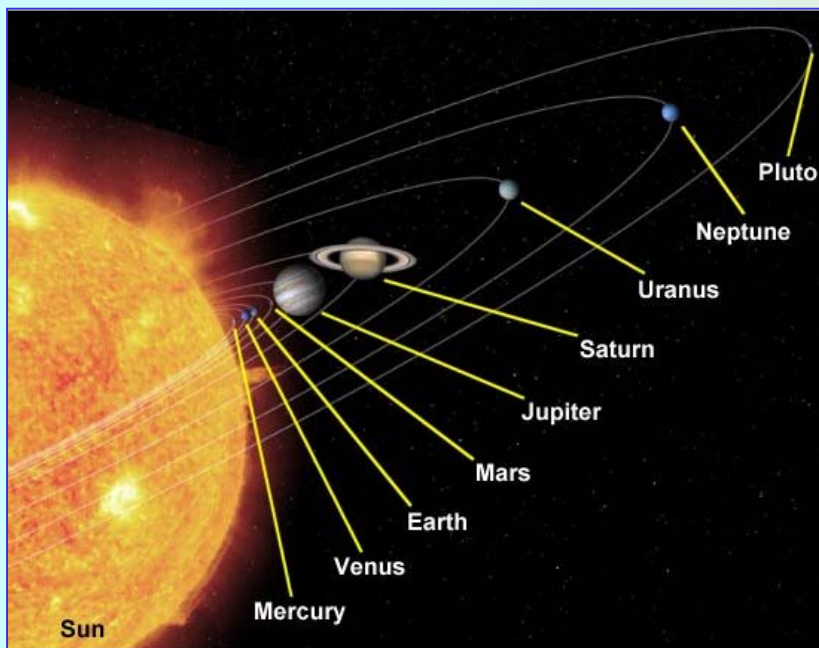


# Eguzkia



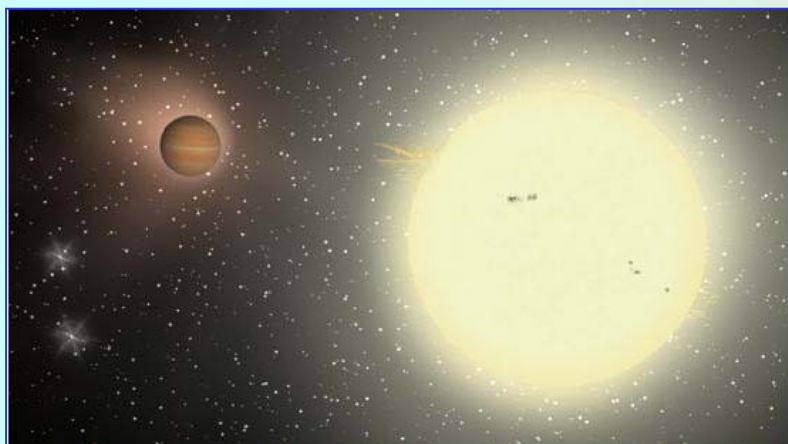
<http://www.aerospaceweb.org/question/astromy/solar-system/solar-system.jpg>

## Eguzkia

Eguzkia eguzki-sistemaren erdian dagoen izarra da. Bere masa, eguzki-sistema osoaren % 99.8 da.

Eguzkiak energia igortzen du, izpi eta beroaren eran eta Lur planetaren bizitza mantentzen du fotosintesiaren bidez. Klimaren faktore nagusia ere bada.

Eguzkiaren osagaiak hidrogenoa eta helioa dira, nagusiki.



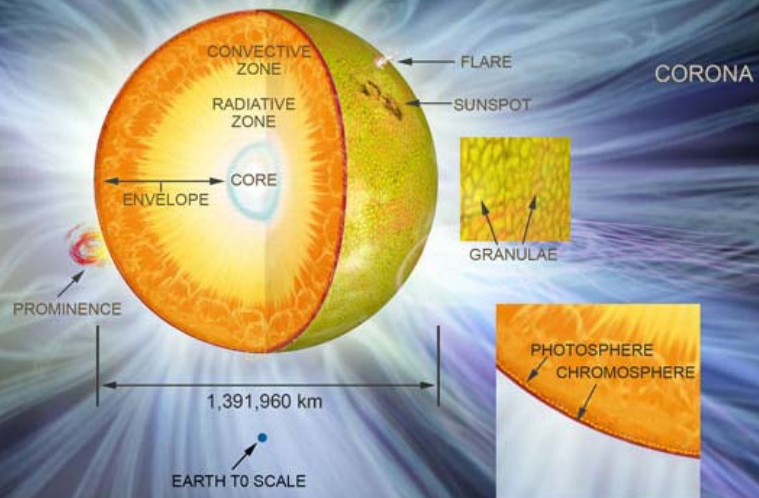
[http://space.newscientist.com/data/images/ns/cms/dn12430/dn12430-1\\_550.jpg](http://space.newscientist.com/data/images/ns/cms/dn12430/dn12430-1_550.jpg)



