

## Long Term Target:

I can explain the origins of the Universe, Solar System and Earth, including the role of gravity.

## Today's Target:

I can illustrate the scientific theory of the Universe's formation.

# The Big Bang Theory

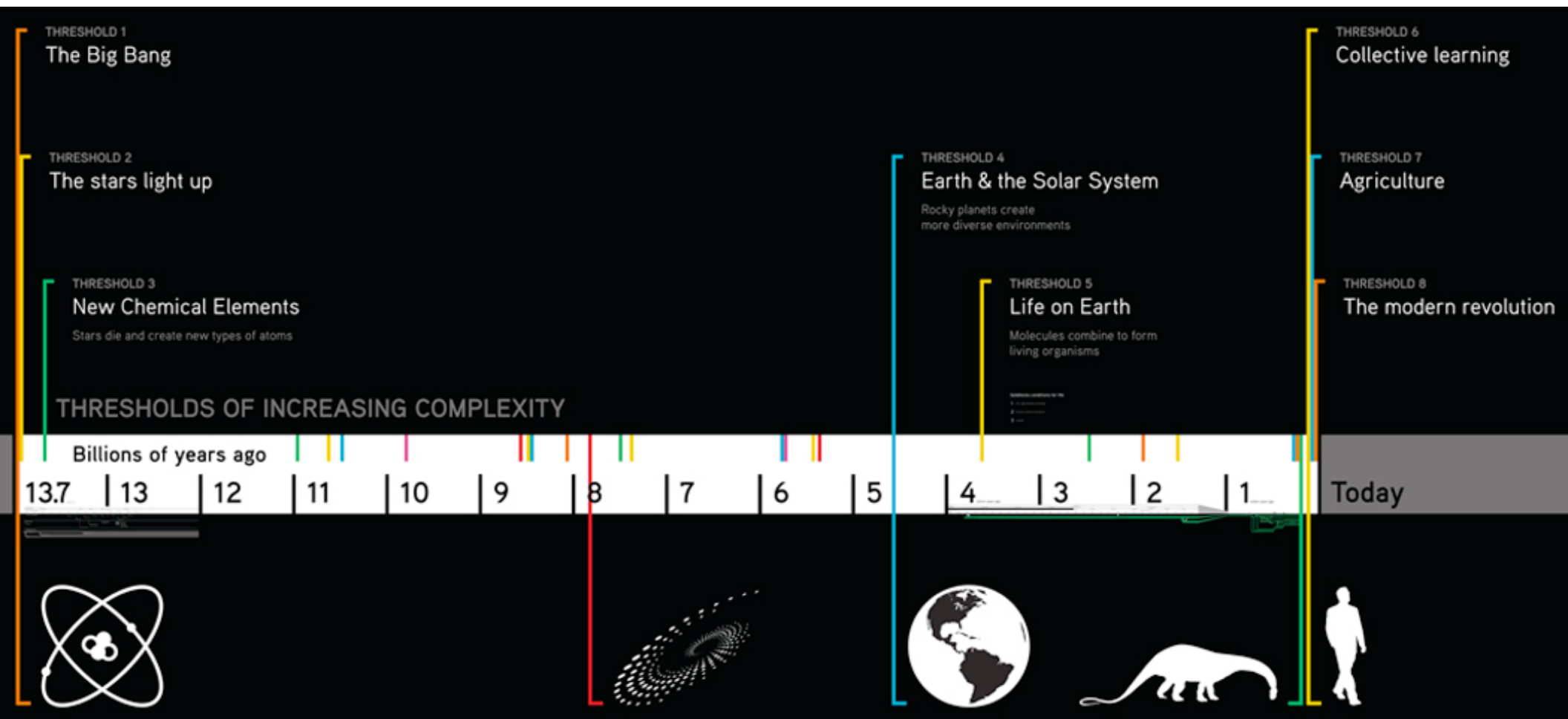
The Big Bang Theory is the scientific explanation about the origins of the Universe.

It is based off of scientific observations of the Universe. For the most part, scientists have found enough evidence to support The Big Bang Theory that it is the currently accepted scientific explanation of how the Universe formed.

