

Exploration

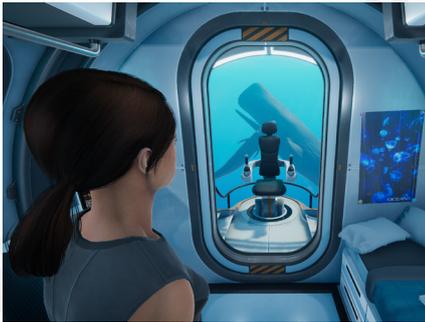
Home Learning Pack 004



Home learning guidance

Welcome to the Home Learning pages of *Checkpoint Kids*.

In this issue we have been inspired by the game, *Beyond Blue*. In this underwater exploration game, you are a research scientist collecting data about the multitude of creatures that live in the sea. When you're not in your wetsuit exploring the ocean, you are at home in your underwater research lab in the Western Pacific.



Although the underwater pod in *Beyond Blue* is extremely high-tech and up to date, it's nothing new.

Take a look at SEALAB II from 1965, which operated in Bermuda.

Of course, not all research stations are underwater. Why not check out the editor's challenge on page 22 of *Checkpoint Kids* issue 6 where we took a look at the Halley VI Research Station in the Antarctic.



Activity

Imagine that your home is a research station and you are a scientist collecting data about how you live.

This is not as crazy as it sounds. The European Space Agency sent a crew to live for a year in the Antarctic Concordia Station in 2005. This was in preparation for a mission to Mars that is expected to happen by 2030.

Scientific research at the station includes terrestrial and marine biology, medical research, meteorology, glaciology, the earth sciences, the ocean sciences, atmospheric physics, and astronomy. Phew!



FUN FACT:

There is an international agreement to leave no waste in Antarctica. The station creates hygienic water from snow, and once used treats and recycles it. They can recover 85% of the 'grey' water for re-use. The remaining 15% is stored and then removed from the continent.

You can collect your data using the work sheets we provide, or ones that you design yourself. You could keep a video log or include a floorplan of your 'research station'. Whatever you choose to do, we would love to see it. But don't forget to complete a permission slip!

FUN FACT:

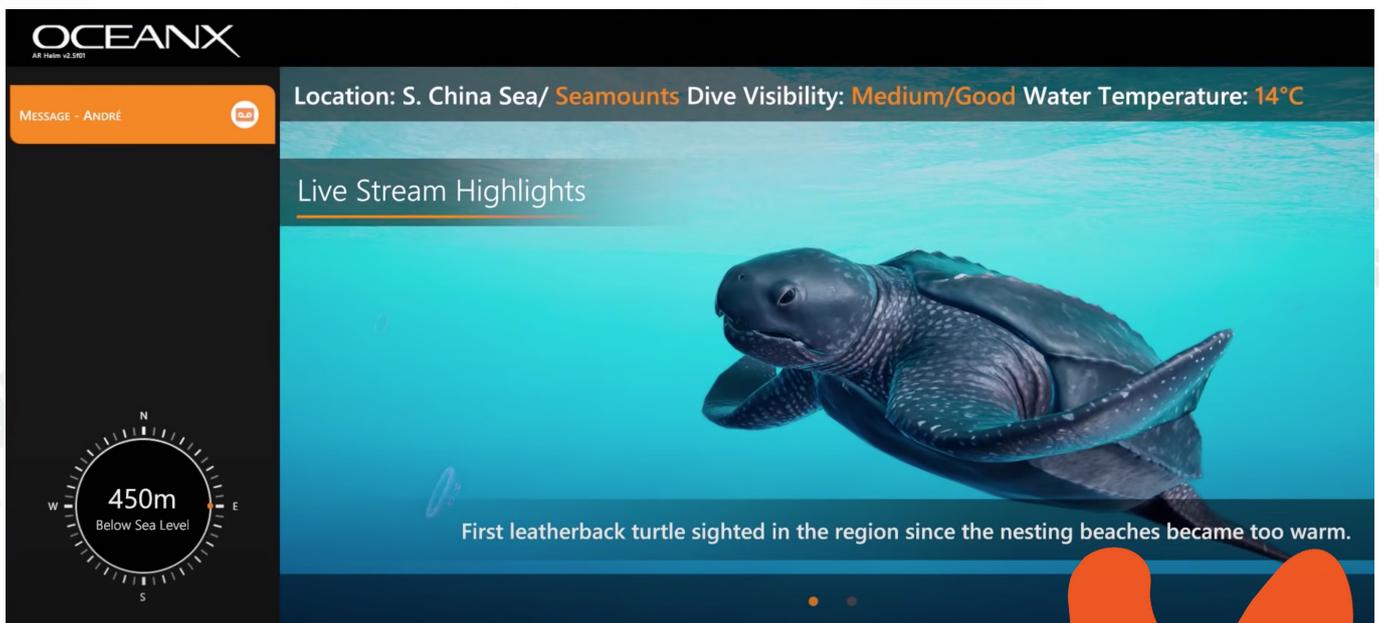
The planned mission to Mars could last as long as 30 months. That's 6-9 months for the outward journey, one year on the planet and a 6-9 month return journey!

