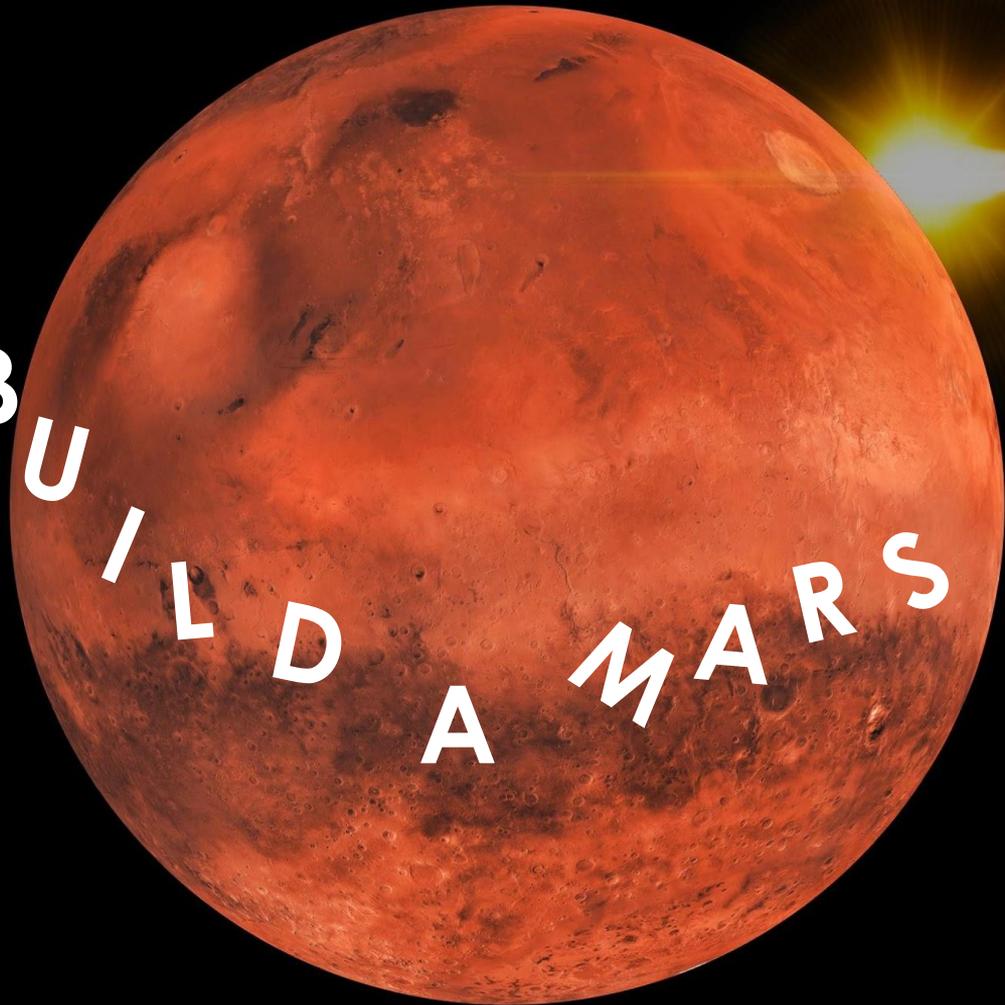


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What we are doing today:

1. Identify and understand problems with traveling and setting up a base on mars
2. Creating solutions to these problems using resources provided and any internet research/youtube videos you would like to use
3. Design your very own Mars Base!!!! Then send a picture of your work in and prizes will be given to the three best designs.

5 Reasons we should go to mars

1. Ensuring the survival of the human race
2. Discovering life on Mars
3. Improving the quality of life on Earth
4. Facilitate space mining
5. Advance scientific understanding



What can be found on mars

- **Silicon dioxide** is one of the most common materials on mars, according to measurements taken by Viking space probes - which is also a basic ingredient of glass. It is very likely that glass products for example fiberglass could be manufactured on mars like on earth.
- **Martian concrete** (Regolith) is another available construction material made out of the dusty rock readily available on mars, the elements/compounds that make up Regolith have been deposited on Mars over billions of years of asteroids hitting the surface of the planet. Researchers think it can be an ok substitution for concrete though tests are proving that it is in fact weaker than Earth concrete.

What you will need today:

- Paper
- Pens
- Yourself and your imagination!



