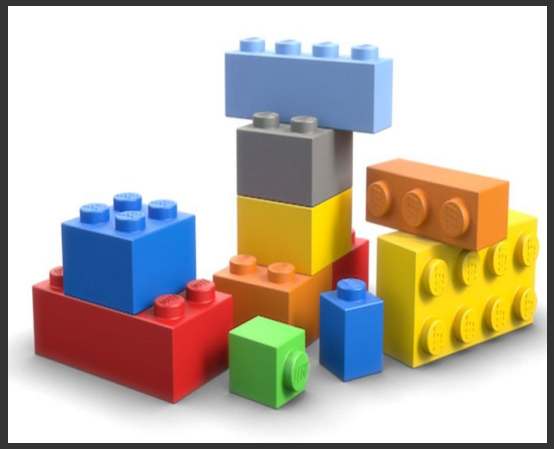
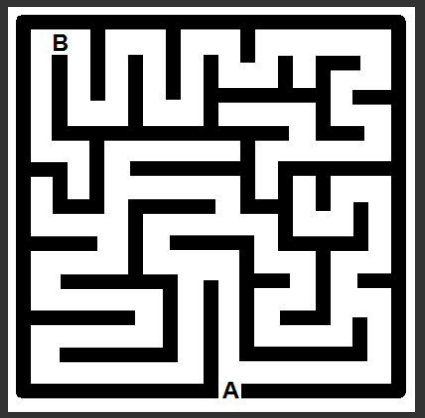
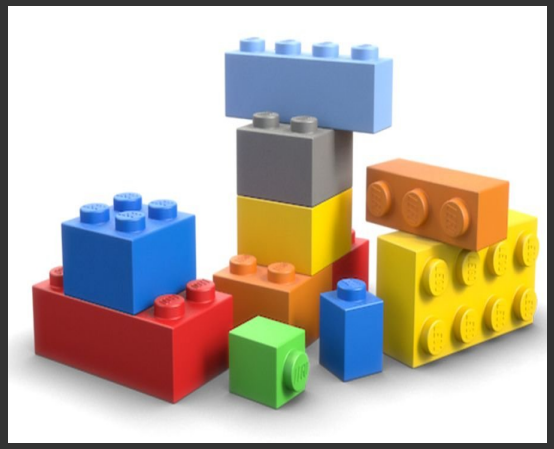
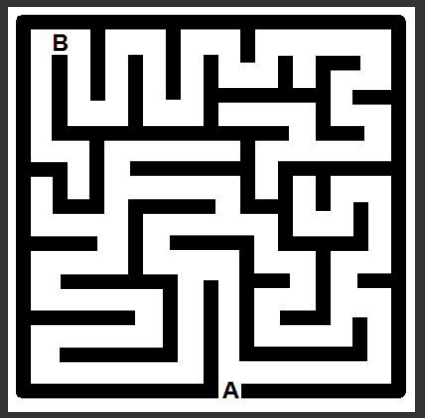


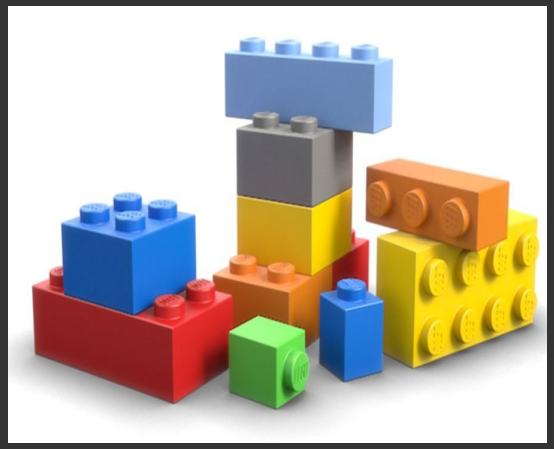

B
A


PLAYER 1
POINTS: 4371
POSITION: 2
RACE: 8 LAPS TO FINISH: 2 TIME:

