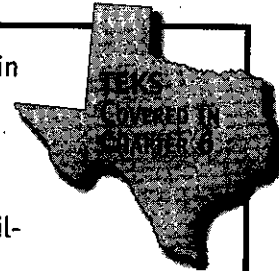


PROCESSES SHAPING PLANET EARTH



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In this chapter, you will learn about Earth's **lithosphere** (*Earth's crust and landforms*), **hydrosphere** (*oceans and other bodies of water*), **atmosphere** (*layers of gases surrounding Earth*), and **biosphere** (*plants and minerals*).

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● What forces have helped shape Earth's landforms, climate, and plant life?

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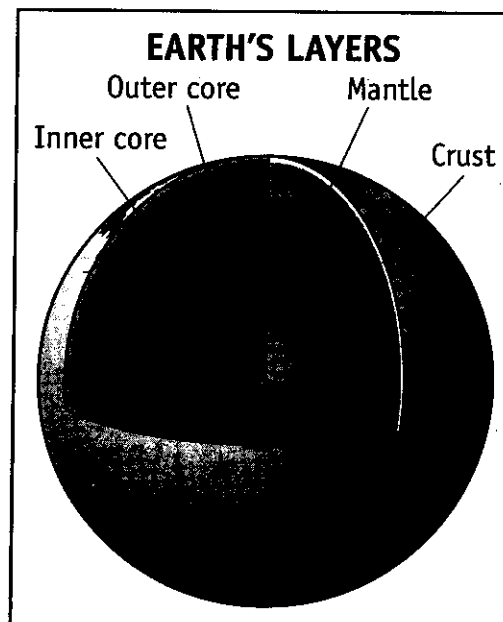
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- A. Lithosphere.** The lithosphere is made up of the Earth's crust and solid upper mantle. It is broken up into **tectonic plates**. The movement of these plates shapes Earth's surface. New crust is made when plates spread apart. Crust folds into new mountain chains where continental plates collide. Earthquakes and volcanoes often occur at plate boundaries. **Weathering** and **erosion** tear down Earth's surface. Particles of rock and decayed plant and animal life form Earth's **soil**.
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Earth's crust forms a thick skin around the Earth, much like the crust of a loaf of bread. Below the crust is Earth's **mantle**, a region of hot, dense rock. The top of the mantle is solid.

As one travels deeper toward Earth's center, temperatures and pressure rise. About 100 km below Earth's surface, the rock is near its melting point and becomes semi-solid or plastic. Scientists are investigating how to use Earth's heat as a source of usable, clean, geothermal energy.

The **lithosphere** consists of Earth's crust and the top section of solid mantle. This brittle uppermost shell of the Earth is broken into a number of tectonic plates.



A model of Earth's interior.

After the hotter rock rises, it begins to cool down. Once cooled, it sinks, creating a circular motion or current. This circular motion pushes the plates above.

GRAVITY

Gravity also contributes to plate movement. When oceanic and land plates collide, the dense oceanic plate is pulled by gravity under the lighter land plate. As one end of the oceanic plate sinks, it pulls on the rest of the plate as well.

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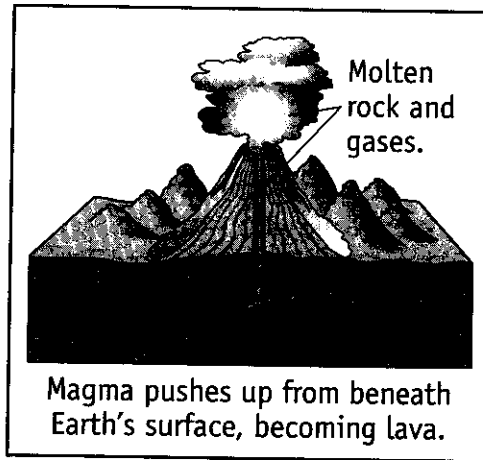
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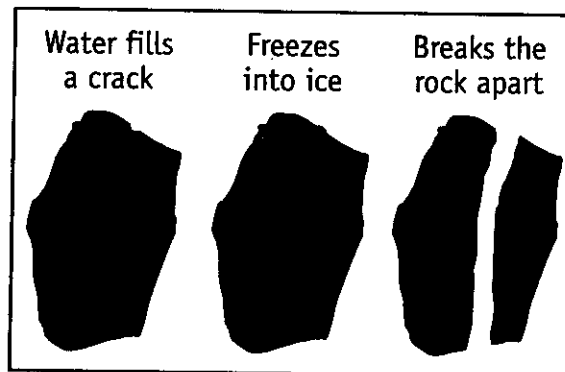