***Step 1: Write a list of problems you
may encounter when traveling
to/living on mars***



Overcoming
the deadly
radiation from
the sun



Isolation



Heavy
equipment

Here are 5 key ones you must include:

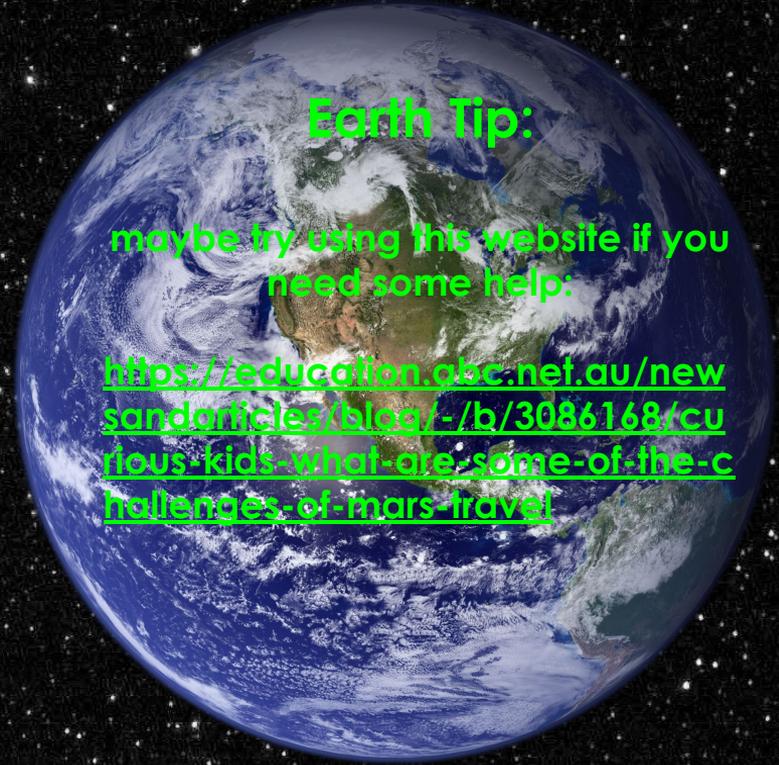


It's expensive



Big variety in
temperature

**Add three more
problems that
you can think of
onto the list**



Earth Tip:

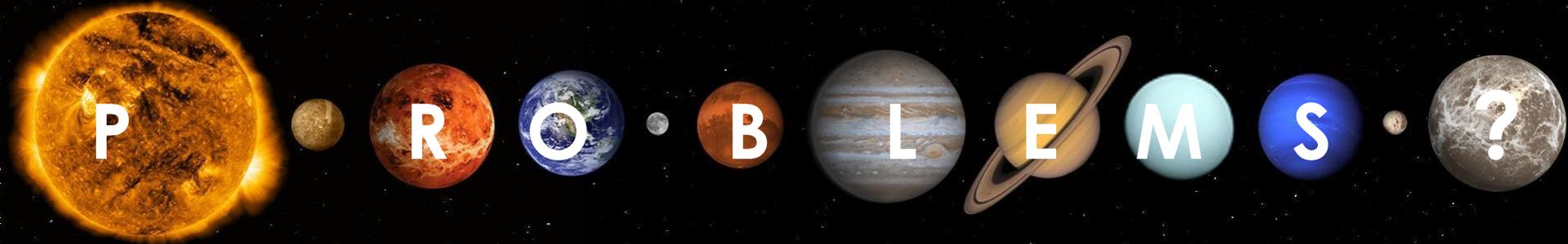
maybe try using this website if you need some help:

<https://education.gbc.net.au/new-sandarticles/blog/-/b/3086168/curious-kids-what-are-some-of-the-challenges-of-mars-travel>

WHY

ARE

THEY



Use our handouts to find out more about problems and solutions! Before designing your own base!

**NOW WE WANT YOU TO COME UP WITH SOLUTIONS TO
YOUR 3 PROBLEMS**



Build your mars base

- With a piece of paper and a pen

SUN EXTENSION

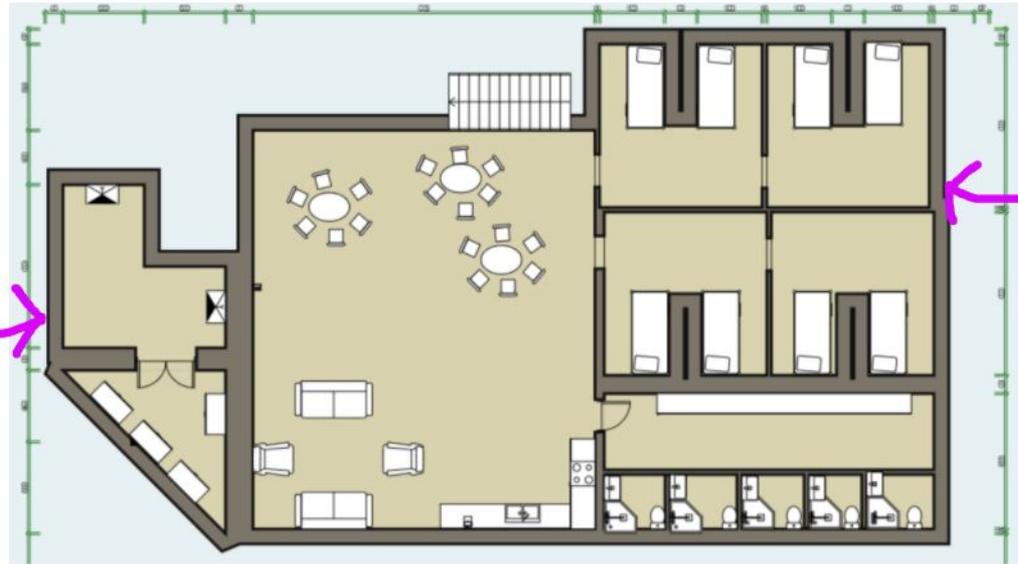
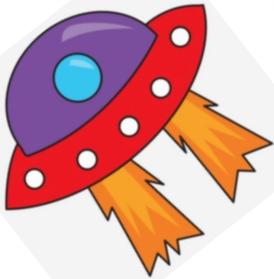
**ANNOTATE YOUR
DESIGN + SAY HOW
EACH DESIGN
ASPECT WILL HELP
HUMANS SURVIVE ON
MARS**



