Daily Routine

- Sit in your appropriate seat quietly
- All back packs on the floor
- All cell phones away
- All IPods off and headphones out of your ears
- Have all necessary materials out
- No food or drink except for water

Bell Work

- Why are solar eclipses so rare?

- What are scale models?

Announcements

- No Homework

Modeling the Solar System

The Solar System:

Is Pluto a planet or a dwarf planet?

Today we will

- Create a scale model of the solar system

Spend 10 minutes finishing yesterday's scale calculations

Scale Model of the Solar System Lab

Daily Routine

- Sit in your appropriate seat quietly
- All back packs on the floor
- All cell phones away
- All IPods off and headphones out of your ears
- Have all necessary materials out
- No food or drink except for water

Bell Work

- What are neap and spring tides?

- What does the scale 1 cm = 100 km actually mean?

Announcements

- No Homework

Modeling the Solar System

The Solar System:

Is Pluto a planet or a dwarf planet?

Today we will

- Create a scale model of the solar system

Get into your groups from yesterday and finish yesterday's scale model.

Daily Routine

- Sit in your appropriate seat quietly
- All back packs on the floor
- All cell phones away
- All IPods off and headphones out of your ears
- Have all necessary materials out
- No food or drink except for water

Bell Work

- Why does the moon go through different phases?

- Why don’t we see the far side of the moon?

Announcements

- No Homework

Modeling the Solar System

The Solar System:

Is Pluto a planet or a dwarf planet?

