottle.
5. Observe what happens over the next minute or two.
a. Where does the coloured water go?
b. How does the water move – all at once or in separate bubbles? Does it swirl around?
c. Does all the water end up the same colour? If so, how long does it take?
6. Clean the experimental apparatus.
7. Repeat with hot water in the 'sky' and cold water in the jar.