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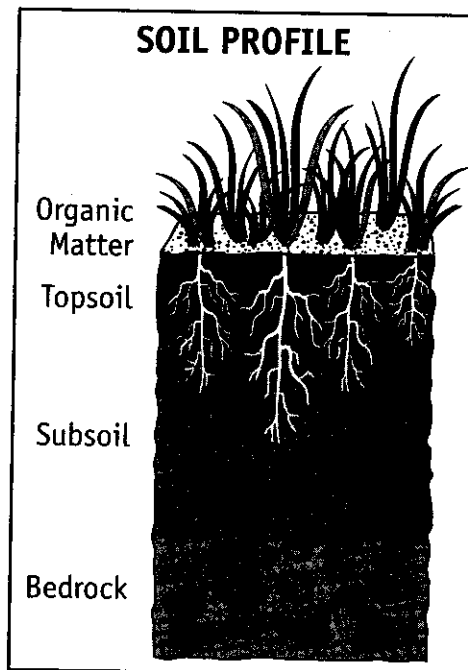
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For example, clay and dead plant and animal material can hold water. Soils with a large amount of clay and decayed material will therefore hold more water than sandy soils.

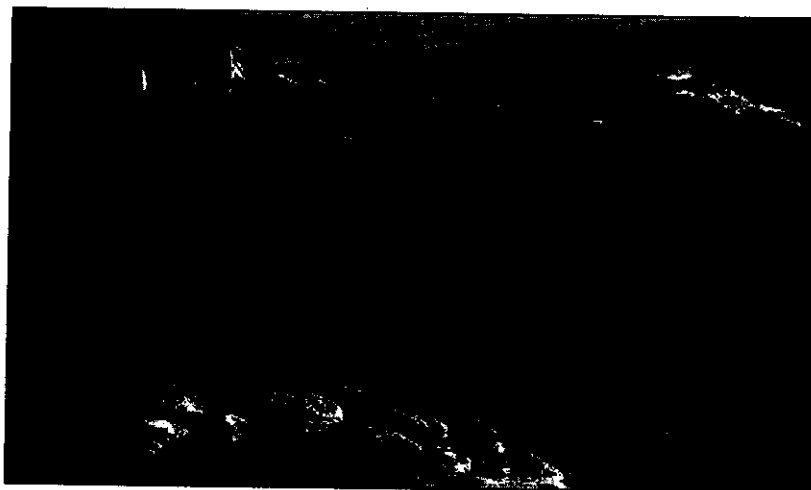
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All these processes acting on Earth's lithosphere create typical landforms. These landforms include mountains, hills, plateaus, plains, valleys, canyons, deserts, and beaches.