1. Research

IF YOU haven't played Beyond Blue, don't worry. You can get a good idea of what the game is like by watching VCs on YouTube. Here are some you could try:

- the official trailer <https://www.youtube.com/watch?v=DVDaIDY7upM>
- gameplay trailer <https://www.youtube.com/watch?v=p0AWBCXpo6k>

MIRAI, the deep-sea explorer and scientist, scans marine life and creates a log. Here is an example:



YOU CAN see that she logs:

- depth in metres
- location
- visibility
- water temperature in °C

WE ARE going to ask you to draw a floorplan of your home and then log:

- journeys that you make during certain times of the day
- the food you eat

FUN FACT:

The leatherback turtle features in a wonderful novel by Michael Morpurgo called *The Wreck of the Zanzibar* which is all about an isolated community in the Scilly Isles.

YOU WILL need to think carefully about which part of your home that you are going to carry out your research in.

Here is a very simple floorplan of a house.

Can you tell what each of the symbols represent? How will you use symbols in your floorplan?

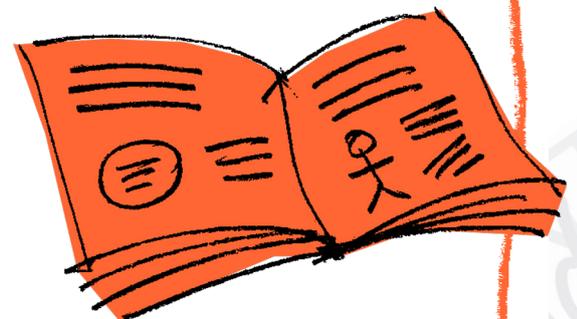


IF YOU live in a home with more than one floor, you will have to decide how much of it you need to draw.

IT WOULD be a good idea to have a 'base' in one of the rooms. This should be the room you spend most of your time in. This will help with recording your journeys as most of them will start from your 'base'.

Remember

A LOT of designers use a notebook to keep all their ideas in when they are creating something new. It's a good idea to do this, but it doesn't have to be a book. It can be post-it notes, scraps of paper or an app. Try to use something that you can carry with you easily. That way, when you have a great idea or you see something that inspires you, you can make a note of it.

