

Earth's Life Support

Read how connected Earth properties help make life possible.

6.3.a "Earth has unique properties;"

NAME _____

DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Circle the four bold property names in paragraphs 1 and 2. Then write that property's bold number beside every later sentence in those two paragraphs that explains an effect of that property, writing more than one number only if a sentence explains more than one property.

A Connected Planet

- ① Earth is a rocky planet with a special combination of conditions. **1. Liquid water** covers much of its surface and also moves through soil, clouds, and living things. Water can remain liquid because Earth has temperatures that are neither constantly too hot nor too cold. **2. A protective atmosphere** surrounds the planet. This layer contains gases needed by many organisms and helps keep surface temperatures from changing too sharply between day and night. It also filters some harmful radiation from the Sun.
- ② **3. Enough gravity** is another Earth property. It pulls gases close to Earth, helping the atmosphere stay around the planet. Gravity also helps Earth hold onto surface water instead of losing it easily to space. **4. A magnetic field** is another Earth property. It reaches far beyond Earth and deflects many charged particles from the Sun. This protection reduces the amount of solar particles that strike the upper atmosphere. Together, these properties make Earth a place where organisms can survive and reproduce.
- ③ No single property guarantees life. A planet might have water at one time but lose its atmosphere, or it might have an atmosphere without enough gravity to keep it for long. Earth's four listed properties support one another. Its atmosphere and magnetic field help protect conditions at the surface, while gravity helps retain the atmosphere and water. When scientists search for places that may support life, they look for several connected conditions rather than one feature alone.

2 ANSWER WITH EVIDENCE _____ Use the passage

1 What allows Earth's water to remain liquid instead of being constantly too hot or too cold?

2 Give two ways Earth's protective atmosphere helps support life.

3 How does gravity help Earth keep both its atmosphere and its surface water?

4 What does Earth's magnetic field deflect, and what does this protection reduce?

3 YOUR TURN _____ Your own words

Write exactly four sentences explaining how two of Earth's four listed properties work together to support life. Name both properties and explain what could happen if one of them were missing or much weaker.

PART 1 • READ AND MARK

Circle the four bold property names in paragraphs 1 and 2. Then write that property's bold number beside every later sentence in those two paragraphs that explains an effect of that property, writing more than one number only if a sentence explains more than one property. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	What allows Earth's water to remain liquid instead of being constantly too hot or too cold?	Earth has temperatures that are neither constantly too hot nor too cold.
2	Give two ways Earth's protective atmosphere helps support life.	It contains gases needed by many organisms, helps keep temperatures from changing too sharply, and filters some harmful radiation. Accept any two.
3	How does gravity help Earth keep both its atmosphere and its surface water?	Gravity pulls gases close to Earth so the atmosphere stays around the planet. It also helps Earth hold onto surface water instead of losing it easily to space.
4	What does Earth's magnetic field deflect, and what does this protection reduce?	It deflects many charged particles from the Sun. It reduces the amount of solar particles that strike the upper atmosphere.

PART 3 • YOUR TURN (SAMPLE ANSWER)

Earth's gravity and atmosphere work together to support life. Gravity keeps many gases close to the planet. The atmosphere contains gases needed by many organisms and helps limit sharp temperature changes. Without enough gravity, Earth could lose much of this protective layer.

Accept responses that name two listed properties, accurately explain how each contributes to life-supporting conditions, and describe a reasonable consequence if one property were absent or weaker. The response must contain exactly four sentences.