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. Think about what tortoises might need and want:

On a warm sunny day the tortoises are likely to be:

Very active or not very active Inside or outside

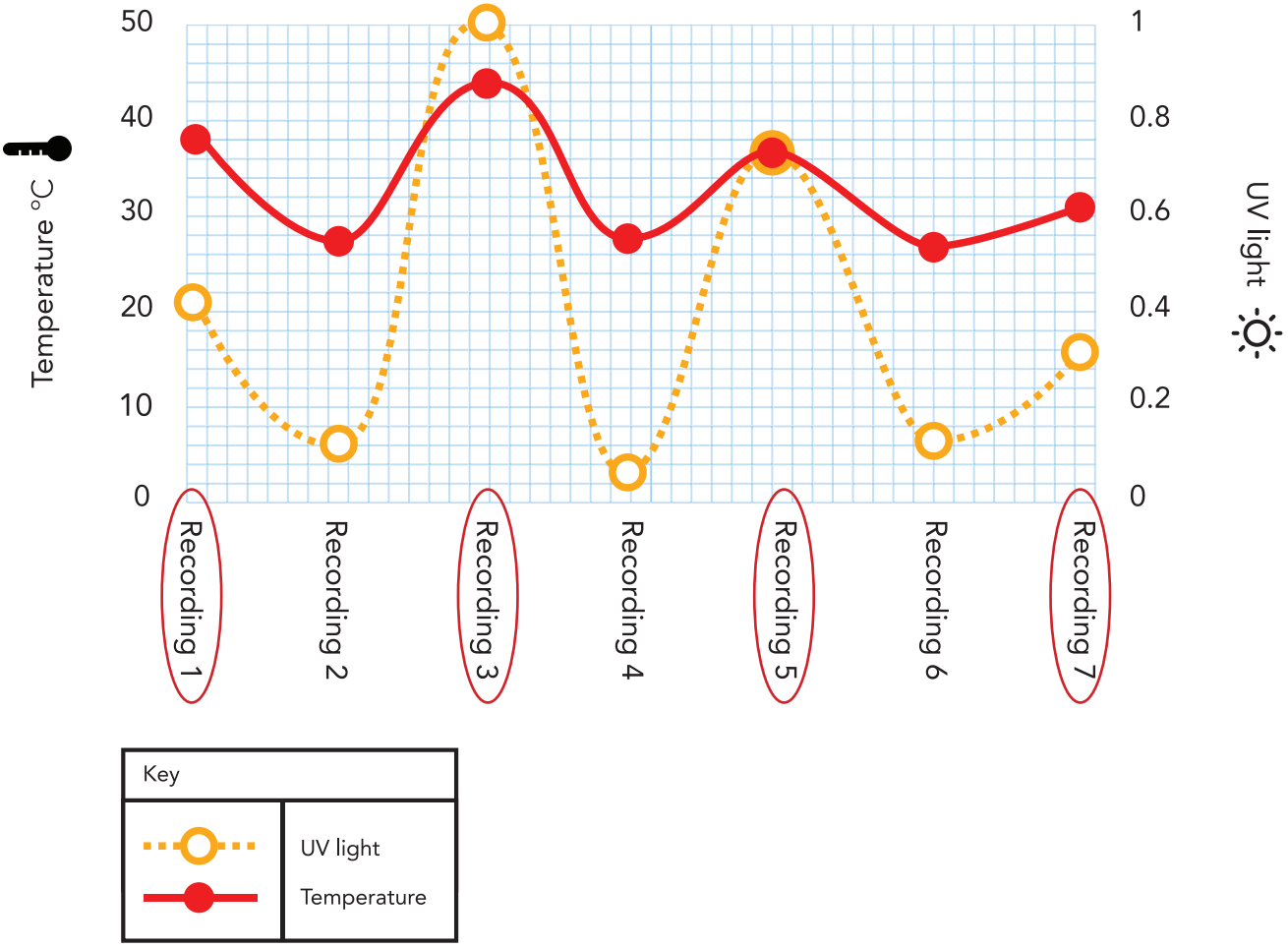
Why? Cold blooded animals are more active when warmer. They will seek the warm outside temperatures on a sunny day to control their body temperature. The tortoises may seek out natural sunlight too for UV as they need it to grow healthy bones and egg shells.

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

Very active or not very active Inside or outside

Why? 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. Cold blooded animals are less active on cool days.

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



TASK 2

Fill in the missing gaps of the table below by reading the values from the graph.