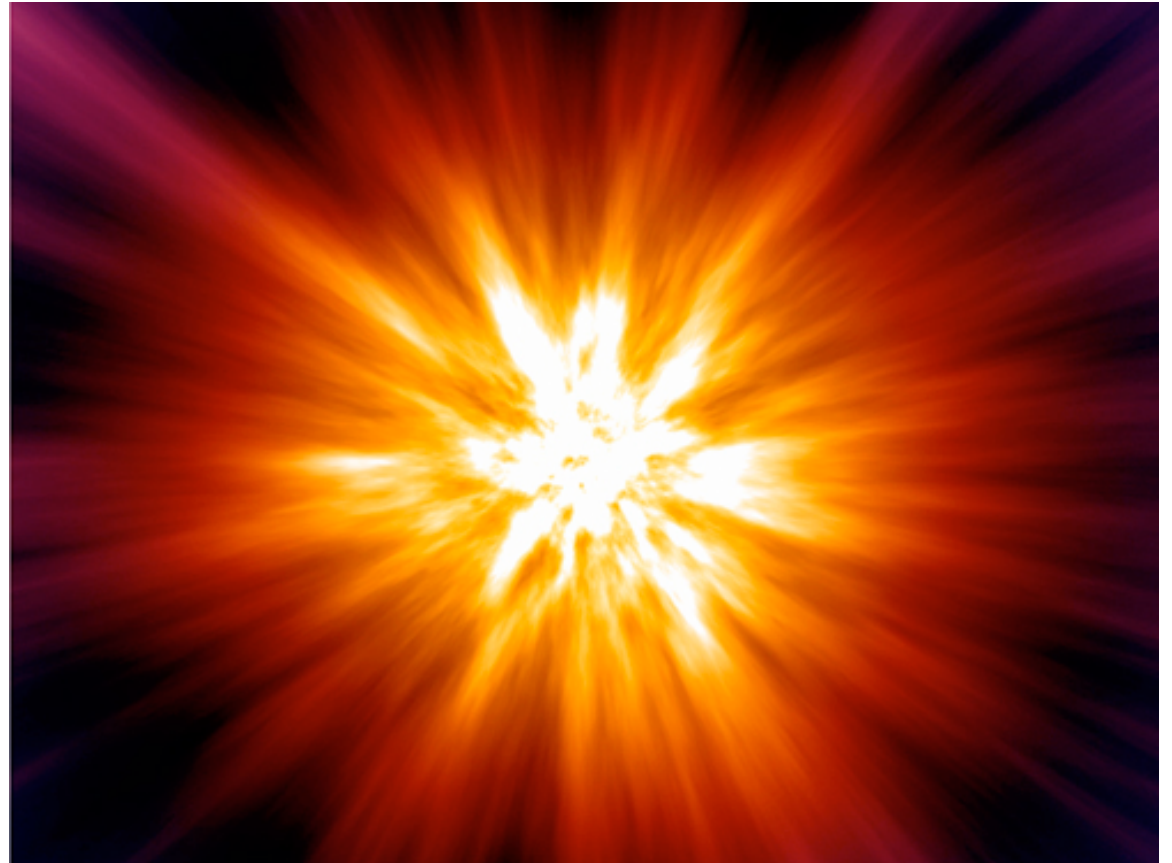
That said, the scientific explanation is sometimes at odds with religious or cultural explanations of the origins of the Universe.

The Theory...