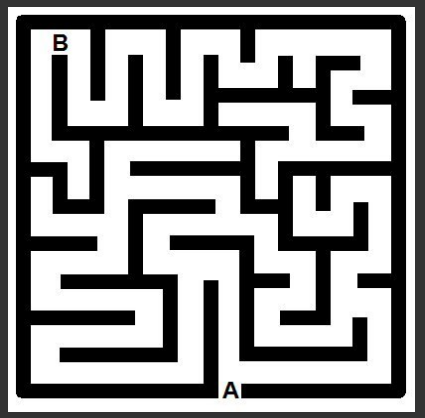




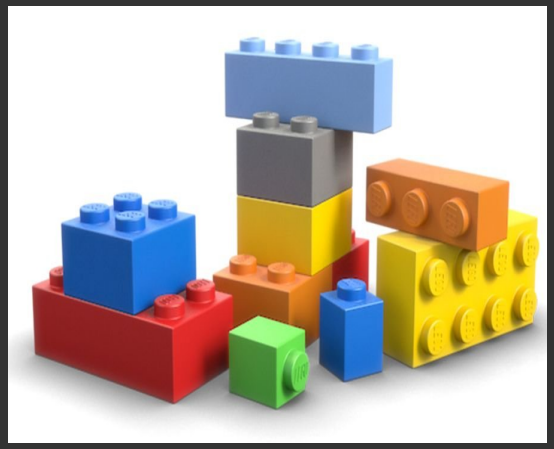
Do you like
building things ?



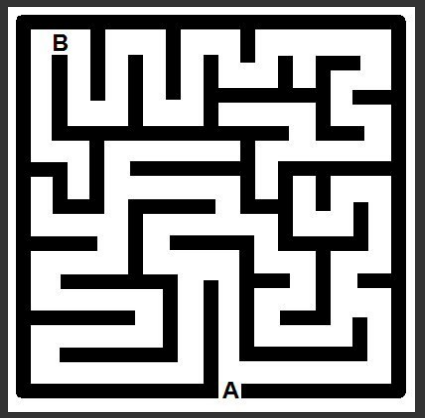
Do you like
building things ?



Do you enjoy solving puzzles ?



Do you like
building things ?