[http://www.michielb.nl/sun/images/sunset\\_1.jpg](http://www.michielb.nl/sun/images/sunset_1.jpg)

# Eguzkia

## Anatomy of the Sun



## Eguzkiaren egitura 1. Gunea

Eguzkiaren zentruan erreakzio termonuklearrak (fusio nuklearra) hidrogenoa helio bihurtzen dute eta prozesuan sortutako energiak eguzkia orekan mantentzen du.

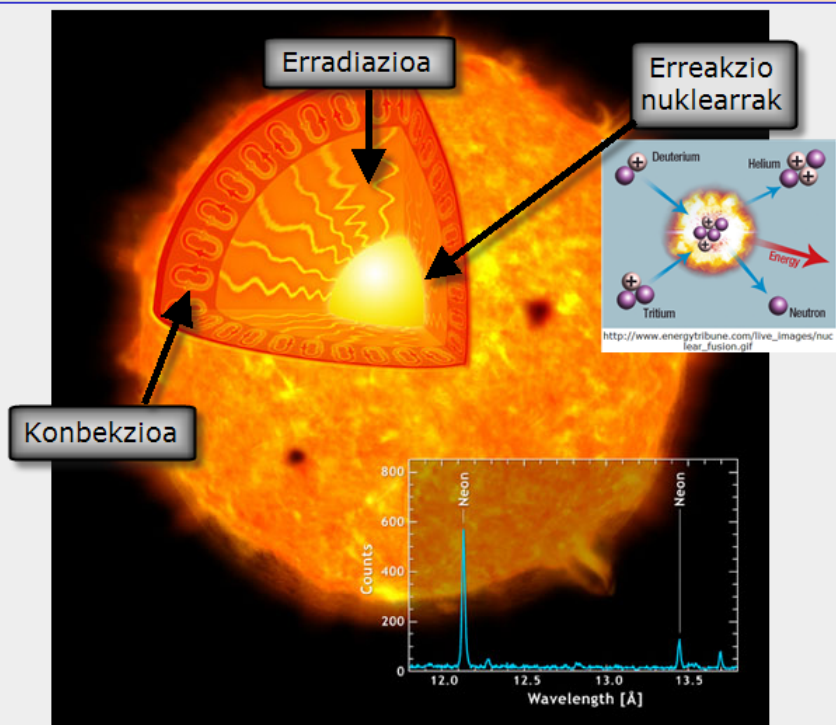
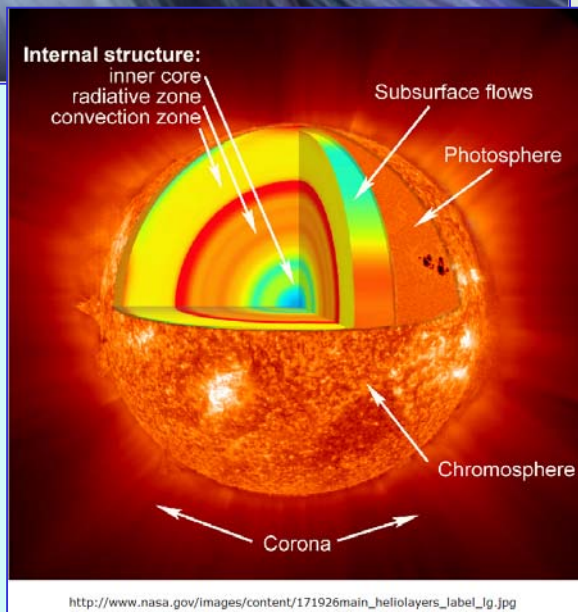
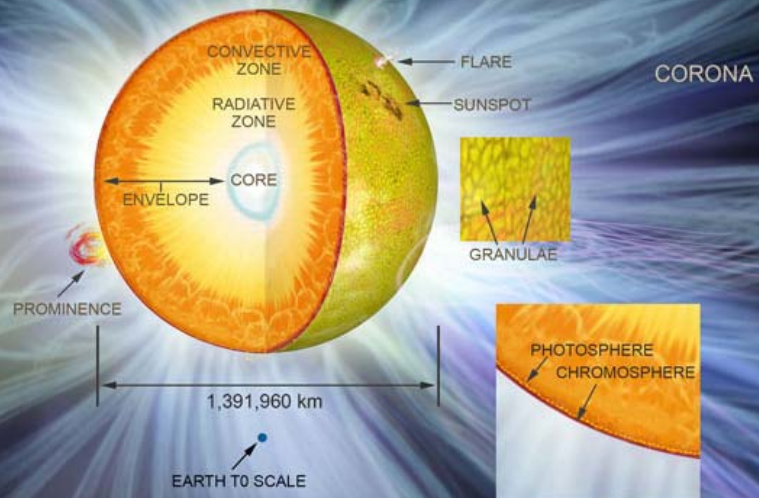


