



Science

Earth and Space

-12 -11 -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10 +11 +12

Night and Day

International

twinkl

24 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24



Aim

- Can I investigate night and day in different parts of the Earth?
- Can I report and present findings from enquiries?

Success Criteria

- I can make predictions about night and day in different places on Earth.
- I can support the idea that different places on Earth experience night and day at different times with evidence.
- I can explain why night and day occur at different times in different places on Earth.
- I can report and present findings from enquiries with support.
- I can report and present findings from enquiries.
- I can write a conclusion which explains my findings.

Night and Day

Have a think about these questions...



Why does night and day occur? How do you know?



Does night and day occur at the same time everywhere on Earth?

Why? Why not?

Night and Day Investigation

Click the link opposite to go to Google Maps and ensure that the map is zoomed in and out as appropriate. Pick one country on the map. State that if it is 12:00 in the UK then the Sun is fully above them. Move the globe and complete the prediction table on the 'Night and Day International Investigation' Activity Sheet. This document is differentiated so if you want more of a challenge then go for the 3 star sheets. See the next slide for further info.



[Click here for an Interactive Globe](#)

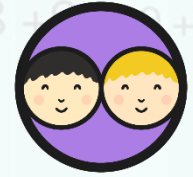


If it is 12:00 in _____ then I predict the sun will be




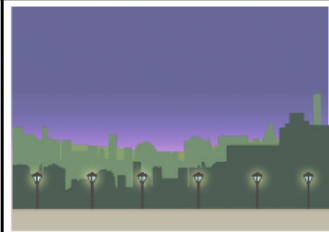
rising in _____, setting in _____

and it will be night time in _____.

Predictions



Here is what the sheet looks like. Initially just complete the prediction section as you are making a sensible prediction about these answers using only what you can see on the google maps link. Then, when you have done this move on to the next slide.

Time	Sunrise (on average around 6am)	Midday (12pm)	Sunset (on average around 7pm)	Night (12am)
				
Country				

Checking Predictions



How can we check if our predictions are correct?

Where would we get the information from?