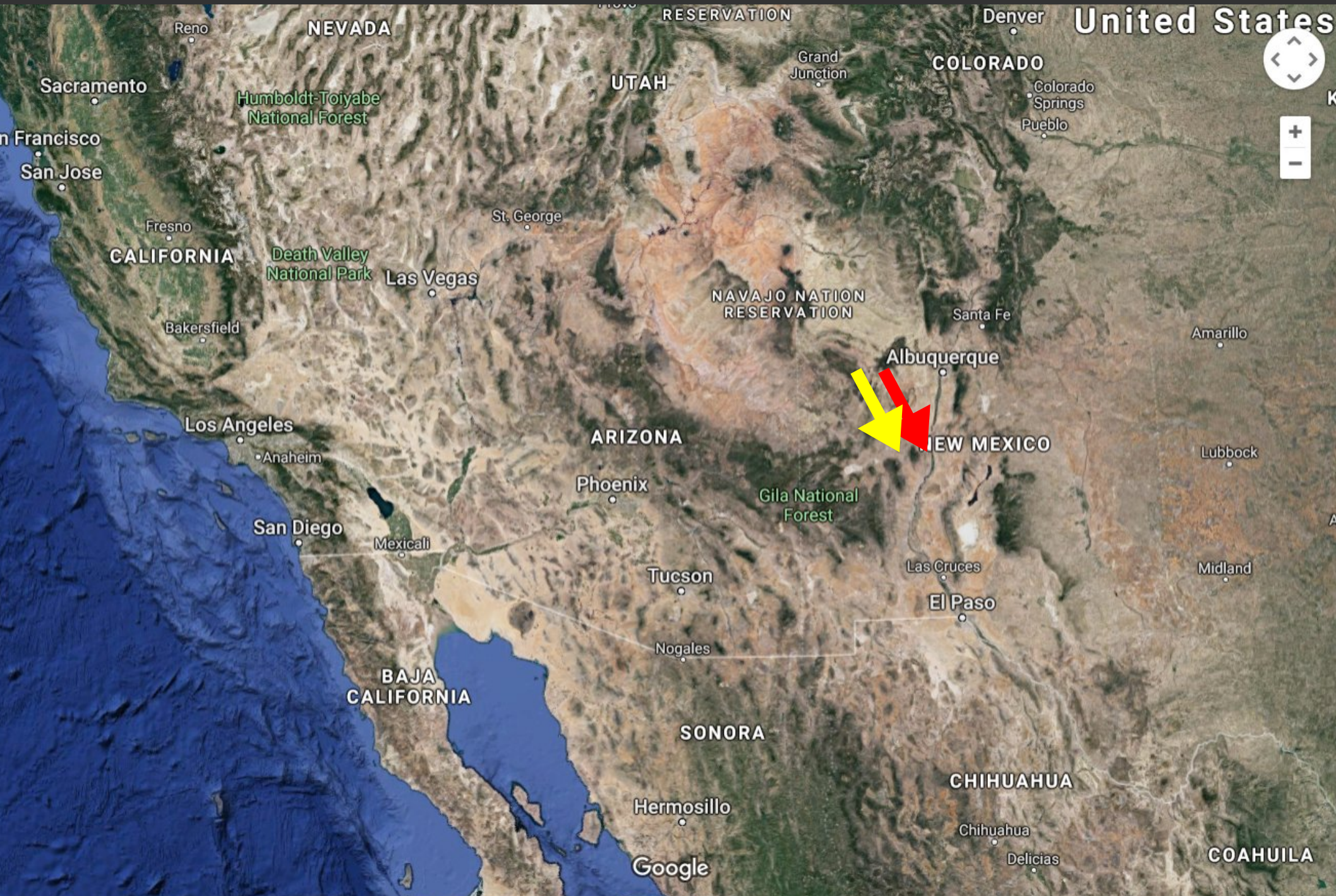


Do you enjoy solving puzzles ?

Do you like
video games ?

You are here !

You are here !