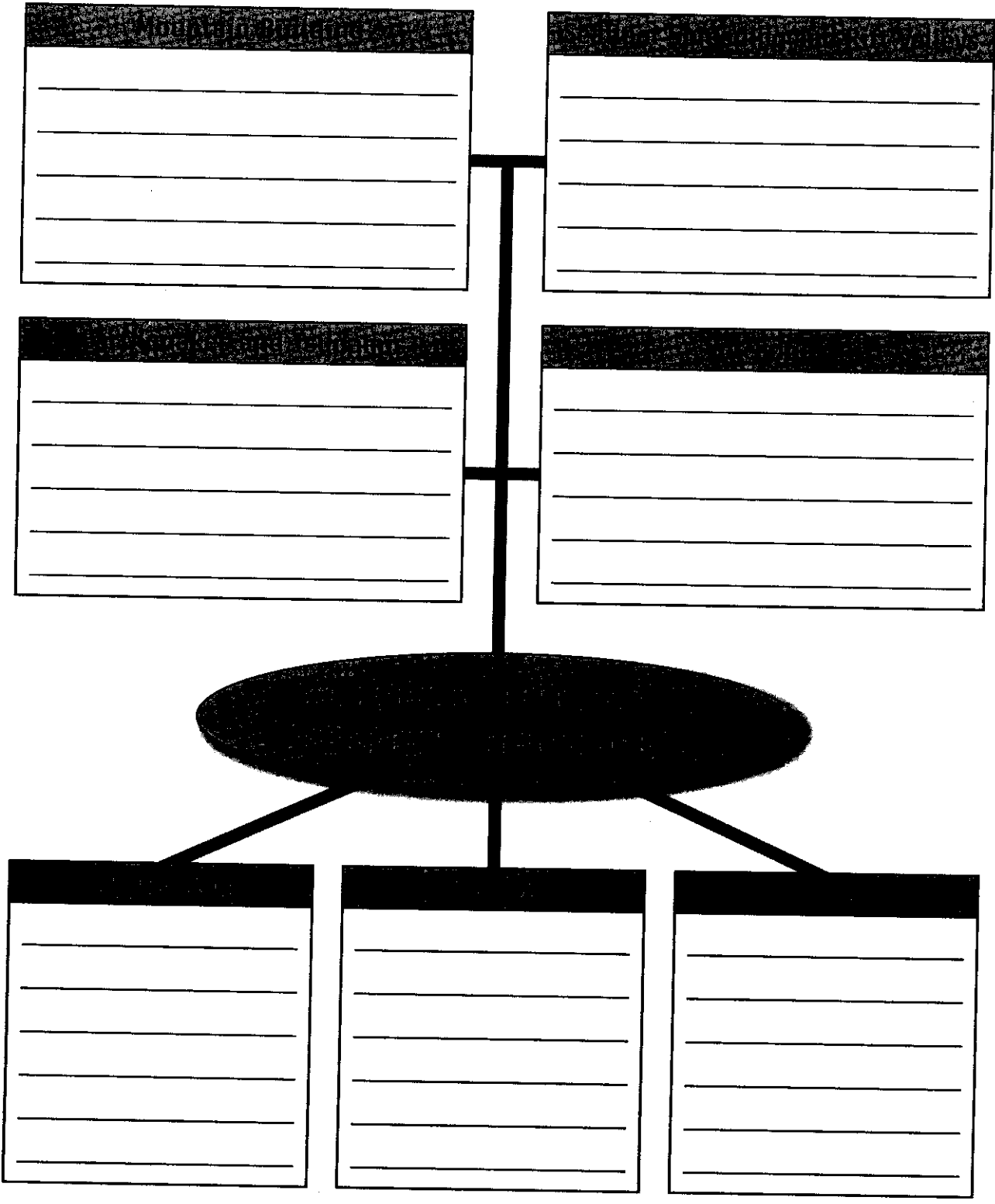
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A plateau.