	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

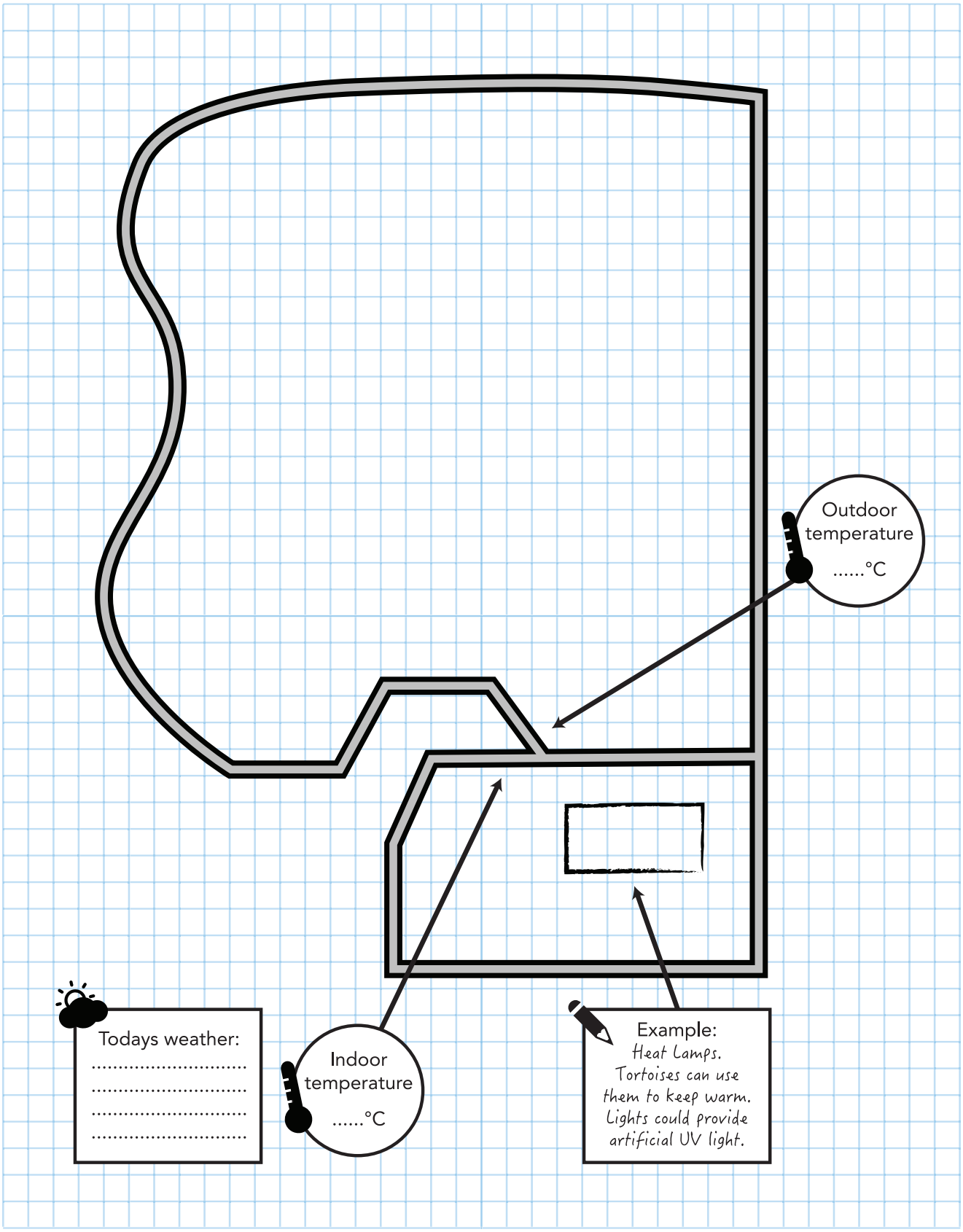
Do you notice any patterns in the logger data?

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 beacause the temperature and UV recordings would be higher due to the sun light.

TASK 3

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

TASK 4 Using a pencil 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. Explain below why you think the tortoises are behaving the way they are.

e.g. Today the tortoises are outside. I think this is because it is a warm sunny day. The outside temperature is …. The tortoise is 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.

e.g. The tortoises are inside because it is a cold day outside. The heated inside temp is….. The outside temp is….. Cold blooded animal like tortoises seek warm and cool places in order to control their body temperature.

How is the habitat of tortoises in the wild different to the habitat of tortoises living in the zoo?