Reno
NEVADA
RESERVATION
Denver
United States
Sacramento
Humboldt-Toiyabe
National Forest
UTAH
Grand
Junction
COLORADO
Colorado
Springs
Pueblo
n Francisco
San Jose
Fresno
St. George
CALIFORNIA
Death Valley
National Park
Las Vegas
NAVAJO NATION
RESERVATION
Santa Fe
Amarillo
Bakersfield
Albuquerque
Los Angeles
ARIZONA
NEW MEXICO
Lubbock
Anaheim
Phoenix
Gila National
Forest
San Diego
Mexicali
Las Cruces
Midland
Tucson
El Paso
Nogales
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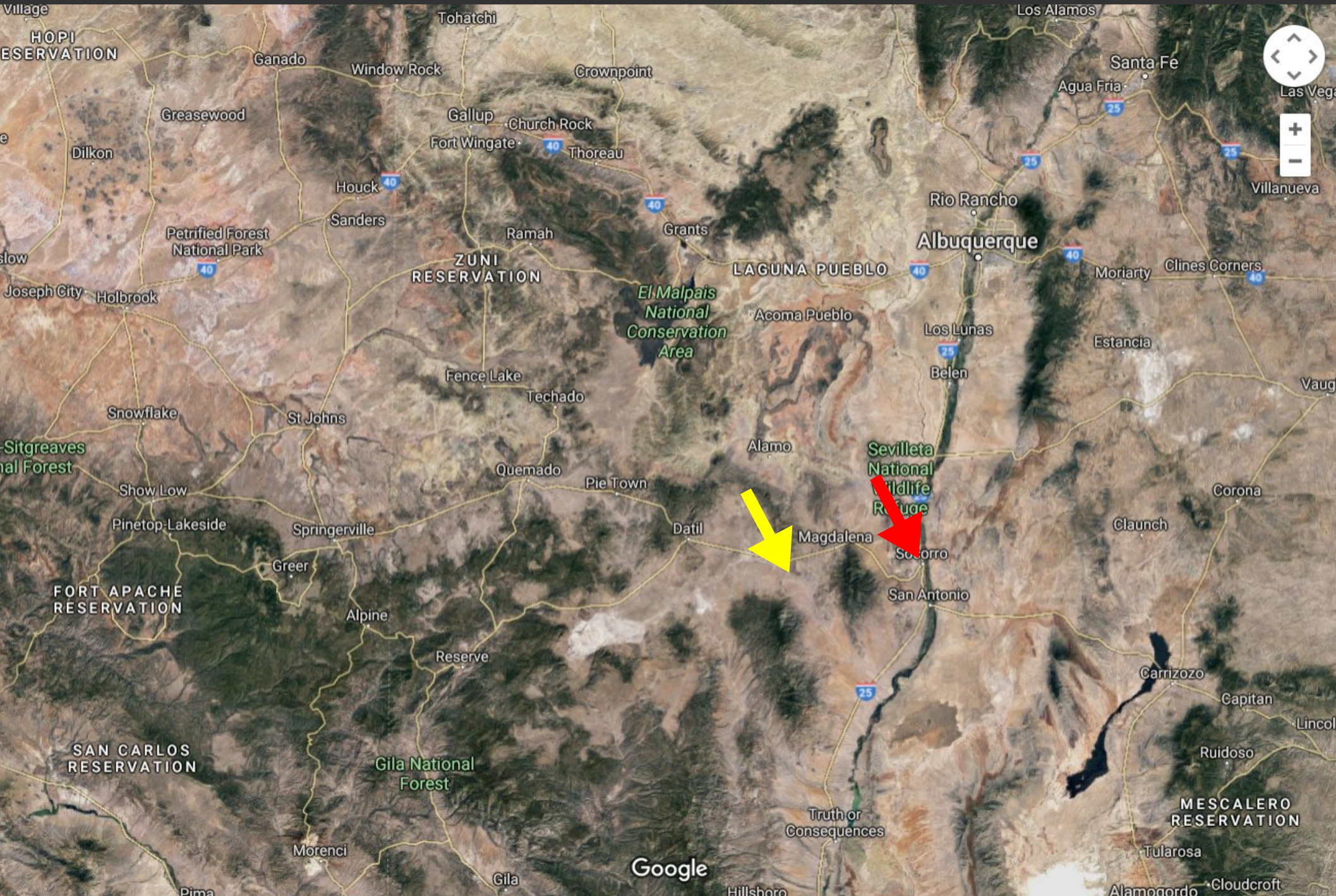
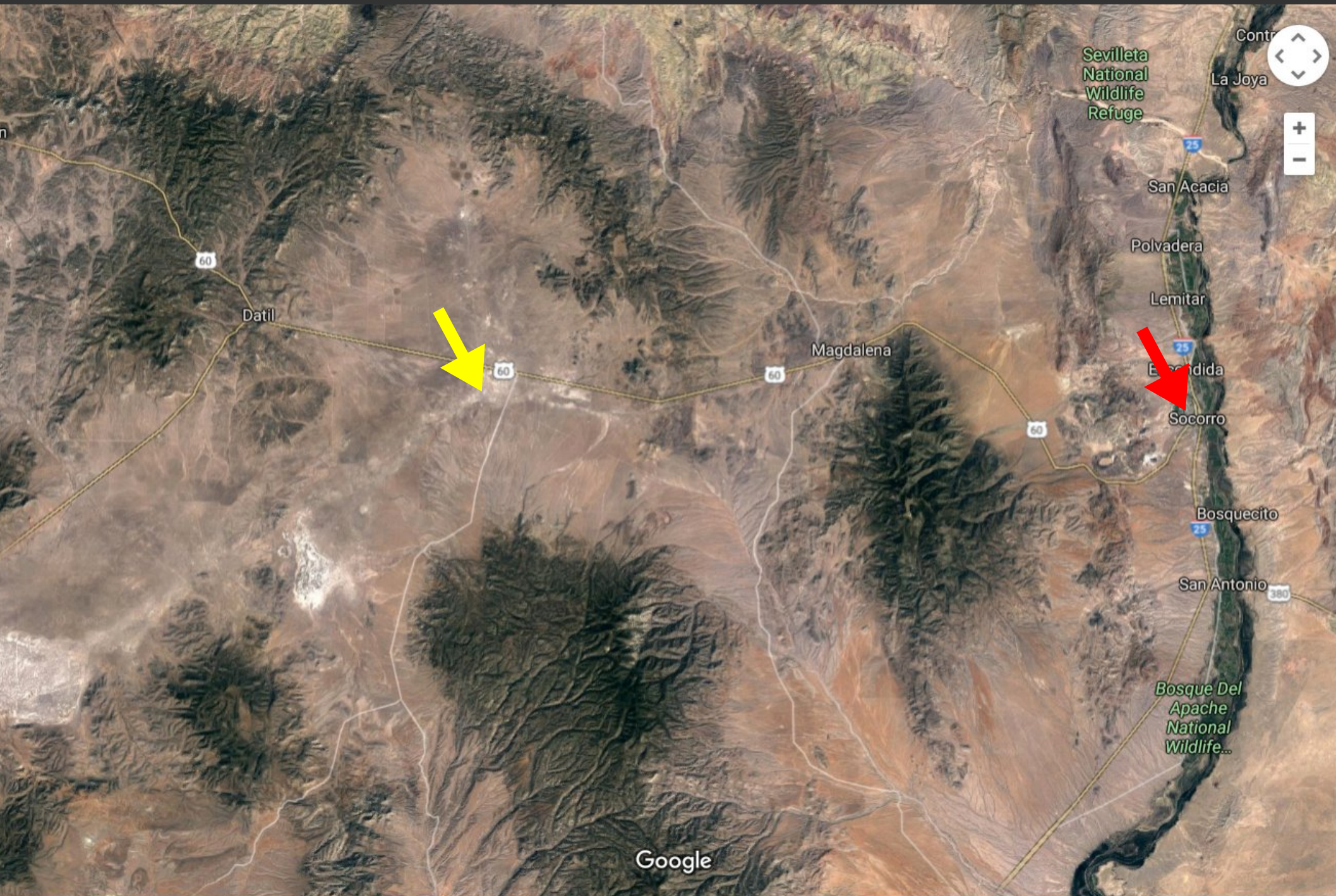
SONORA
CHIHUAHUA
Hermosillo
Chihuahua
Delicias
COAHUILA
Google