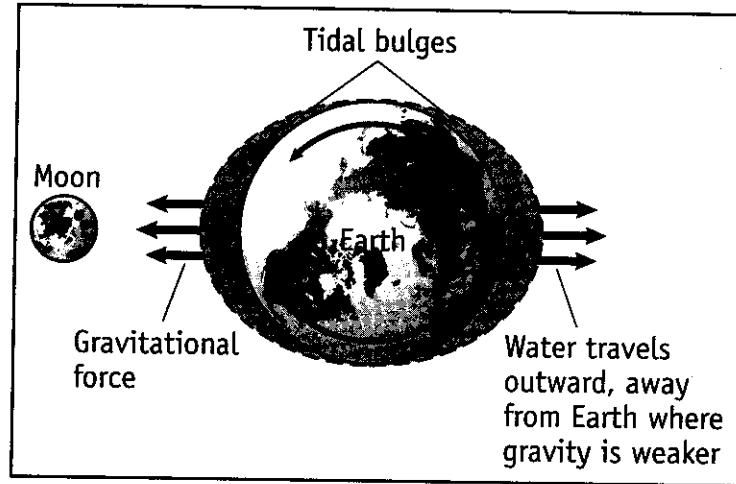


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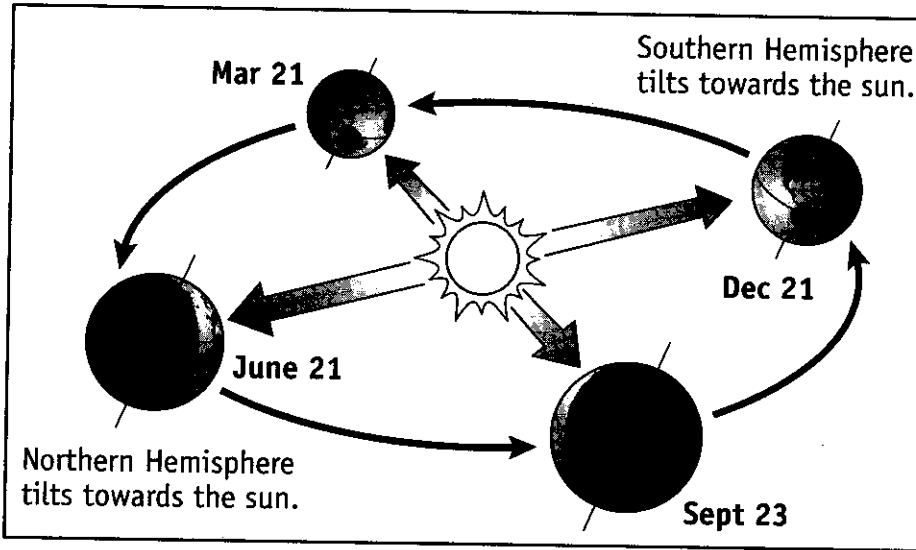
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UNLAWFUL TO PHOTOCOPY

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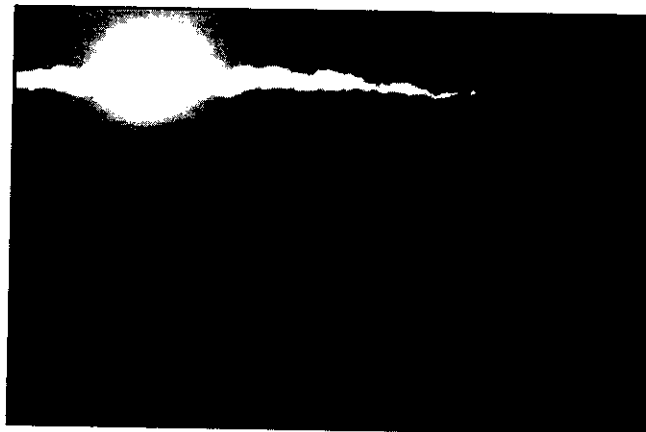


