

Lesson 1 Spherical Earth

Scan Lesson 1. Read the lesson titles and bold words. Look at the pictures. Identify three facts that you discovered about Earth's systems or formation. Write these facts in your Science Journal.

Main Idea

Describing Earth

I found this on page **41**.


I found this on page **42**.

Have students break the large words of this section into smaller words. Explain that *hydro* means "water," *geo* means "Earth," *atmos* means "air," and *bio* means "life." *Sphere* is a round solid object.

Details

Draw Earth as seen from space.

Drawings should indicate that Earth has a spherical shape, with a slight bulge around the equator.

 **Compare** Earth systems. Then explain how these systems work together.

Atmosphere	Hydrosphere	Geosphere	Biosphere
Description: the layer of gases surrounding Earth	Description: all water on Earth	Description: the solid part of Earth	Description: all living organisms on Earth

Earth's four systems exchange **energy** and **matter**. The **atmosphere** provides oxygen, the **hydrosphere** provides the water, and the **geosphere** provides the organisms in the biosphere a place to live and elements needed for their survival.

Lesson 1 | Spherical Earth (continued)

Main Idea

How did Earth form?

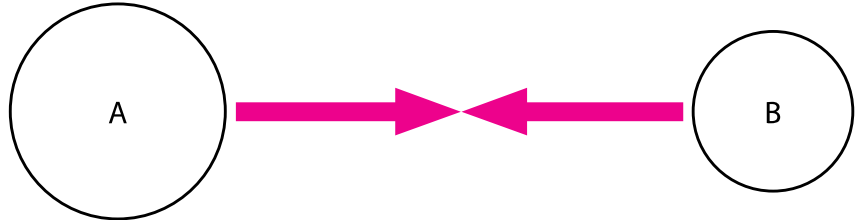
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I found this on page 44.

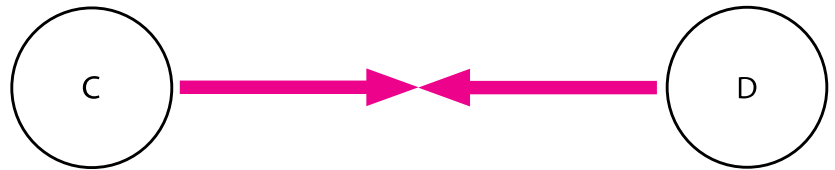
Students might also respond that gravity formed all the planets from the remaining bits of material, not just Earth.

Details

Model the strength of gravitational force between two objects. Draw arrows of different thicknesses to indicate the strength of the gravitational force exerted by the objects in each pair.

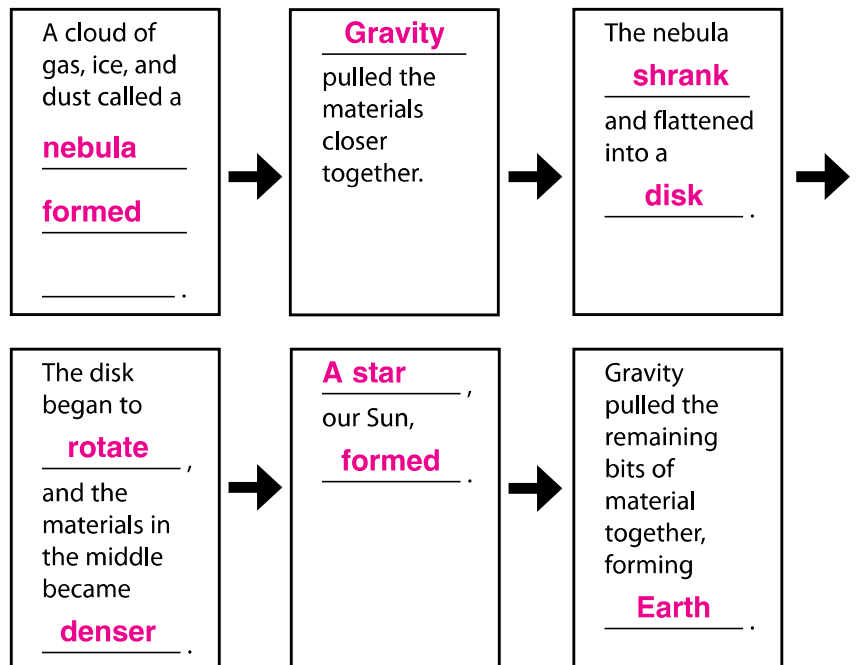


Object A has a greater mass than Object B.



Objects C and D have the same mass.

Sequence the early events in the formation of the solar system.



Main Idea
Details

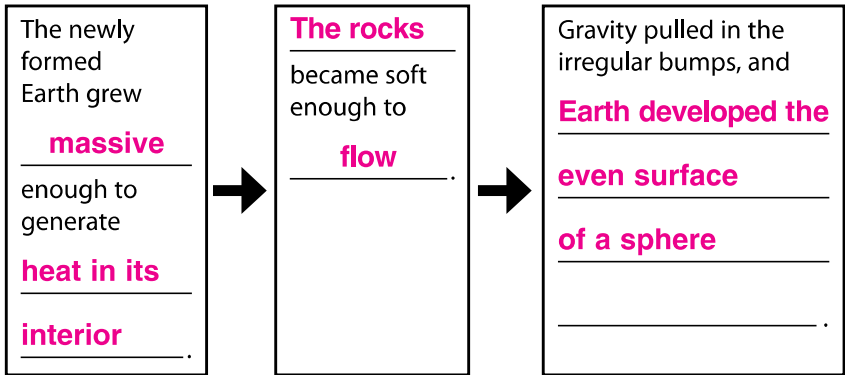
I found this on page 44.

The Formation of Earth’s Layers

I found this on page 45.

I found this on page 45.

Sequence the events that formed early Earth.



Draw and label the geosphere. Use these terms:

- least dense
- middle layer
- most dense

Drawings should include three layers, labeled least dense to most dense from top to bottom.

Organize information about how the layers of the geosphere formed.

The densest material sank and formed the innermost layer.

The least dense material stayed at the surface.

The materials with intermediate densities formed the layers in between.

Connect It Apply what you have learned about the formation of Earth to describe how gravity influenced the formation of the planet Mars.

Earth formed as gravity pulled together particles from the solar nebula. As particles collided, they stuck together and formed a larger object, a planet. Gravity caused Mars to form in the same way.