Image Credit: Spectrum: NASA/CXC/J.Drake & P.Testa; Illustration: NASA/CXC/M.Weiss

Neon, along with atoms of carbon, nitrogen and oxygen, plays an important role in regulating the rate at which energy flows from nuclear reactions in the Sun's core to its surface. The character of the energy flow changes dramatically about 125,000 miles from the surface on the Sun, where the stately diffusion of heat suddenly converts to a convective motion much like the unstable air in a thunderstorm.

# Eguzkia

## Anatomy of the Sun



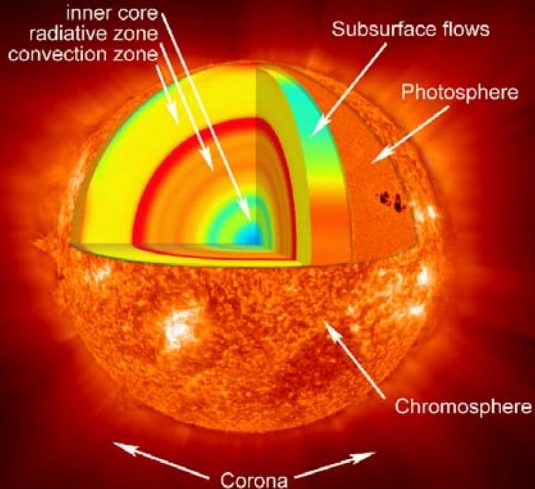
## Eguzkiaren egitura

### 2. Erradiazio eta Konbekzio eskualdeak

- Erradiazio-eskualdea: energi handiko protoiek garraiatzen dute energia
- Konbekzio-eskualdea: beroa astiro garraiatzen du gasek.

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#### Internal structure:



[http://www.nasa.gov/images/content/171926main\\_heliolayers\\_label\\_lg.jpg](http://www.nasa.gov/images/content/171926main_heliolayers_label_lg.jpg)

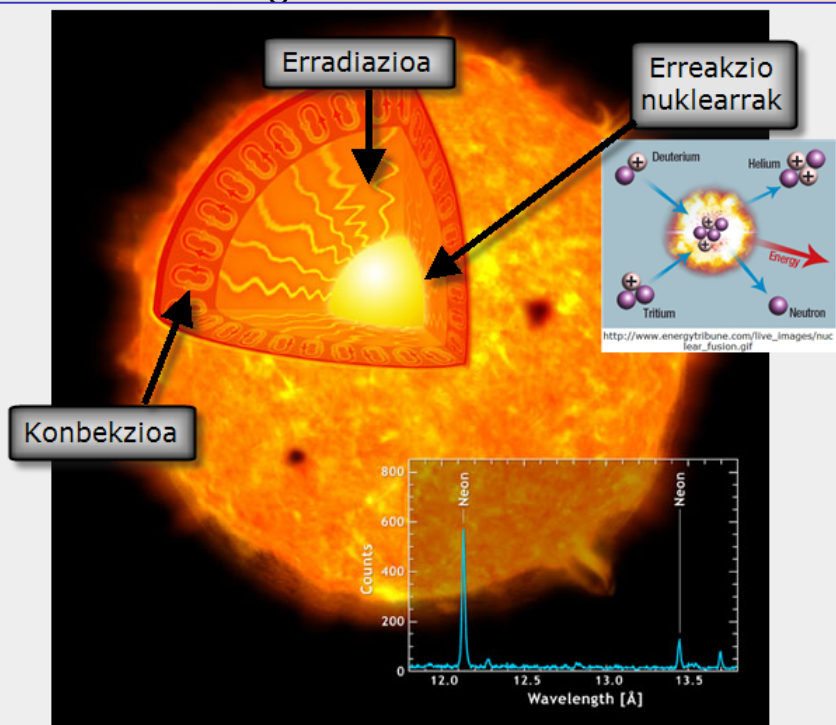
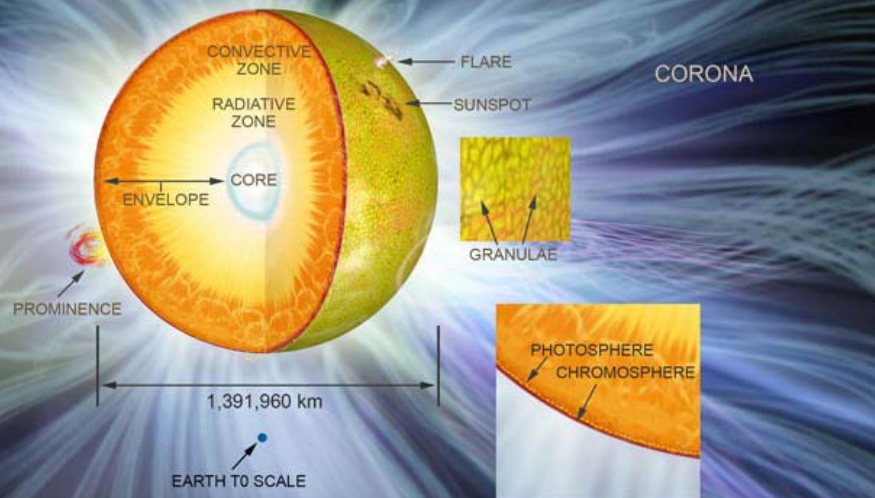