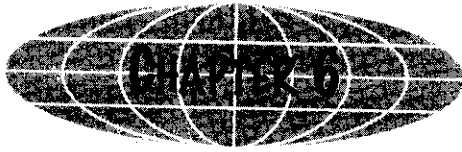
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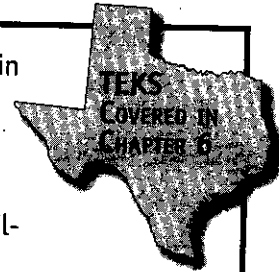
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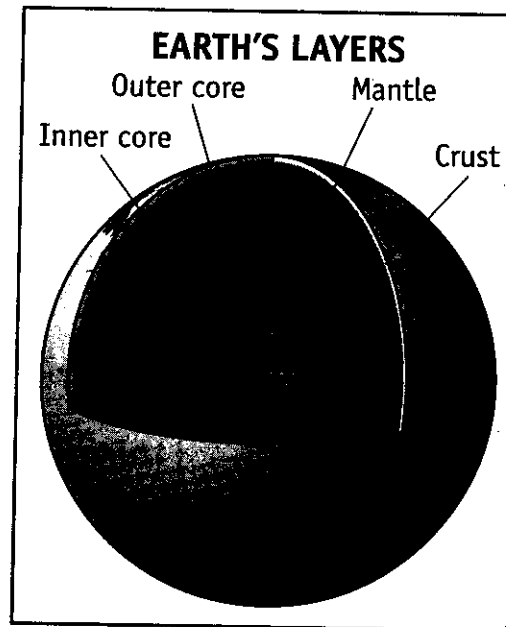
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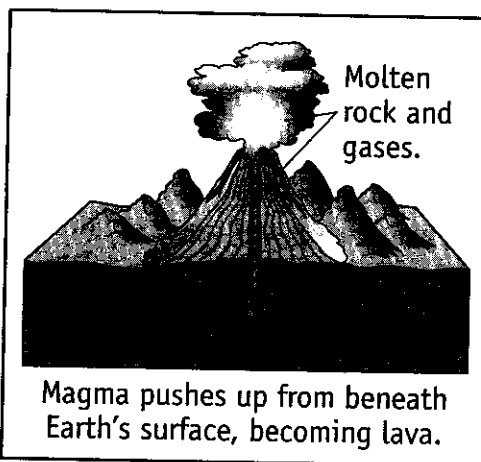
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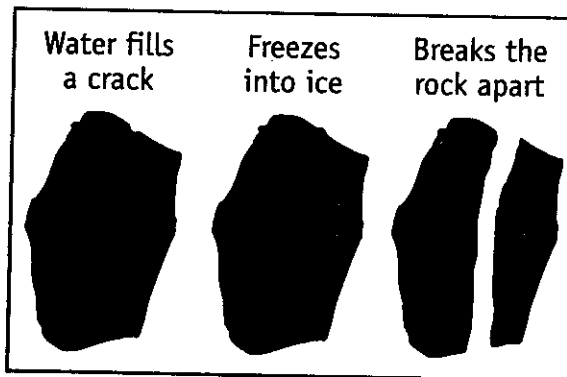