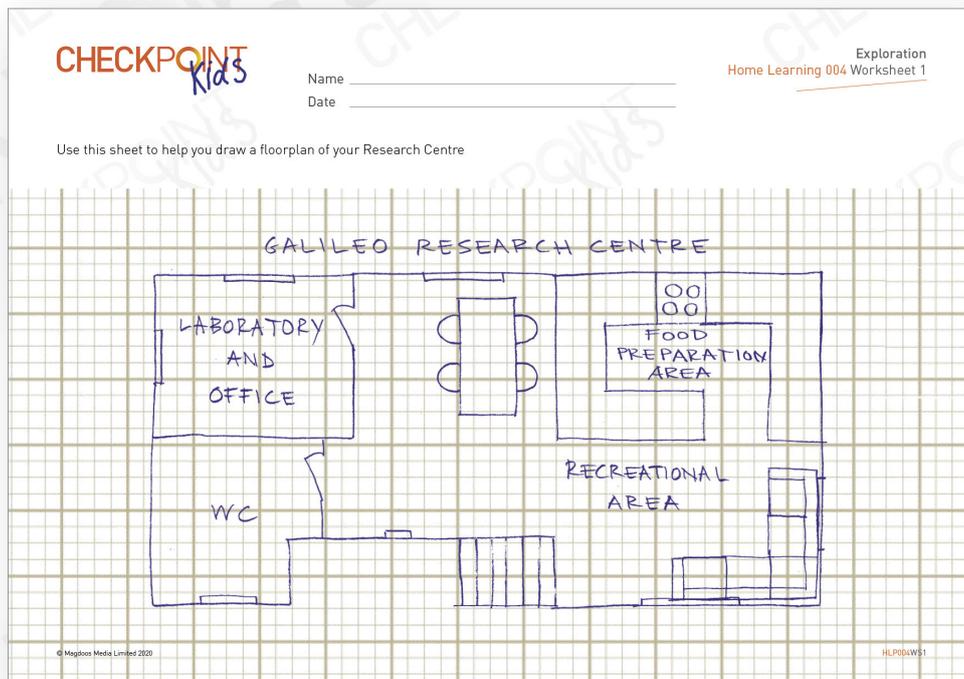


2. Plan

PLANNING is really about deciding what you want to do and how you are going to do it. Choose what you're going to log and stick with it! Even though it might be the same every day, it's important to make sure there is an accurate record.

- draw a floor plan of the rooms you are going to include in your research using worksheet HLP004WS1. Choose rooms that you visit quite often, like the kitchen or toilet
- rename the areas with more scientific titles:
- kitchen - food preparation area
- dining room - laboratory
- bedroom - sleeping quarters
- sitting room - recreational area
- toilet - WC
- bathroom - washing facility
- rename your home. Try to think of something that has deeper meaning:
 - Concordia - named after the Roman goddess of peace and harmony
 - Halley VI - named after the astronomer Edmond Halley
- or name it after yourself!

HERE IS a floorplan we prepared using worksheet HLP004WS1:



YOU WILL need to work out a method for calculating how far you have travelled in a given time period. You can do this by measuring the distance you travel in one step, and then multiplying this by the number of steps you take. If you use a pedometer, it is important to look at it before and after every journey, rather than at the end of the day.

FINALLY, prepare your log. This will need to include sections for the data you are collecting. Take a look at the logs we created:

- journeys: worksheet HLP004WS2

Exploration
Home Learning 004 Worksheet 2

CHECKPOINT Kids

Journey Log

Location: Galileo Research Station

Name			Date Started			
Taylor Anderson			Tuesday 3rd November 2020			
Return	Steps	Distance	Distance			
x2	(number)	(calculation)	(actual)			
✓	15x2	30x330m	9.9m			
Time	From	To				
11:05	Office	Food Preparation Area				

- food: worksheet HLP004WS3

Exploration
Home Learning 004 Worksheet 3

CHECKPOINT Kids

Food Log

Location: Galileo Research Station

Name			Date Started					
Taylor Anderson			Tuesday 3rd November 2020					
Meal	Protein	Carbo-hydrates	Fruit and Veg	Fat	Dairy	Liquid		
(type)		(inc sugar)				(type)	(volume)	
7:30am Breakfast		Weetabix	Banana		Milk	Tea	250ml	

- weather: worksheet HLP004WS4

Exploration
Home Learning 004 Worksheet 4

CHECKPOINT Kids

Weather Log

Location: Galileo Research Station

Name			Date Started					
Taylor Anderson			Tuesday 3rd November 2020					
Temperature	Sky		Precipitation			Wind		
(°C)	(sun)	(cloud)	(rain)	(hail)	(snow)	(1-10)		
6°C	☀️☀️	☁️	n/a	n/a	n/a	1		
Time								
7:30am								

NOW YOU have completed your planning and have all your materials ready, it is time to move to the next stage.