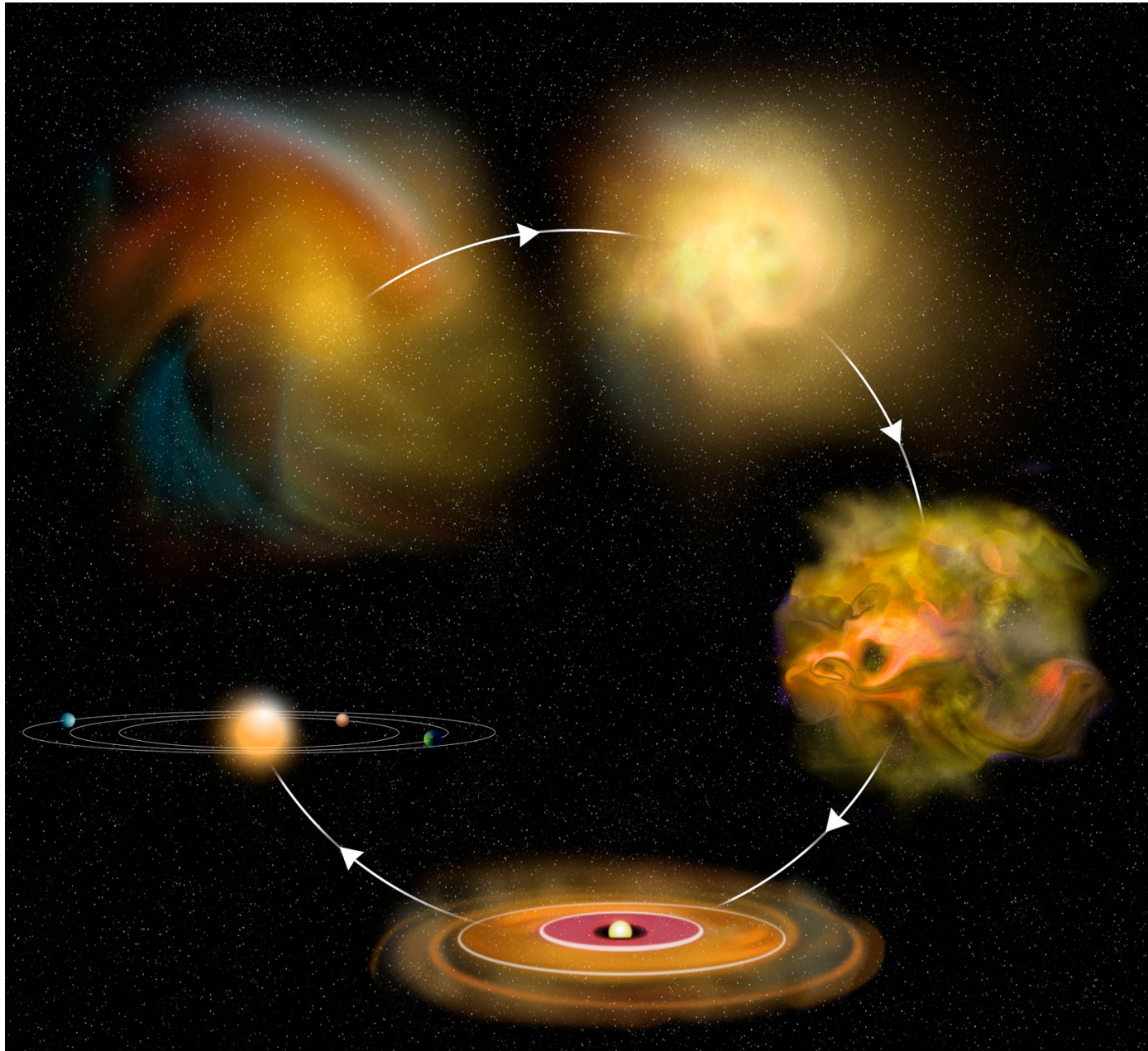
# According to The Big Bang Theory the universe began about 13.7 billion years ago.



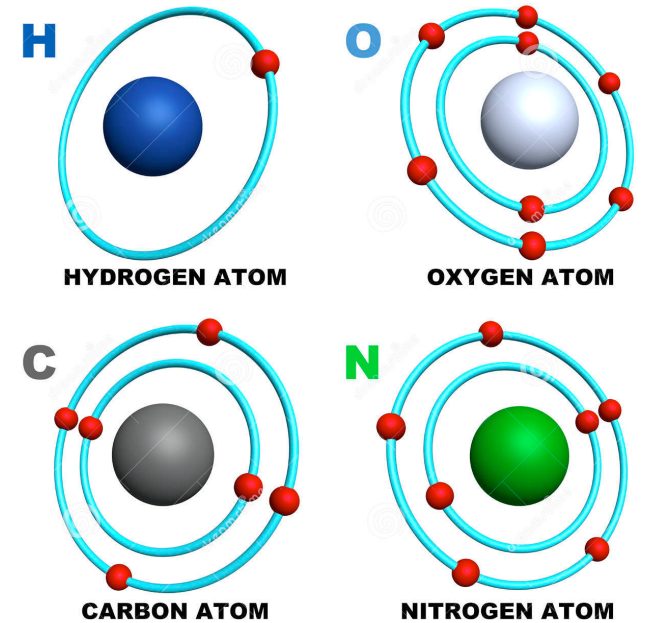
At the beginning, everything fit into a tiny point called a singularity. The point exploded and rapidly expanded, eventually filling the Universe with hydrogen and helium gasses.



