MISSION DESIGN INSTRUCTIONS

Astronomy is one of the most exciting fields of research, and there is a lot of money available for observing all kinds of objects in space.

But how do funding bodies (the people who provide money for Astronomy research) decide who gets funding?

Scientists around the world write **Research Proposals** to apply for this funding, and panels of experts decides who gets the money. Proposals need to be well researched and convincing to be successful!

This activity will guide you through preparing your first research proposal. Make sure you have your template ready!

Steps:

1. Decide on a name for your research group. Write this name and the names of all the authors in the first two boxes of your proposal template.

2. Open this website (https://ehatt.github.io/index.html) in a browser. The site includes all the information you will need for the following activity.

3. There are countless objects in space to observe, we've just provided you with three to save time; using the information on the website **identify** which of these objects you will observe and add it to your proposal.

4. You will now need to convince the panel that your object is worth observing! Write a short paragraph that **explains** why your team has chosen to observe this type of object.

5. Telescopes can be placed in space or on the ground, but which is the most appropriate for observing your object? Using the information on the website as guidance **state** where you will observe from, and then **justify** your choice in the box labelled 'Telescope Location'. Pay special attention to the wavelengths of the EM Spectrum that are observable from each.

6. Once you have chosen to observe from either the ground or space, you need to get a bit more specific. If you chose space, please follow part a, if you chose the ground, it's part b:
   a. Space is big, so there are lots of places to put a telescope. The website gives just two options to get you thinking. **Identify** the orbit you want to use and **explain** why you chose it. Write these down in the box labelled 'Which Telescope/Orbit?'.
   b. There are many observatories here on Earth, have a look at the three that appear on the map on the website. **Identify** which observatory you would like to use and then **explain** your choice in terms of wavelengths of the EM Spectrum. Write these down in the box labelled 'Which Telescope/Orbit?'.

7. Time to bring it all together! In the box labelled 'Summary', write a **conclusion** that summarises your key points.

8. When you are happy with your proposal, we will send you a link to submit some of your choices to the research council. Once you have clicked through, the council will tell you whether they accepted your proposal or not. Write down

the result in the box labelled ‘Result’. Don’t worry if you aren’t accepted, getting funding is difficult!

9. Now it is time to present your work. In your team, put together a poster that summarises your proposal. This should be a single slide produced using google slides. **Describe** the key aspects of the mission and **explain** why it succeeded or failed.