3. Create

BEGIN BY deciding when you are going to conduct your research. You could divide your day into time periods for example measuring journeys from 0700hrs to 0900hrs and then from 1700hrs to 1900hrs. You could check the weather just three times a day: morning, noon and night. Weekdays can be very different to weekends as they tend to follow a set routine. Once you have measured the distance you travel during your weekday morning routine, you might find you are recording the same data each day. If you include the weekend you will have data that can be compared.

Remember, if you forget to count your steps or record a specific journey, you can just copy a previous similar record.

DECIDE ON the level of detail you want to include. Your food log could be sub-divided into proteins and carbohydrates for example; or into quantities. It's up to you.

CONSIDER how you are going to rate the weather. Is the rain light or heavy? How cloudy is it? Most mobile phones contain weather apps that you can use for guidance.

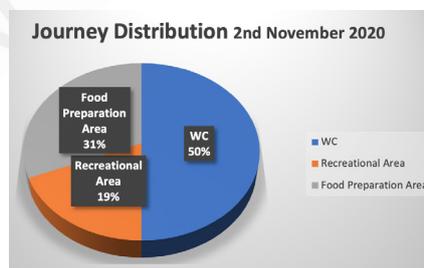
YOU MIGHT want to add some extra research. You could make observations of a pet or count the number of birds that visit your garden. However, more observations mean more work, so keep it simple! Research scientists spend their whole working day making observations and collecting data for analysis, you have only a few hours!

NOW YOU are ready to conduct your research. Don't worry if you forget to record some journeys, or you didn't wake up until 1000hrs on Saturday and missed some of your weather observations!

WHEN YOU have concluded your research, you might want to process the data for analysis. This means making a graph or drawing a pie chart. Here are some suggestions:

- What is the most frequent journey you make?
- What is the greatest distance you covered in one day?
- How many different types of drink do you consume each day?
- Is the rain heavier in the morning or the afternoon?

	A	B	C	D
1	Original Data for Journeys 2nd November 2020			
2	From Office to	Number	Distance	
3	WC	8	120	
4	Recreational Area	3	38	
5	Food Preparation Area	5	49	
6				



DID YOU KNOW:

If you input your data into a spreadsheet program there will be a button which automatically creates these data charts for you!

4. Share

NOW ALL you need to do is complete a permission slip and email pictures of your work to the magazine! We would love to see how creative you can be and who knows, you might even be published in a future edition of *Checkpoint Kids*!

5. Challenge

YOU COULD decide to conduct your research over a longer period of time, perhaps for one or two weeks. Depending on the type of data you are collecting, you could try collecting data every weekend for a year! One way of doing this is to enter your observations into a diary.

WHY NOT search the internet and see what kinds of data are being collected by researchers? Here's an RSPB (Royal Society for the Protection of Birds) website to get you started: <https://www.rspb.org.uk/get-involved/activities/birdwatch/> – you may find you want to register and be part of a national research project to collect data on songbirds!

Or you can check out the Blue Peter Public Health Research Centre in Hyderabad, India: <https://youtu.be/c87QAfpPP1Y> (the focus on research begins at 3:00mins) – this research is changing the lives of many children all over the world. Data gathering and sharing is an important part of learning more about each other and the world around us.

IF YOU find that you really enjoy conducting research, making observations and recording data, why not set up an area to keep your data in. This doesn't have to be a room! It can be something as simple as a labelled shoe box, or an old suitcase.

WHO KNOWS, you might end up turning a bedroom or a garden shed into a research station. Check out this website and take a look at what Simon Faithful came up with: <https://www.simonfaithfull.org/projects/mobile-research-station-no-1/>



OR, IF art and crafts is more your thing, you could build a miniature research laboratory like this Lego alien one.