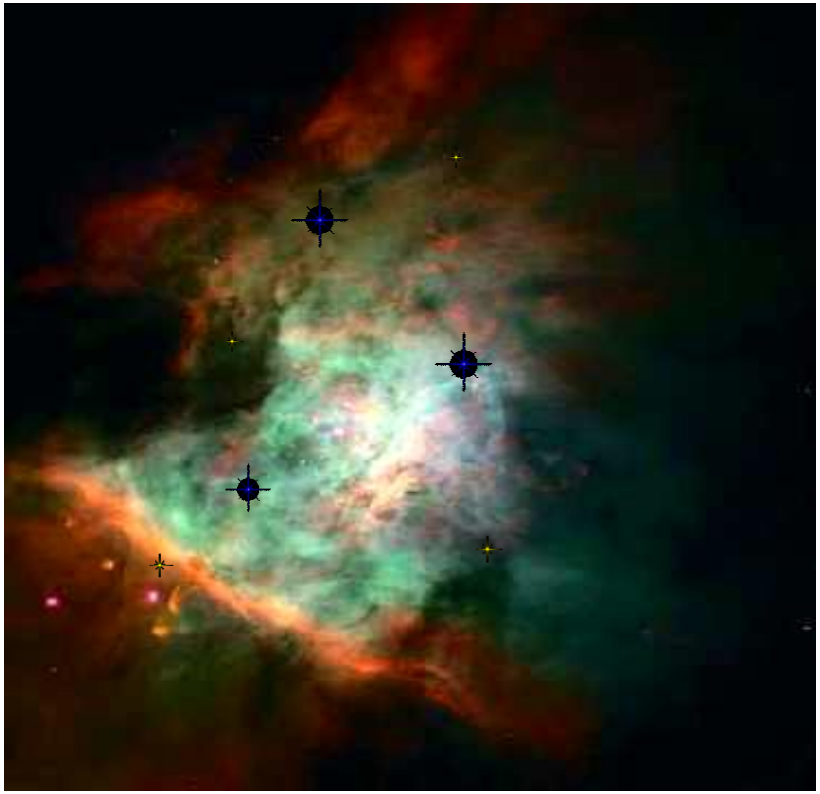
Today we will

- Create a scale model of the solar system

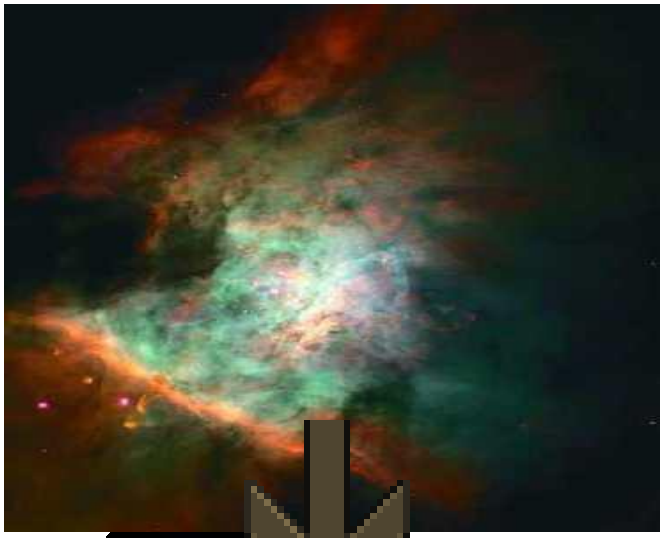
Formation of the Solar System

Nebular Model

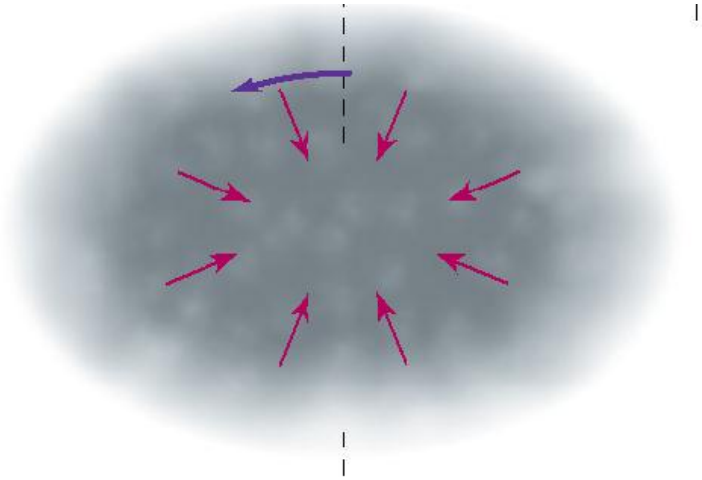
- A nebula is molecular cloud made up of gas, ice and dust particles
- These nebular clouds are the birthplace of stars and planets
- Scientists believe that the sun and solar system formed out of a nebula about 4.6 billion years ago

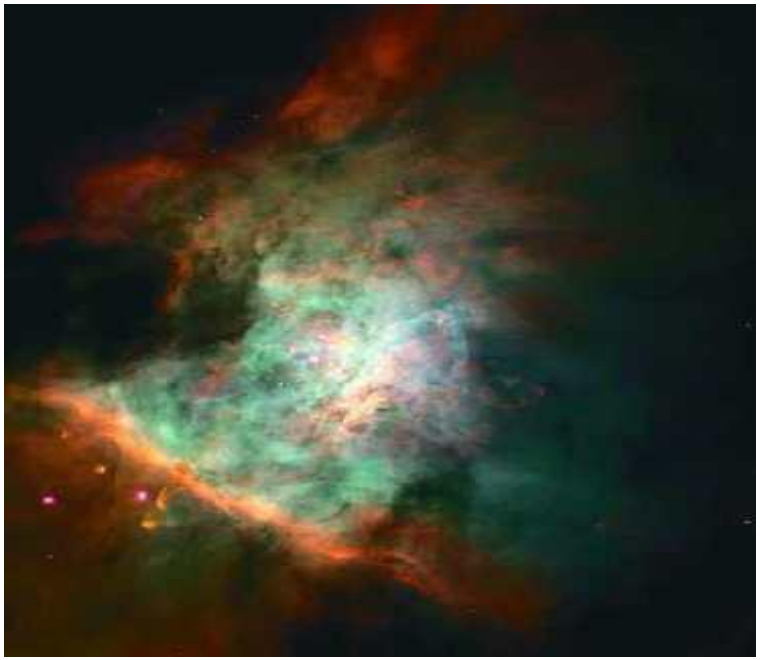


Making the Solar System: It's Like Making Pizza!