Image Credit: Spectrum: NASA/CXC/J.Drake & P.Testa; Illustration: NASA/CXC/M.Weiss

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# Eguzkia

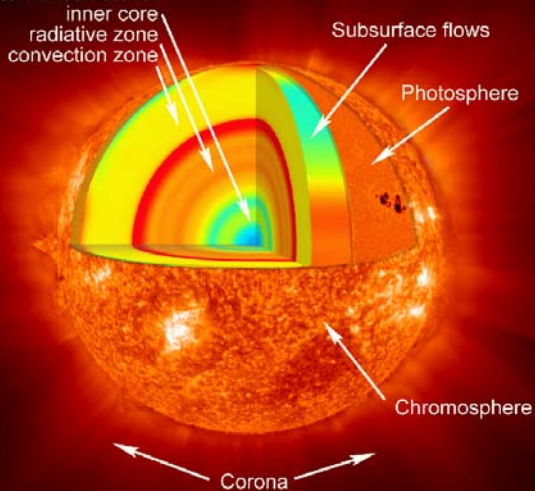
## Anatomy of the Sun



## Eguzkiaren egitura 3. Koroa

Oso beroa: 1,000,000 °C-tik gora

### Internal structure:



[http://www.nasa.gov/images/content/171926main\\_heliolayers\\_label\\_lg.jpg](http://www.nasa.gov/images/content/171926main_heliolayers_label_lg.jpg)

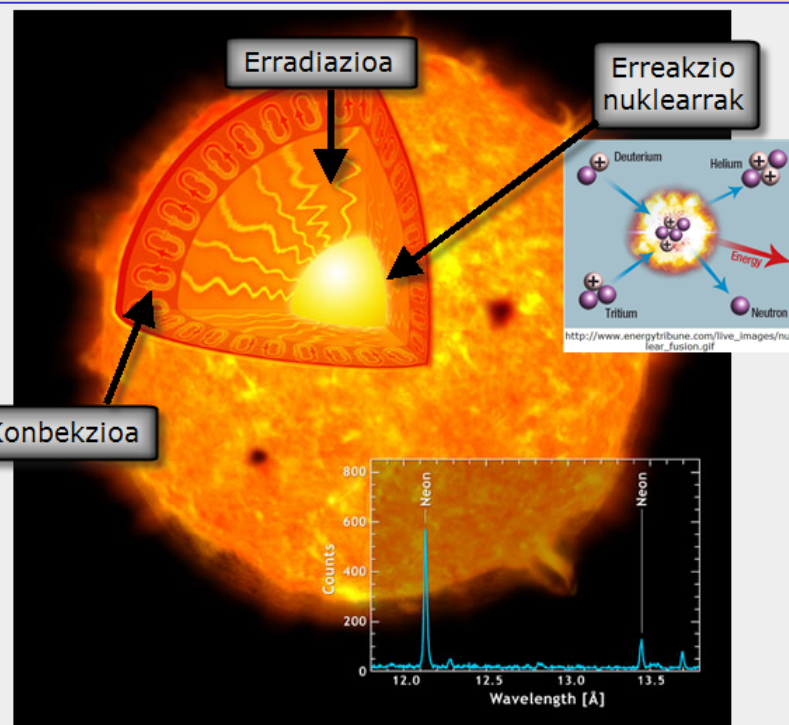


Image Credit: Spectrum: NASA/CXC/J.Drake & P.Testa; Illustration: NASA/CXC/M.Weiss

