Year 5 Science: Earth's tilt, the seasons, Matariki and Puanga

Name: _____ Date: _____

Try these without your notes first, then check the answer key.

Practice

1. About how many degrees is Earth's axis tilted?

2. In December, does the Southern Hemisphere lean towards the Sun or away from it?

3. Use the Auckland table. Which month had the shortest day, and how long was it?

4. A torch beam shines straight down on the floor, then at a slant. Why does the slanted beam warm each part of the floor less?

5. In which season does Matariki appear in the dawn sky in New Zealand?

Fix the mistake

6. Correct this statement: "It is summer because Earth is closer to the Sun."

7. Correct this statement: "Earth's axis swings round so it always leans towards the Sun."

8. Correct this statement: "Summer is warm only because the days are longer."

9. Correct this statement: "Matariki is a single star."

Answer key (for parents and tutors)

1. About how many degrees is Earth's axis tilted?
   About 23.5 degrees.
2. In December, does the Southern Hemisphere lean towards the Sun or away from it?
   Towards the Sun, which is why December is summer in New Zealand.
3. Use the Auckland table. Which month had the shortest day, and how long was it?
   June, with 9 h 38 min of daylight.
4. A torch beam shines straight down on the floor, then at a slant. Why does the slanted beam warm each part of the floor less?
   The same light is spread over a bigger area, so each part gets less energy.
5. In which season does Matariki appear in the dawn sky in New Zealand?
   Midwinter, around June or July.
6. Correct this statement: "It is summer because Earth is closer to the Sun."
   Seasons come from the tilt; when it is summer in New Zealand it is winter in the Northern Hemisphere, at the same distance from the Sun.
7. Correct this statement: "Earth's axis swings round so it always leans towards the Sun."
   The axis keeps leaning the same way in space, so each hemisphere leans towards the Sun for part of the year and away for the rest.
8. Correct this statement: "Summer is warm only because the days are longer."
   Long days help, but the high midday sun matters too, because straight-on sunlight packs more energy into each patch of ground.
9. Correct this statement: "Matariki is a single star."
   Matariki is a cluster of many stars; Puanga is the single star Rigel.