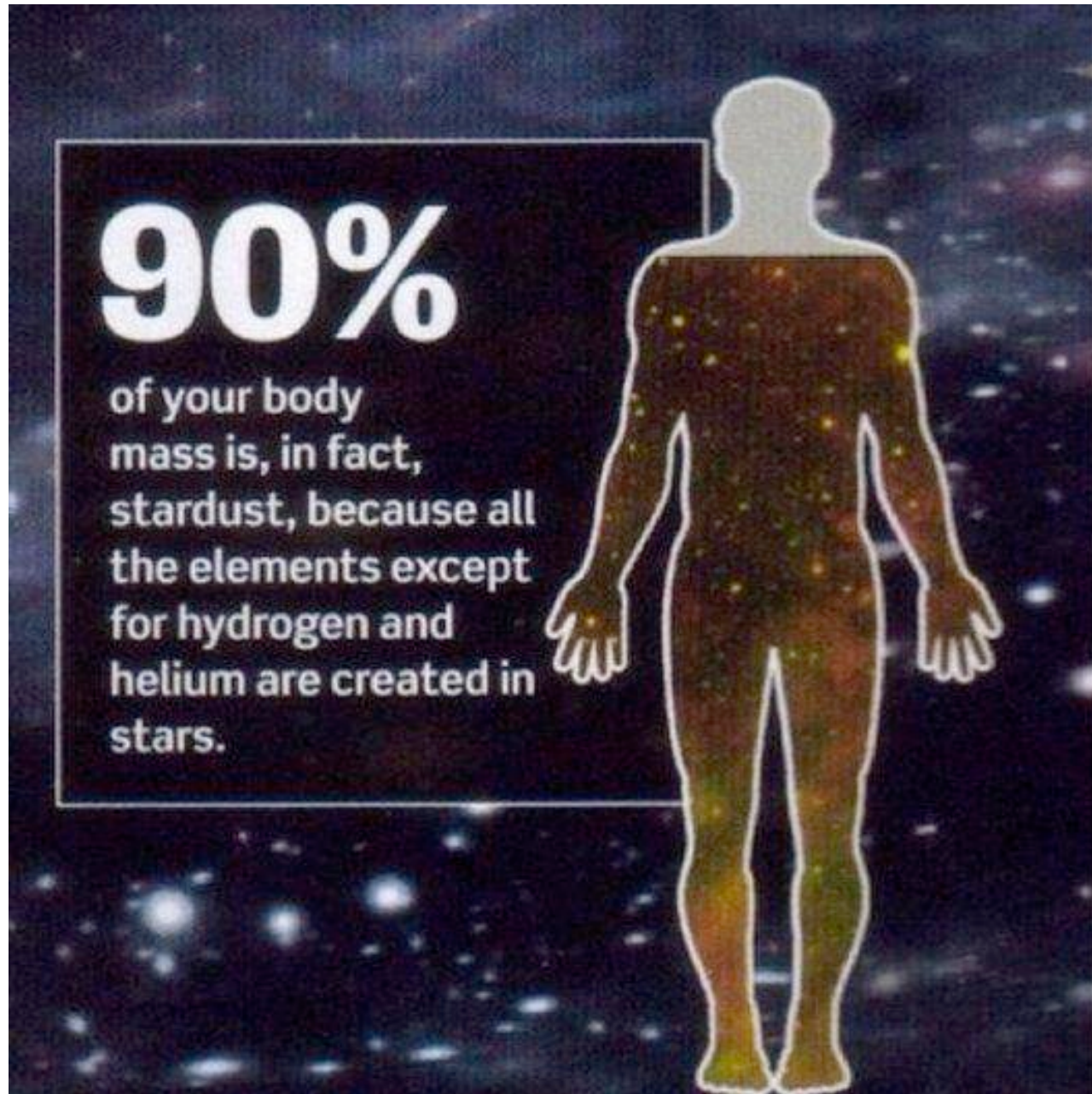
Due to gravity, these gasses clumped together forming the first stars.



