

UNIT 2: THE EARTH AND THE UNIVERSE

CONSEQUENCES OF REVOLUTION

Dear language assistant,

You can explain consequences of revolution showing an image you will complete adding new sheets. Here you have some comments for each sheet and some questions you can ask the students. Everything appearing on the screen has to be written on their notebook, in a new and clean sheet.

SHEET 1.

- The Earth moves (orbits) around the Sun. **What's the name of this movement?** Revolution. Compare with rotation.
- **How long does it takes?** 365 days. A year.
- Remember many years ago people thought the Sun moved around the Earth. That's not true. Remember Columbus' trip.
- Earth's orbit around the Sun is nearly a perfect circle. You can't say the Earth is sometimes near the Sun and sometimes it's far. That's not right. Earth-Sun distance is always the same. And that's why we have drawn a circle and not an ellipse.
- See that the Earth axis isn't vertical. It's slanted and this is the reason why we have seasons. Look at the picture with the Earth on the right: **Is it summer or winter? Warm or cold?** It depends on the hemisphere. As we live in the North Hemisphere, is it summer or winter? You can see that sun rays arrive directly on the South and they arrive slanted on the Northern Hemisphere. So it's winter for us and summer in the Southern Hemisphere.

SHEET 2:

- In this page you can see what we have just said: summer and winter in the Northern Hemisphere.
- Look at the two new pictures. **What season does the picture above represent?** Spring. **And the picture below?** Autumn. **Why?**
- Remember we are always talking about Northern Hemisphere.

SHEET 3:

- Here you can see the four seasons and the dates seasons begin.
- Pupils can practise dates. **Which day does Spring start? Which day does Winter finish? How long is summer? Which season is November the eleventh?** And so on.
- And then we can imagine seasons in the Southern Hemisphere. **Which season is April in Argentina? Which season is July in Australia? Which season is October in Canada (N.H.)?** And so on using different countries from both hemispheres.

SHEET 4:

- These rectangles represent 24 hours: red is night and white is day. **In winter, which is longer: day or night?** Night. **And in summer?**

- Duration of days and nights is changing everyday. **Do you know which one is the longest night and the shortest day?** It's the 21st of December, the day winter starts.
- **And which one is the longest day and the shortest night?** 21st of June, the day summer starts.
- These special astronomical dates agree with special celebrations. Next to the 21st of December we celebrate Christmas. And June the 21st we celebrate "La noche de San Juan" plenty of bonfires like those of Valencia. Valencia people burn their fallas on the 21st of June (fallas are very big figures made up of card).

SHEET 5:

- Here you can see these two dates we've just explained. In addition, we're going to study March the 21st and September the 22nd. **What is special in these dates?** Day lasts the same than night (It occurs only two days in the year). Look at the symbols.
- These days are called equinox (equinoccios in Spanish). Equi means equal (igual) and nox is night. So: equinoccio es igual noche. We have a Spring equinox (equinoccio de primavera) (March 21st) and an Autumn equinox (equinoccio de otoño) (September 22nd).
- We use "solstice" (solsticio) for the other two special dates. The 21st of December is the winter solstice (the longest night) and the 21st of June is the summer solstice (the longest day).

SHEET 6:

- Green line. From the 21st of December days get longer and longer until the day is as long as the night (21st of March) and then days go on growing until June (the longest day is the 21st).
- Blue line shows days getting shorter and shorter. We use to think summer days are very long. That's true but they get shorter during that season.

Eventually, they can do exercise 46 in their Activity Book (page 31). They have to fill the cells in this chart:

Seasons	Begins	Ends	Sun rays: perpendicular or slanted?	Cold or warm	Duration of days	Duration of nights
Winter	December 21 st	March 21 st	Slanted	Cold	Short days	Long nights
Summer	June 21 st	September 22 nd	Perpendicular	Warm	Long days	Short nights

Thank you