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# Eguzkia

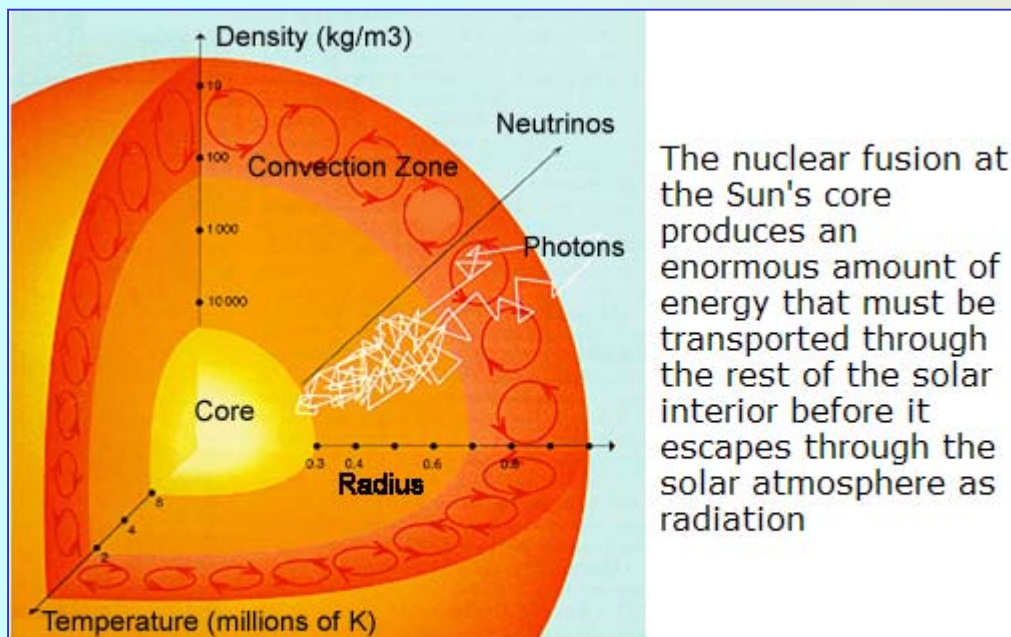


Figure 1: A cut-away schematic of the Sun from UCB's Center for Science Education