These early stars exploded creating heavier elements (such as oxygen, nitrogen and carbon).



# We are all made of stardust...

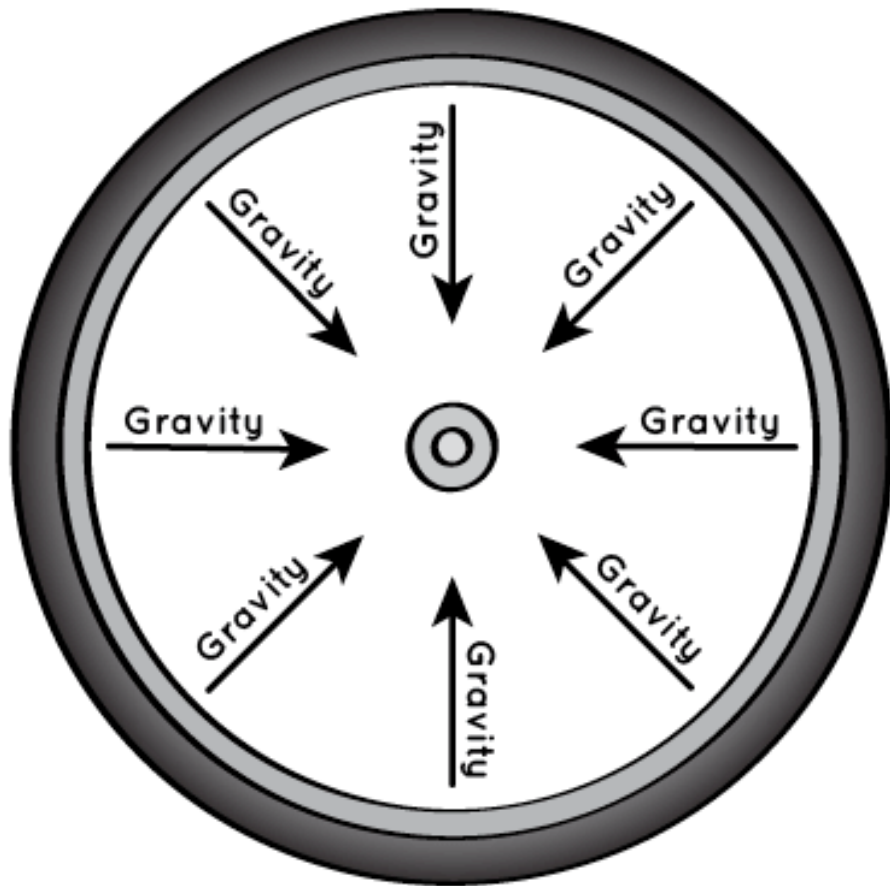




New stars were born, and eventually planets formed, also due to gravity.



