TORTOISE TRACKERS AT ZSL

? Can you spot a small black box on the back of Dirk's shell? (Dirk is our biggest tortoise!)

We are using this device to collect data about what temperatures our tortoises experience and how much ultraviolet light they get.

? What is ultraviolet (UV) light?

UV light is a part of natural sunlight that we can not see. Reptiles need UV in order for their bodies to produce vitamin D. Vitamin D is needed to help their bodies use calcium to make the bones of their large skeletons and egg shells!

This means they bask in the sun to warm their bodies up so that they can be active.

DID YOU KNOW?

The keeper team here at ZSL London Zoo have noticed that the tortoises behave differently and use different parts of their enclosure depending on the time of year and what the weather is like.

TASK 1 Use the space below to make your predictions of tortoise behaviour.

On a warm sunny day the tortoises are likely to be where and doing what? (hint: think about how active the tortoises might be, where they might choose to be etc.):

Prediction: Outside sunbathing

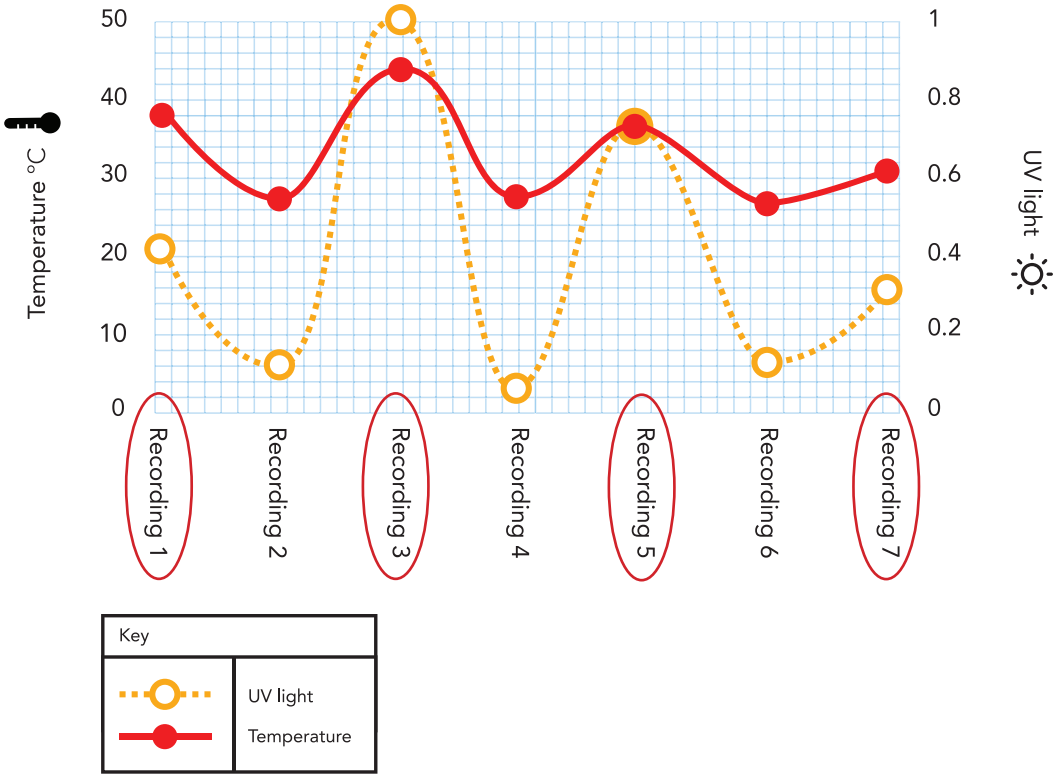
Reasoning? Being cold blooded animals they will seek the warm outside temperatures of a warm sunny day to control their body temperature. The tortoises may seek out natural sunlight too as they need it to grow healthy bones and egg shells.

On a cold cloudy day the tortoises are likely to be:

Prediction: Indoors

Reasoning? The British climate means that a tortoise would not choose to be outside on a cold day, they would choose a heated indoors area to control their body temperature.

The graph below has 7 recordings of temperature and 7 recordings of UV light taken from the tracker on Dirk's shell.



TASK 2 Read the UV data points from the graph above and record them in the table below. Now plot the temperature data from the table below into the graph above and draw a line connecting the points using a coloured pen (make sure to complete the graph's key).

	Recording 1	Recording 2	Recording 3	Recording 4	Recording 5	Recording 6	Recording 7
Temp °C	37	26	43	25	35	26	30
UV light	0.4	0.1	1	0	0.7	0.1	0.3

TASK 3 What conclusions can you draw from the logger data?