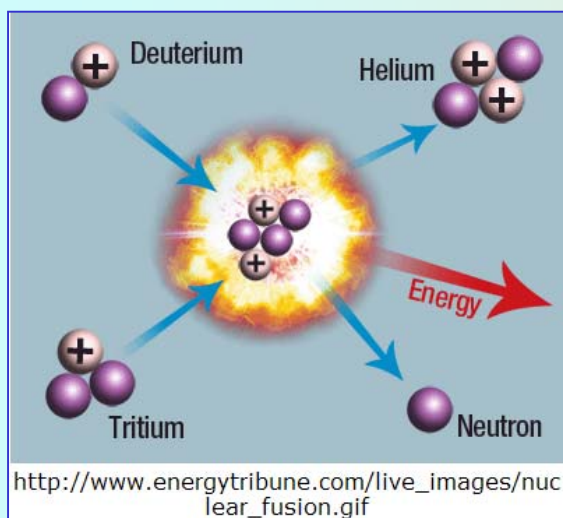
## Erreakzio nuklearrak eguzkian

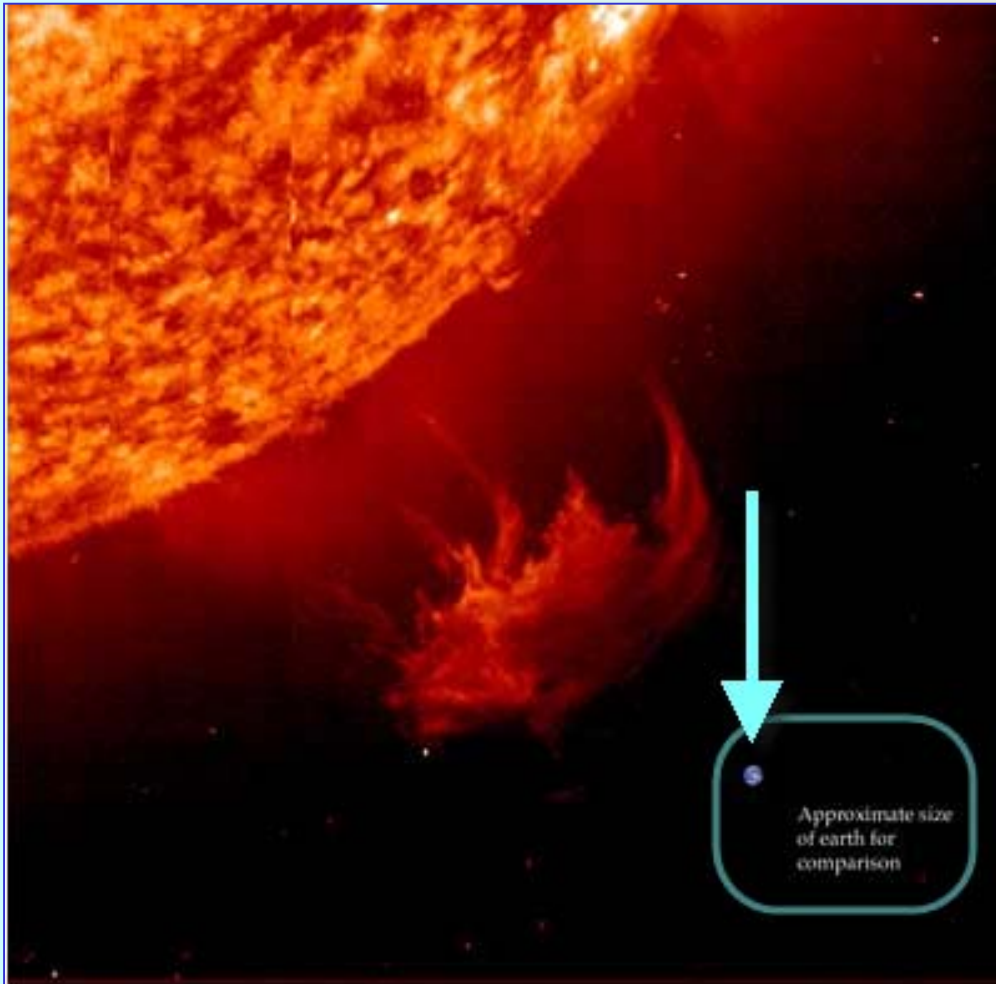
Eguzkiaren gunea oso bero dago (15 milioi gradu inguru) eta presioa ere ikaragarria da (100 mila milioi atmosfera inguru).

Eguzkiak argia eta beroa sortzen ditu erreakzio nuklearren (fusio nuklearra) bitartez.

Fusio nuklear prozesuan bi nukleo atomiko elkartzen dira beste bat masa handiagokoa emateko.

Fusio nuklearrek energia eta partikulak askatzen dituzte.





[http://son.nasa.gov/tass/images/cont\\_sunandearth.jpg](http://son.nasa.gov/tass/images/cont_sunandearth.jpg)

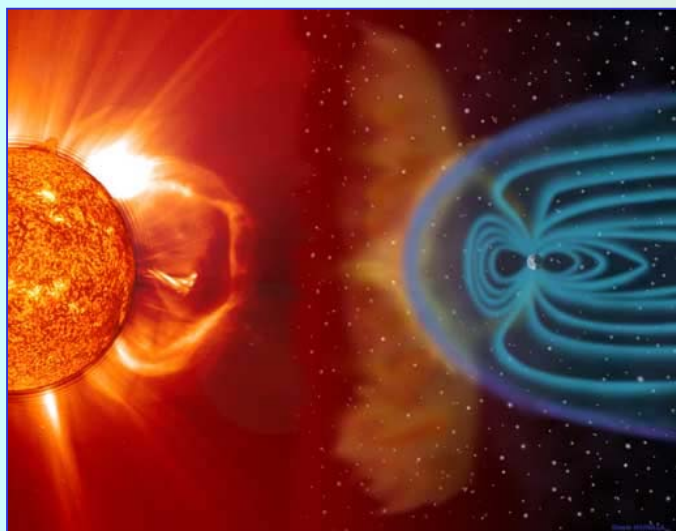
## Eguzkiaren aktibitatea

Eguzkiaren koroa  $1,000,000^{\circ}\text{C}$  eta  $2,000,000^{\circ}\text{C}$  artean dago eta plasmak hartzen duen abiadurarekin eguzkitik ihes egin dezake.