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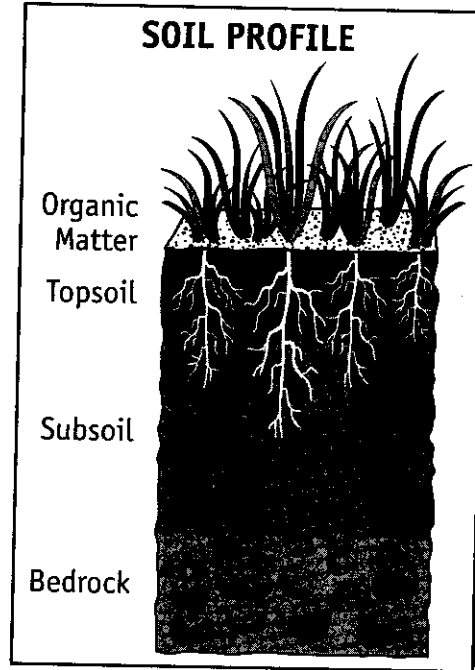
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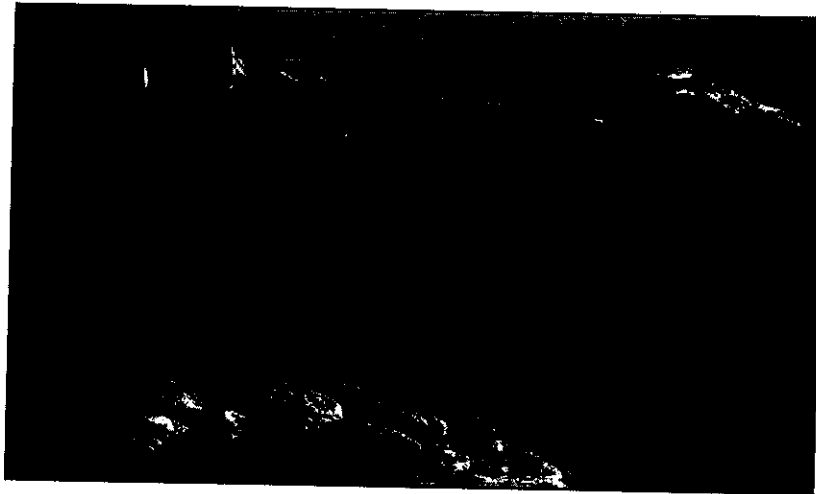
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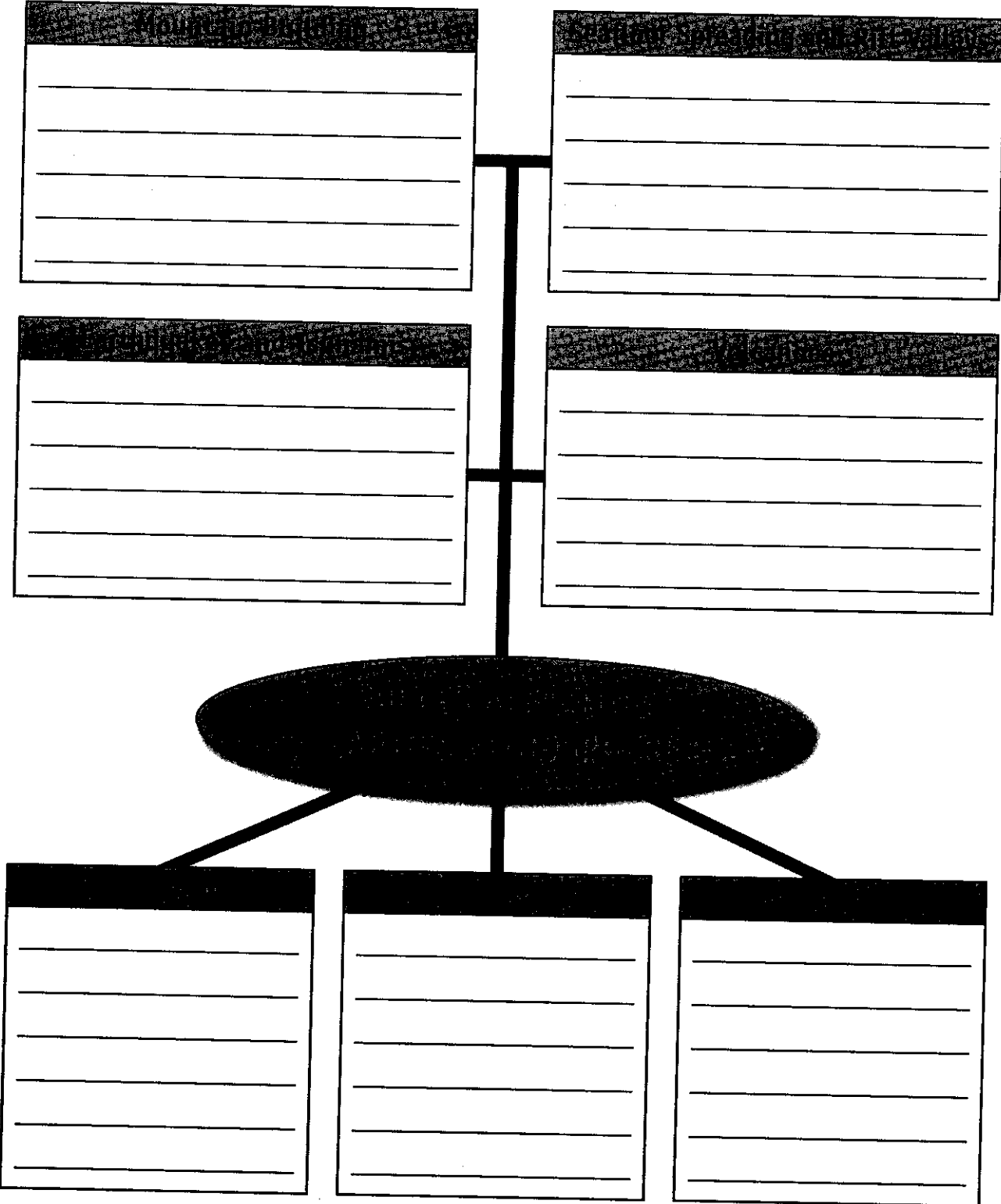
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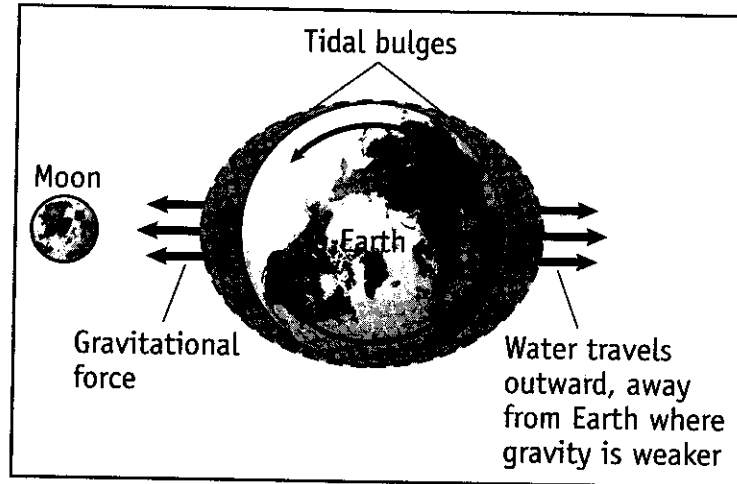