The recordings show a correlation pattern of the highest UV recordings being recorded at the same time as the highest temperatures recordings. I think these are day time recordings, the temperature and UV recordings being high due to the sun light.

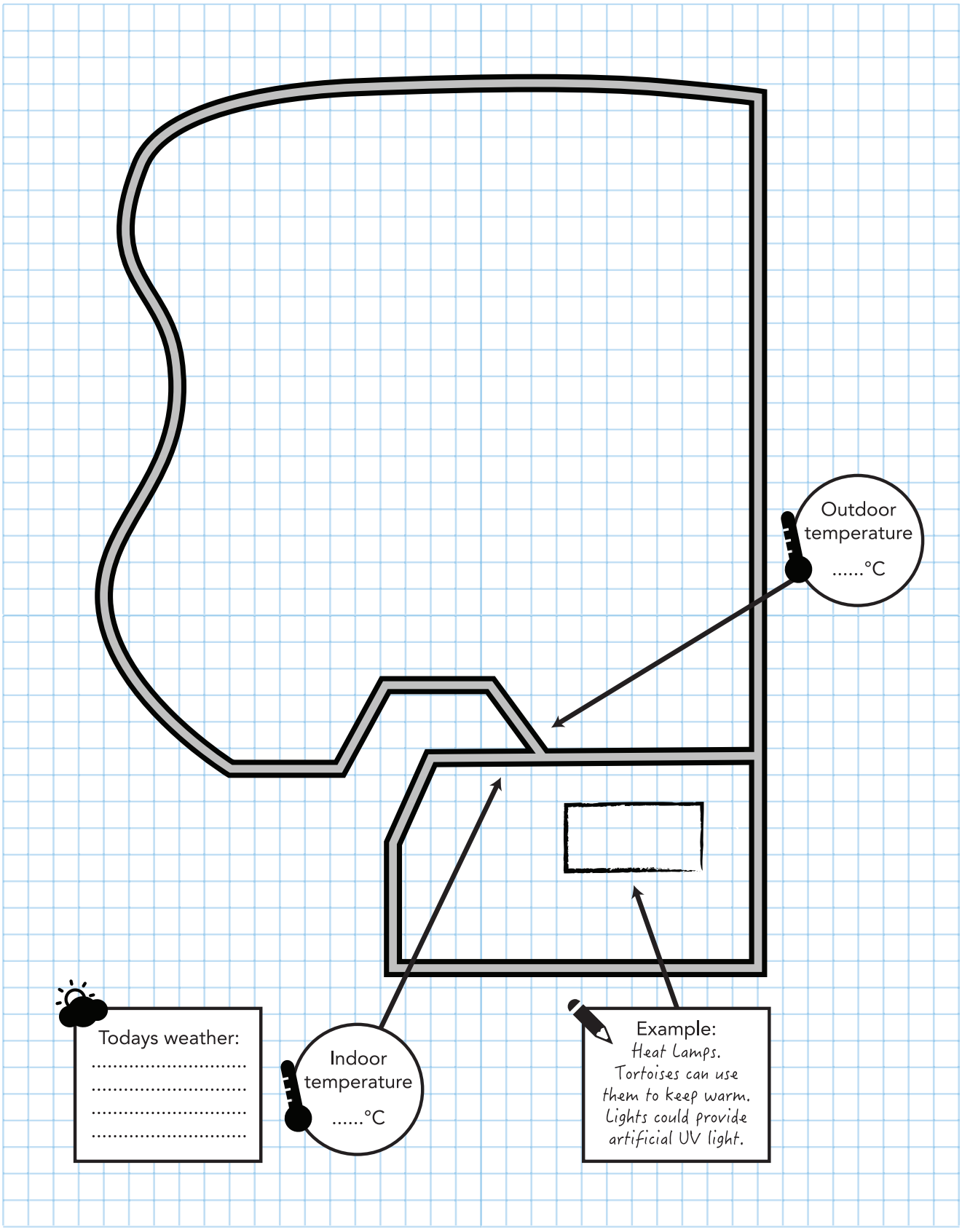
The recordings were taken at night and during the day. Circle the recordings on the table that you predict have been taken in the day time.

Which of the day recordings do you think may have been taken on a cloudy but warm day?

Recording 7 because it is still warmer and showing higher UV levels than the night time recordings but not as high as the other day time recordings.

TASK 4

Using colouring pencils complete the aerial view diagram of the tortoise's ZSL home.
Be as accurate as you can and make notes explaining why you think the feature is there.