Milioi tona plasma baino gehiago jaurtitzen dira espazioa  $400\text{ km/s}$  abiaduraz.

Partikula kargatuz osaturik dagoenez, eragin magnetikoa du askatutako materia horrek.

# Eguzkia



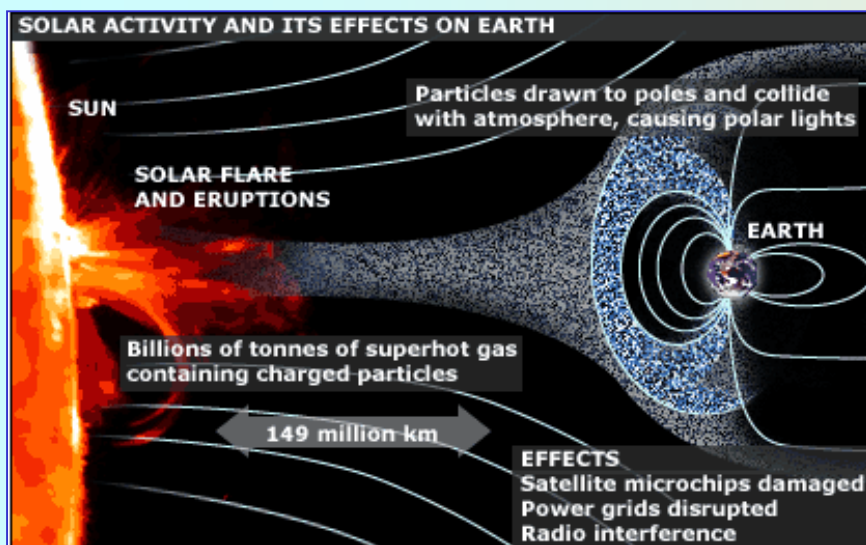
[http://www.nasa.gov/images/content/156197main\\_sunearth\\_01\\_516x403.jpg](http://www.nasa.gov/images/content/156197main_sunearth_01_516x403.jpg)

## Eguzkiaren aktibitatea

CME (Coronal Mass Ejections; Koroatik jaurtikitako masa) noranzko guztietara zabaltzen da. Horietako zati bat iristen da Lur planetara.

Bidalitako masa horietatik Lurrera iristen den parte handiena Lur planetaren magnetosferak desbideratzen du.

Bidalitako masa horrek (CME) sor ditzazke zenbait efektu: aurorak, satelite artifizialak matxuratu, komunikazioak eten, argi indarra eten...

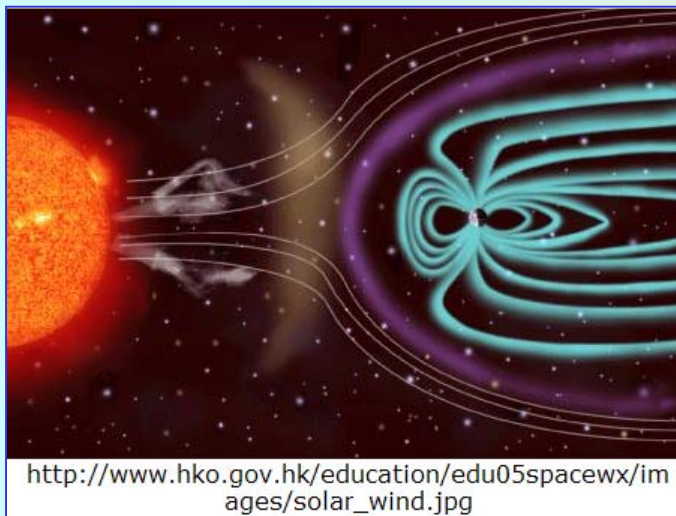


[http://www.xradiograph.com/blog/imago/bbc\\_solar\\_flare\\_416.gif](http://www.xradiograph.com/blog/imago/bbc_solar_flare_416.gif)



[http://antwrp.gsfc.nasa.gov/apod/image/0710/aurora\\_kuenzli\\_blg.jpg](http://antwrp.gsfc.nasa.gov/apod/image/0710/aurora_kuenzli_blg.jpg)