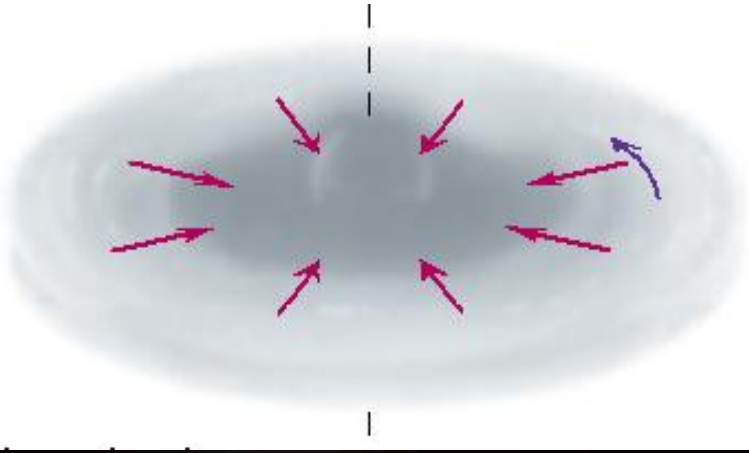
Solar System Formation Step 1:
Gravitational Collapse





- Shock waves from a nearby exploding star cause the Nebula slowly shrink or collapse
- As more material collapses, the stronger the gravitational pull inward is

Solar System Formation Step 2:
Angular Momentum



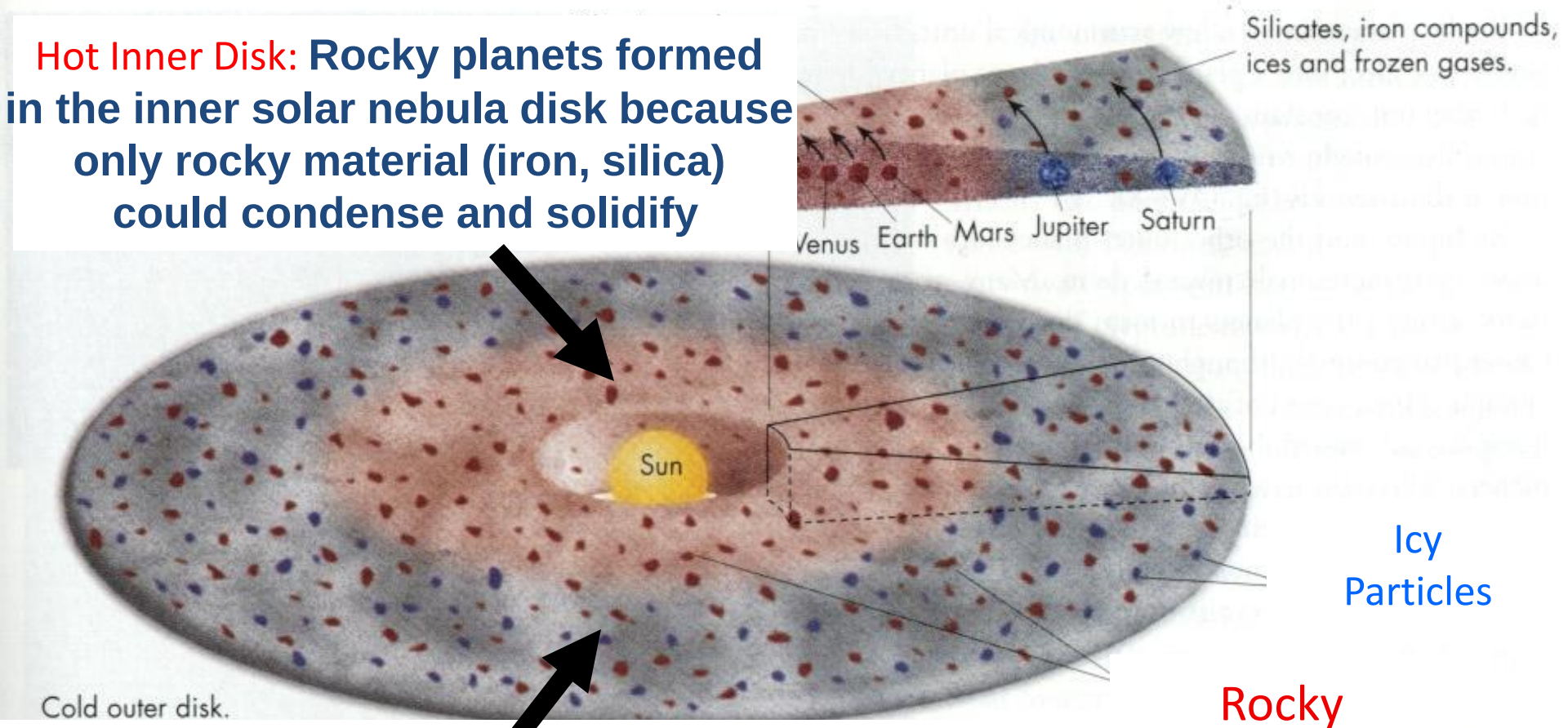
- As it collapses, or shrinks it spins faster into a disk shape due to *angular momentum*
- A center bulge develops at the center of the spinning disk
- This explain why the planets orbit in the same direction