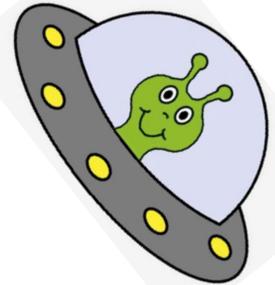
Here is a sample floorplan of the essentials a mars base needs:

ESSENTIALS:

AIRLOCK: this protects us from the pressure from space (as it is a vacuum!)



PRIVATE SLEEPING AREA: it is important for people at the mars base for their own room!



COMMUNAL LIVING-
DINING-KITCHEN

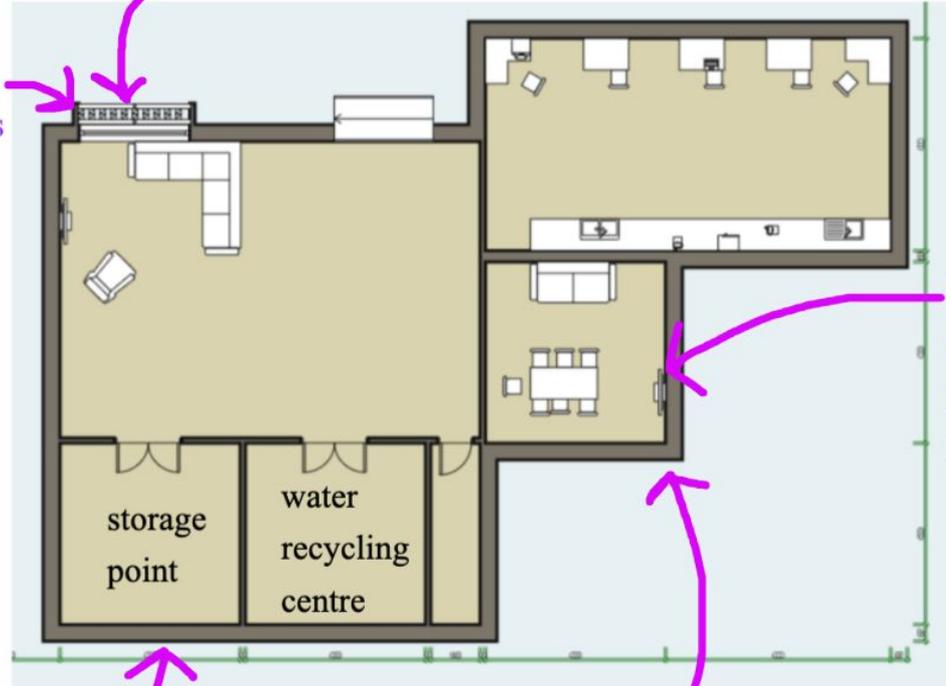
BATHROOMS

Here are a floor plan that helps you tackle all of the problem we've said before:

PROBLEM 1+4: RADIATION AND TEMPERATURE!

thick walls of lead to prevent radiation and water can help protect us from the deadly radiation and the difference in temperature

this is a small representation on how thick the walls are!



big TV connect people home

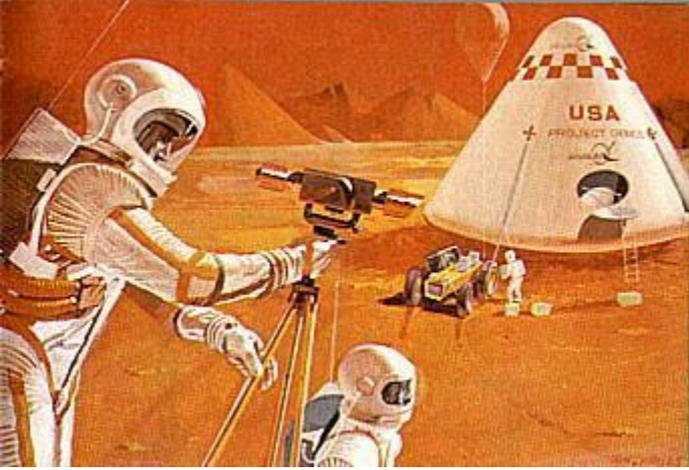
PROBLEM 2: RECYCLING MATERIALS!

here a room for recycling water means we don't have to keep transporting it to and from the base!

we also need storage rooms for space suit etc!

PROBLEM 5: ISOLATION!

this can be place to get in touch with friends and family home, video chats and calls home can tackle the loneliness



HAVE FUN!

**AND DON'T FORGET TO
SHARE YOUR DESIGNS!**