# Eguzkia



## Eguzkiaren aktibitatea

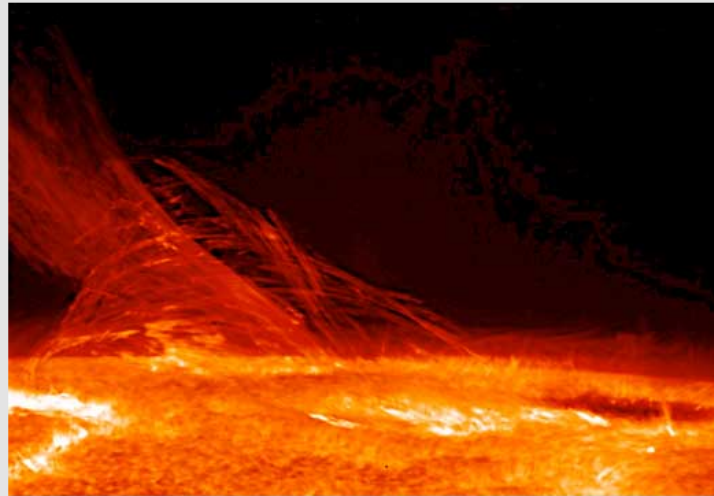
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Plasma of the Sun

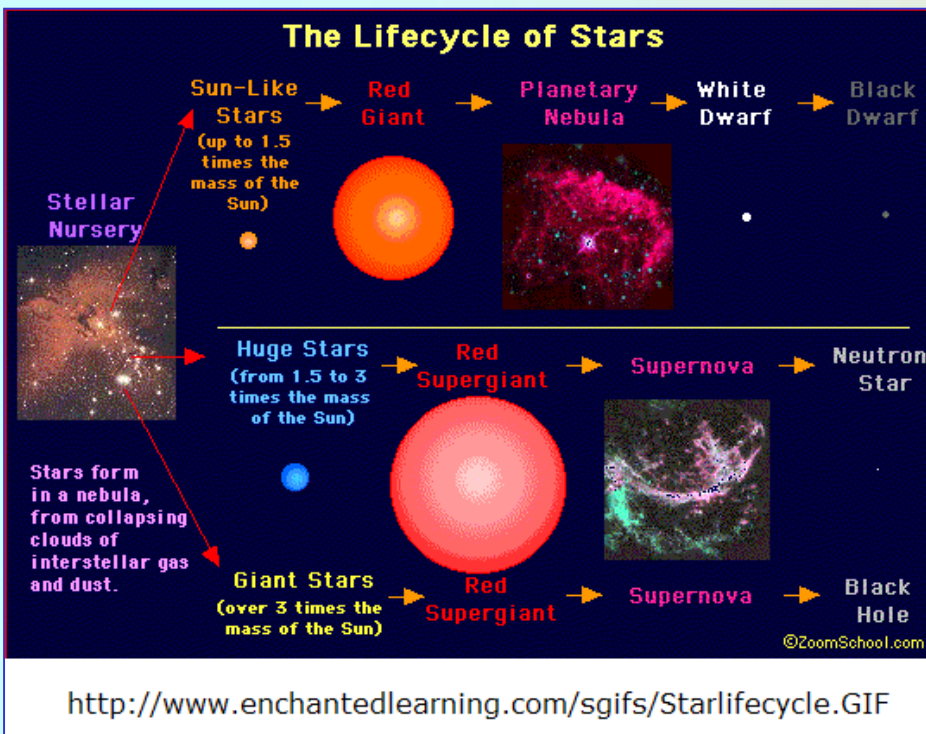
03.21.07



Taken by Hinode's Solar Optical Telescope on Jan. 12, 2007, this image of the sun reveals the filamentary nature of the plasma connecting regions of different magnetic polarity. Hinode captures these very dynamic pictures of the chromosphere. The chromosphere is a thin "layer" of solar atmosphere "sandwiched" between the visible surface, photosphere, and corona.

Image credit: Hinode JAXA/NASA

# Eguzkia



## Eguzkiaren bizitza-zikloa

Eguzkiaren masa ez da nahikoa supernova gisako eztanda eboluzionatzeko. Aldiz, 4-5 mila milioi urte inguruan izar erraldoi gorriaren fasean sartuko da eta kanpoko geruza galdu egingo du, nukleoa gehiago berotuz.

Helioaren fusioa (fusio nuklearra) hasiko da bere temperatura 100,000,000 °C-ra iristen denean eta prozesuan oxigeno eta karbonoa ekoiztuko ditu.

Jarrian, gune oso beroa geratuko zaio eguzkiari, pixkanaka hozten joango dena, nano zuria forman.