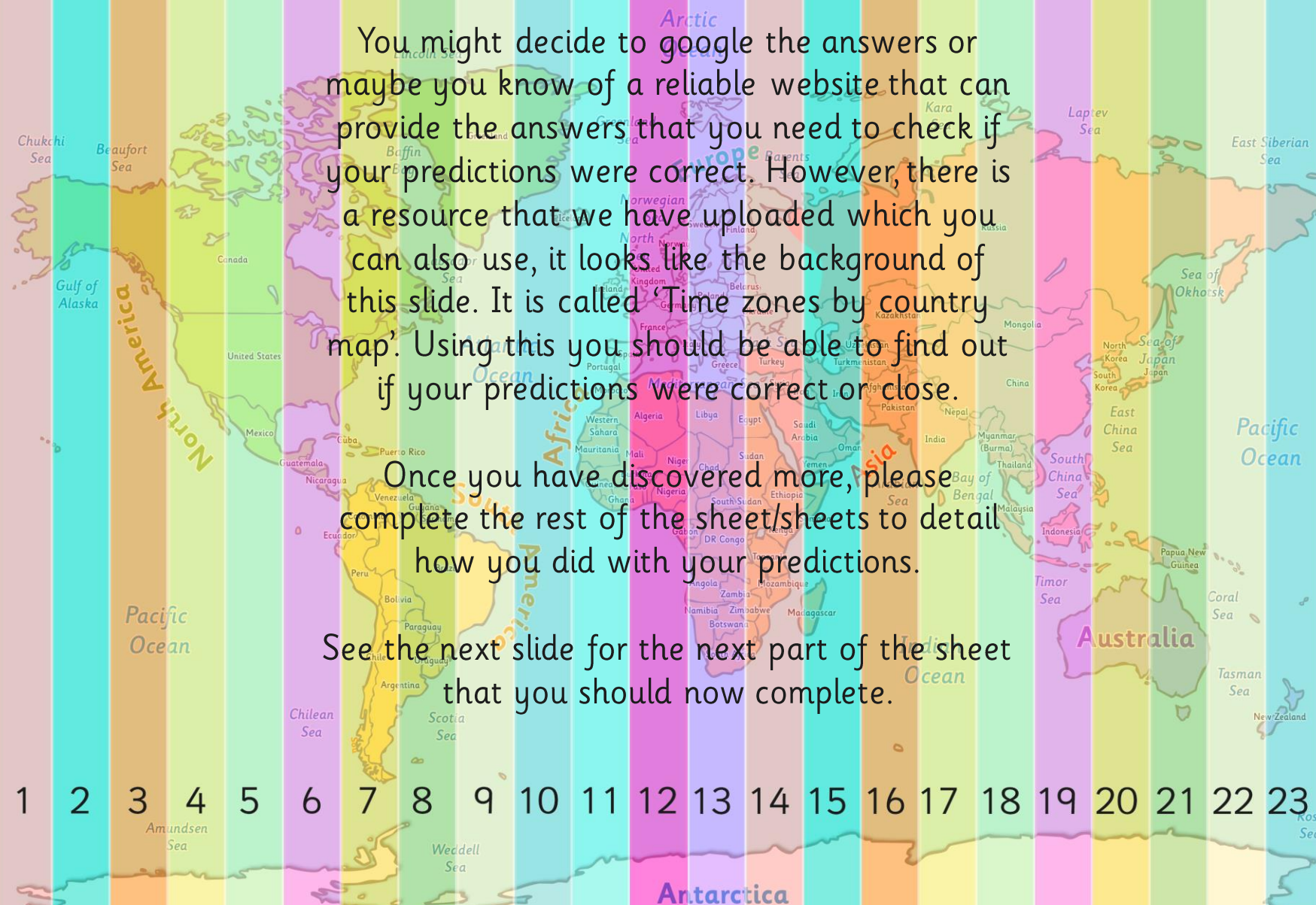
-12 -11 -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10 +11 +12

You might decide to google the answers or maybe you know of a reliable website that can provide the answers that you need to check if your predictions were correct. However, there is a resource that we have uploaded which you can also use, it looks like the background of this slide. It is called 'Time zones by country map'. Using this you should be able to find out if your predictions were correct or close.

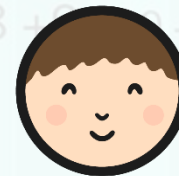
Once you have discovered more, please complete the rest of the sheet/sheets to detail how you did with your predictions.


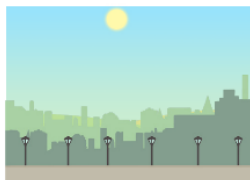

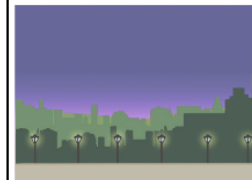
See the next slide for the next part of the sheet that you should now complete.

24 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

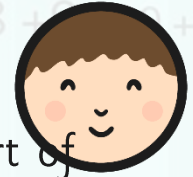


Time Zones Activity



Time	Sunrise (on average around 6am)	Midday (12pm)	Sunset (on average around 7pm)	Night (12am)
				
Prediction (Country)		UK		
Prediction Correct? Tick ✓ or Cross ✗				
If prediction was incorrect, what country /countries should it have been?				

Checking Predictions



Now have a think about the questions below and complete the last part of the sheet, which is the conclusion section. On the 3 star sheets this can be found on the second page.

Were your predictions correct? Why? Why not?



What was the relationship between the time of day in one place and another with respect to distance?



Complete the Conclusion section on your investigation sheet.

-12 -11 -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10 +11 +12

Extra challenges

- **Investigate:** Investigate the differences between sunrise and/or sunset times for each month of the year – create a line graph to show how the time. Compare with a different country.
- **Solve it:** Problem solve using the ‘Time Zones By Country Map’ and ‘Time Zone Challenge Cards’.
- **Research it:** Find out about jetlag and why it occurs when we travel through time zones.

24 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

