

Northern Lights

Worksheet A – Answers

CAN I REALLY SEE THE NORTHERN LIGHTS IN THE UK?

Video transcript:

Heading north for the best chance

CAROL KIRKWOOD:

I followed Doctor Lucie's advice and I'm heading north to my native Scotland.

Before I left, Lucie explained how the **aurora borealis** actually works, and why it's so important to get as near to the magnetic North Pole as I can.

DR LUCIE GREEN:

The Earth is protected from the Sun's **emissions** by its own magnetic field. The Sun is constantly firing out charged particles like these, and they're known as the **solar wind** – or, if they explode out in a very violent burst, a

coronal mass ejection or CME. The charged particles travel at over a million miles per hour towards us. And they have their own **magnetic field**, so when they hit the Earth's magnetic field they interfere with it – **breaking** the field lines open and bending them back on themselves. As they keep moving, the field lines reconnect and high energy particles speed down the magnetic field lines and smash into the Earth's **atmosphere** around the magnetic poles. The gases in the atmosphere light up, a bit like the way a **neon** sign glows when energy flows through it.

CAROL KIRKWOOD:

Well I'm back home in the Highlands, but I've heard a great spot for viewing the aurora is in Wick – another two and a half hours north.

Well I've been looking online today at the space weather forecast, and I've got a good idea now of what the Sun's activity has been today.

Now looking at this, looking at the Kp levels in particular, they run from zero to nine. At the moment they're sitting at 0.33 – now I know that's not good enough to see the Northern Lights. It has to be at least **three** or above to see them. So I'm hoping that that will change as we go through the next few hours. Well, the conditions aren't looking that hopeful for a **display** of the Northern Lights.

But we found a good place, so let's check later and see what we can see