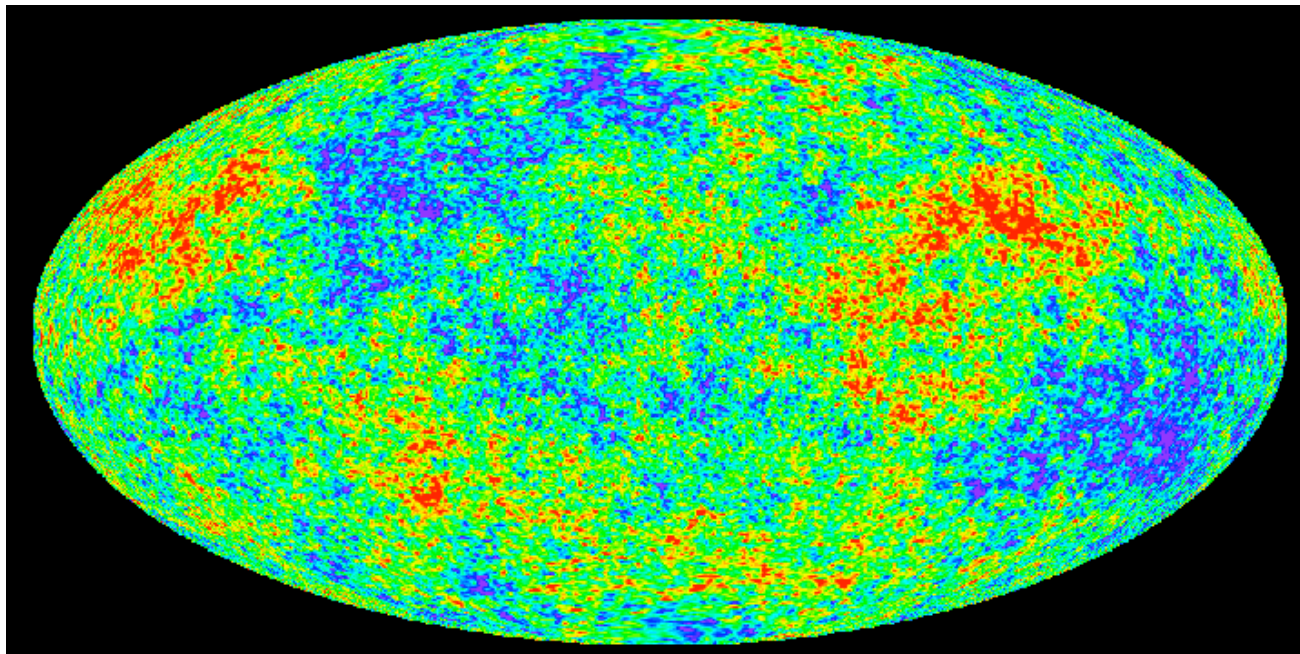
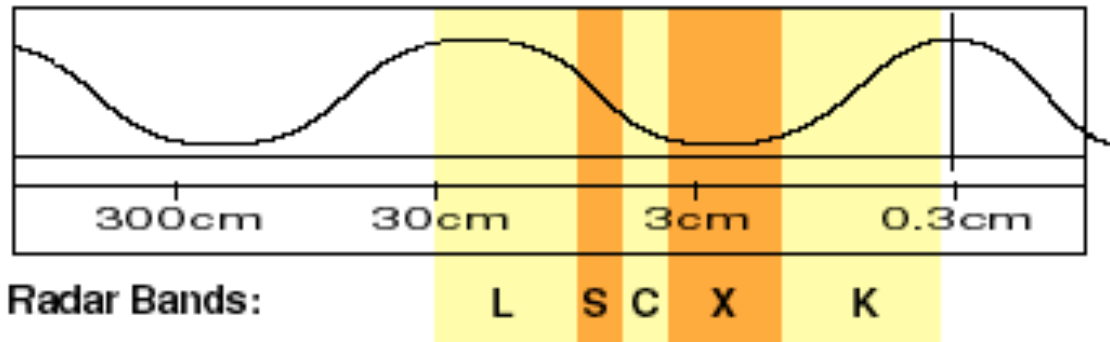
Stars and planets form into spheres (circles) since all points in a sphere are an equal distance from the center of gravity.



Gravity forms things into circles.

Microwaves (a type of energy wave found in space and on Earth) have been observed that scientists believe to be left over from the initial formation of the Universe. These microwaves are an important piece of evidence to support the Big Bang Theory.

**Microwave region of the Electromagnetic Spectrum**



# Brainpop Big Bang Theory



# National Geographic Video:

<https://www.youtube.com/watch?v=nVsHjnY-o9s#t=128>



# ASSIGNMENT:

Name: \_\_\_\_\_ Block: \_\_\_\_\_ Date: \_\_\_\_\_

**Big Bang Theory Comic** – Use the timeline notes provided in class to complete each step. Label key parts!

**Just before the Big Bang**

**Instant of the Big Bang**

**The First 3 Minutes**

**300 Thousand Years after  
the Big Bang**

**300 Million Years after  
the Big Bang**

**9 Billion Years after  
the Big Bang**