Solar System Formation Step 3:
Condensation

- Condensation causes gas particle to become solid dust particles
- These particles start to stick together like dust bunny's on the top of your TV

Rocky Planets vs. Gassy Planets

Hot Inner Disk: **Rocky planets formed in the inner solar nebula disk because only rocky material (iron, silica) could condense and solidify**

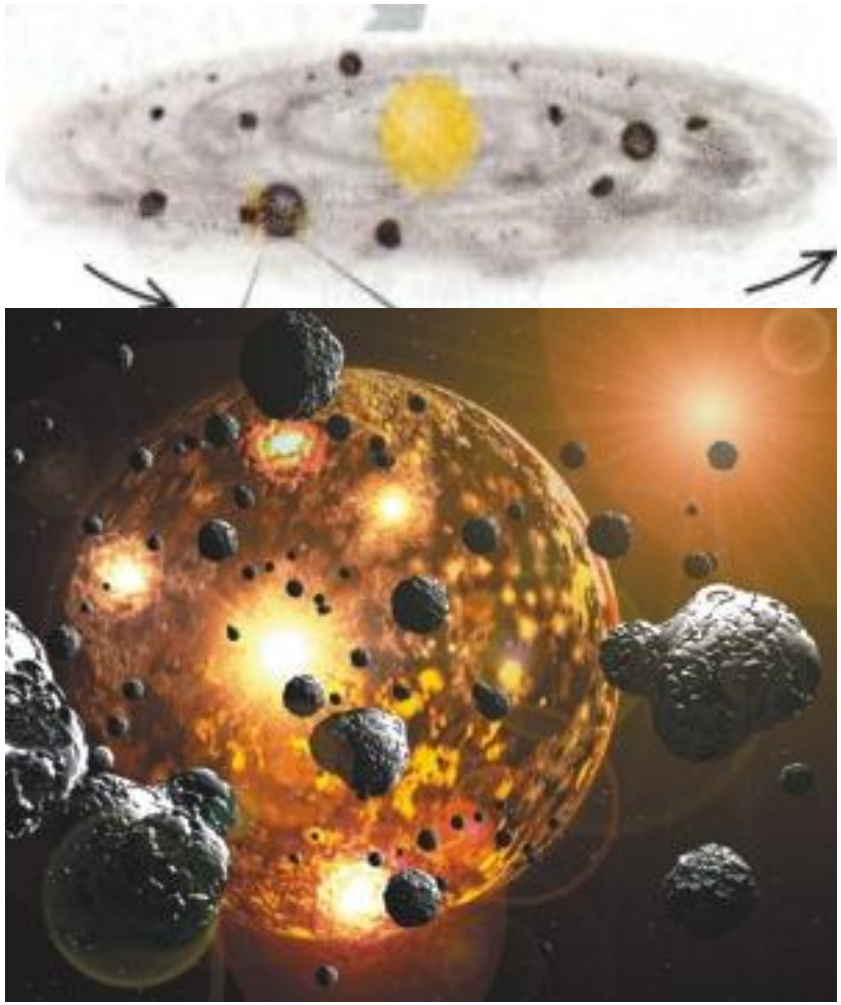


Cold Outer Disk: **Gassy planets formed in the outer solar nebula disk where it was cooler and gases (hydrogen, helium) could condense**

Solar System Formation Step 4:
Accretion

- Accretion occurs as solid particles stick together becoming larger in size
- The inner planets form as rocky material begins to clump together
- Rocks collide to make boulders, boulders collide to make small planets (planetesimals)
- The outer planets from as icy material clumps together

Solar System Formation Step 5: ***Bombardment***



- The newly formed planets now have enough gravity to pull in the remaining debris in the solar system
- As a result, planets are being bombarded by asteroids and small planets