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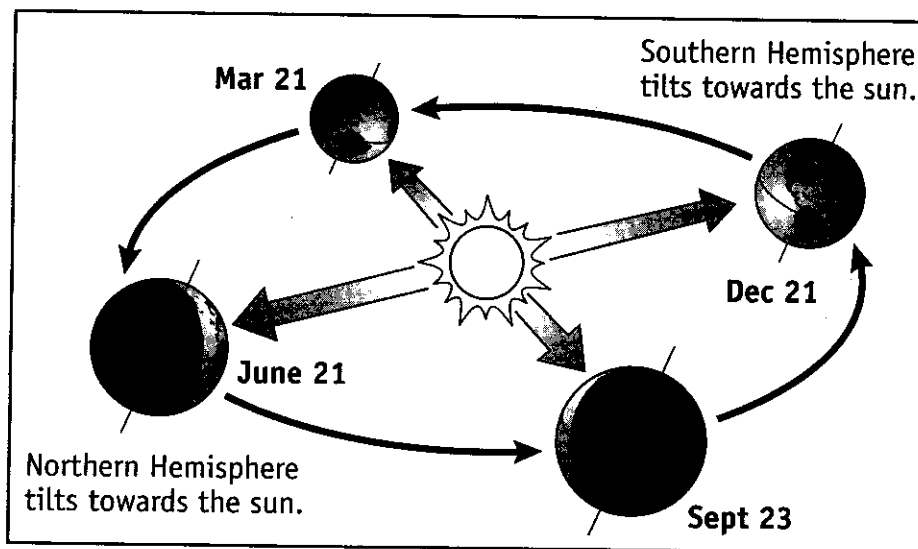
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