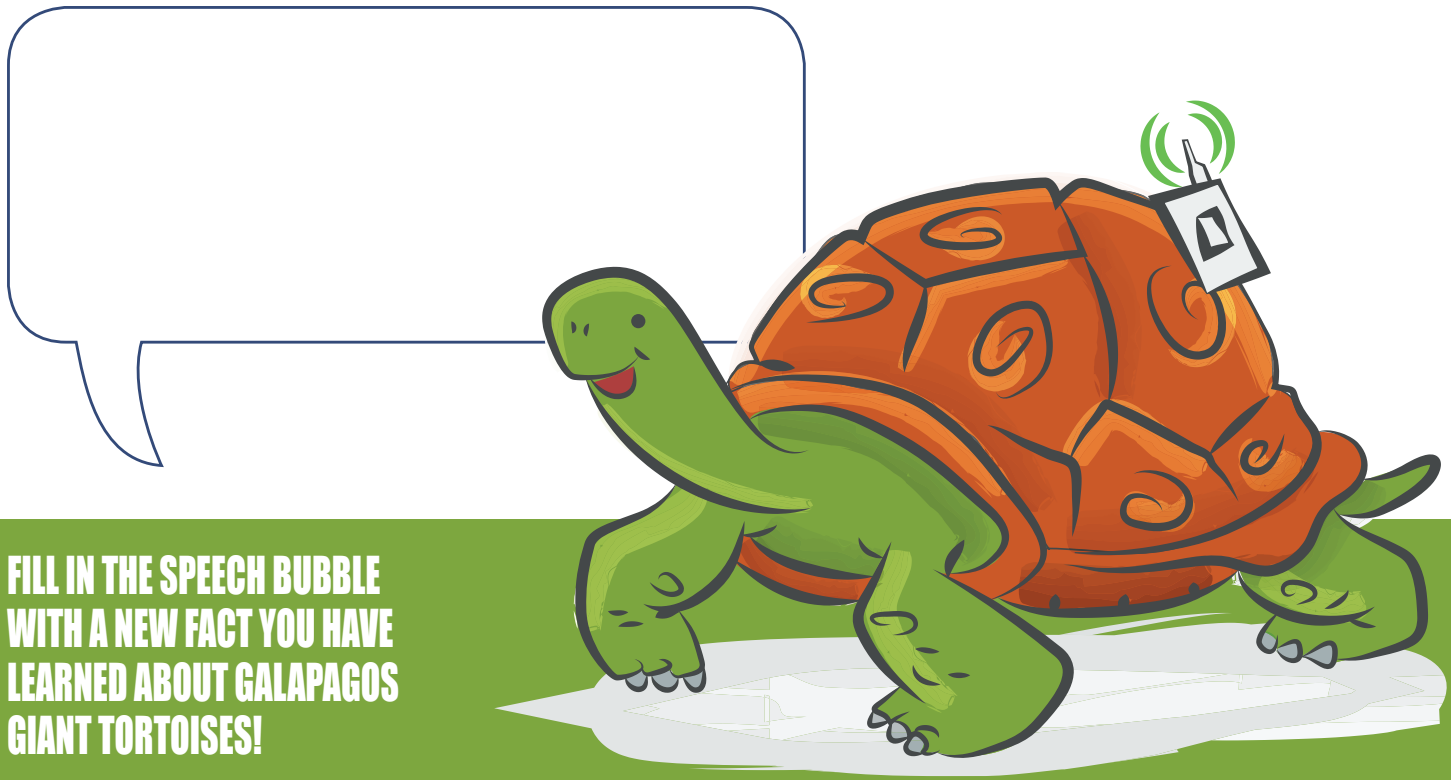
Think about what the tortoises wild habitat is like. If you have learnt about Galapagos habitats before your zoo visit, students may be able to highlight that the Galapagos Islands have very different habitat zones including arid/ desert like areas, sandy zones for egg-laying, volcanic rocky zones through to areas of dense vegetation. Encourage the students to think about how weather differences such as the amount of rainfall or strength of the sun in Galapagos would effect the habitat types, especially in terms of vegetation presence. As a follow up in the classroom, you could bring in themes around island colonisation and how the types of plants and animals seen in Galapagos today originally arrived.

What do you think the Zoo keepers have done to try and make the tortoises feel at home?

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

Can you suggest how ZSL could improve the tortoises' home?

Think about what the tortoises needs are and how the ZSL keepers can provide that for them.



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