TASK 5

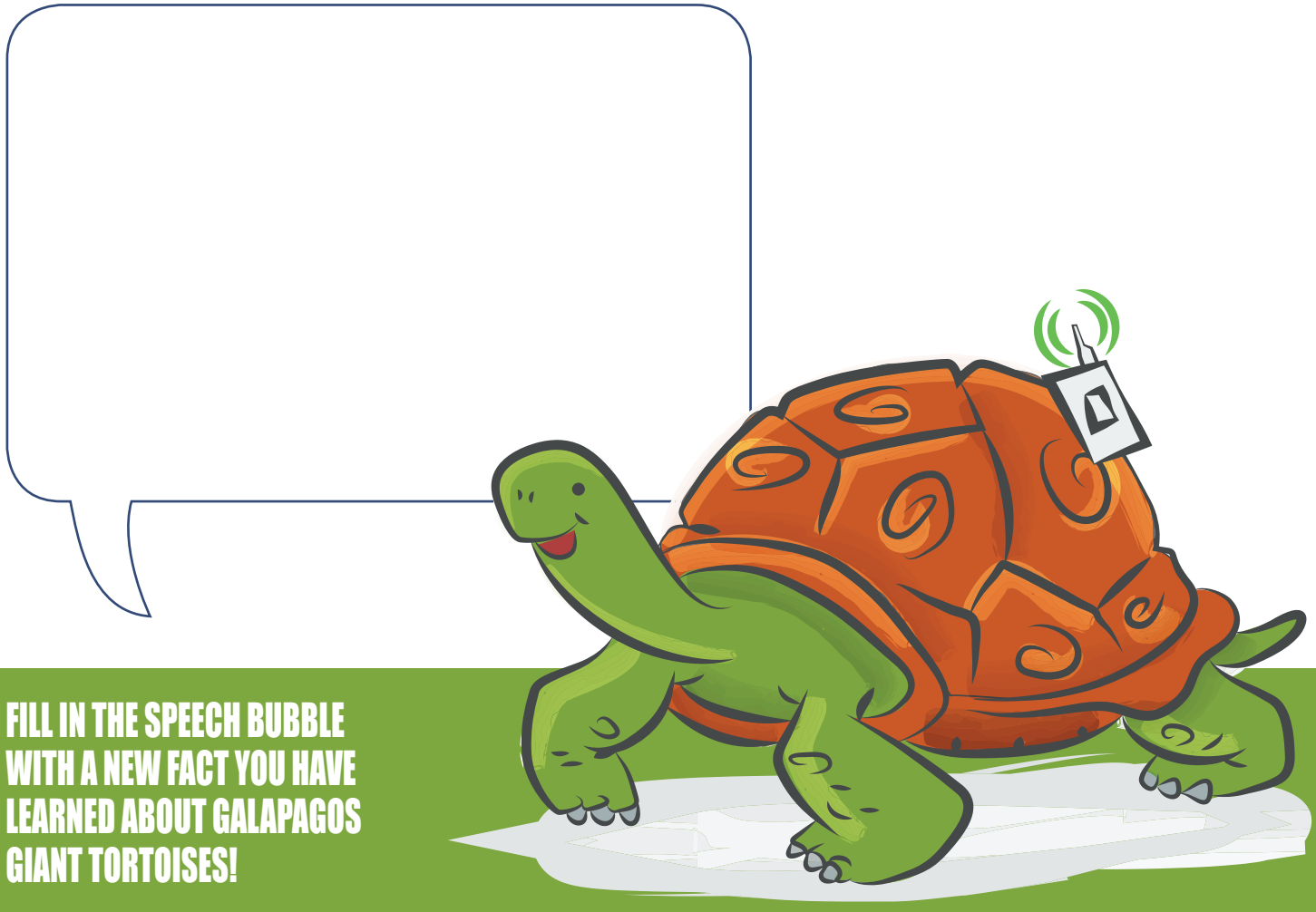
Mark on the diagram (on page 3) where each of the tortoises are today and make a note next to it what they are doing. Use the space below to explain your ideas of why the tortoises are behaving the way they are.

Today the tortoises are inside. I think this is because it is a warm sunny day. The outside temperature is …. Cold blooded animal like tortoises seek warm and cool places in order to control their body temperature. The tortoise is sitting in the sun to warm its body up and absorb UV light which is important for it to produce vitamin D which it uses to grow bone and make egg shells. The tortoise is inside because it is a cold day outside. The heated inside temp is….. The outside temp is…..

Do you think the enclosure meets the needs of our tortoises? How does it compare to the tortoises' habitat on the Galapagos Islands?

Think about what a tortoise's or any animal in captivity needs are, e.g. food, water, shelter, safety, temperature, space, enrichment, UV light etc....

Can you suggest any ways ZSL could improve the tortoises' zoo enclosure? Why?



FILL IN THE SPEECH BUBBLE WITH A NEW FACT YOU HAVE LEARNED ABOUT GALAPAGOS GIANT TORTOISES!