You are here !


Tohatchi
Los Alamos
HOPI RESERVATION
Ganado
Window Rock
Crownpoint
Santa Fe
Agua Fria
Greasewood
Gallup
Church Rock
Fort Wingate
Thoreau
Dilkon
Houck
Rio Rancho
Villanueva
Sanders
Ramah
Grants
Albuquerque
Petrified Forest National Park
ZUNI RESERVATION
LAGUNA PUEBLO
Moriarty
Clines Corners
Joseph City
Holbrook
El Malpais National Conservation Area
Acoma Pueblo
Los Lunas
Estancia
Belen
Fence Lake
Techado
Snowflake
St Johns
Alamo
Sevilleta National Wildlife Refuge
Quemado
Pie Town
Show Low
Corona
Pinetop-Lakeside
Springerville
Datil
Magdalena
Claunch
Greer
Socorro
FORT APACHE RESERVATION
San Antonio
Alpine
Reserve
Carrizozo
Capitan
SAN CARLOS RESERVATION
Gila National Forest
Ruidoso
Truth or Consequences
MESCALERO RESERVATION
Morenci
Tularosa
Gila
Google
Hillsboro
Alamogordo
Cloudcroft

You are here !


Sevilleta National Wildlife Refuge
La Joya
San Acacia
Polvadera
Lemitar
Magdalena
Socorro
Bosquecito
San Antonio
Bosque Del Apache National Wildlife...
Datil
60
25
380
Google

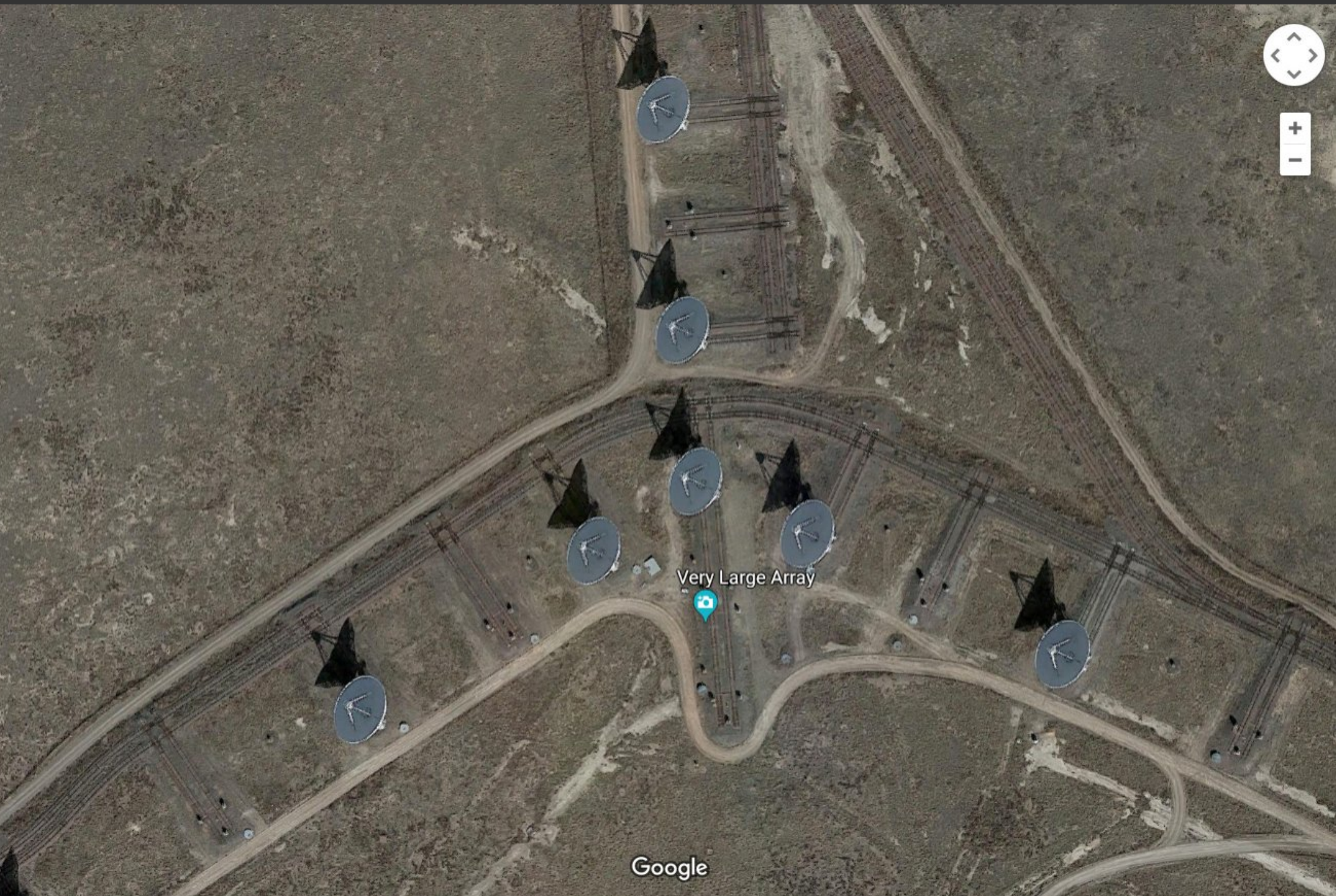
You are here !

You are here !

You are here !

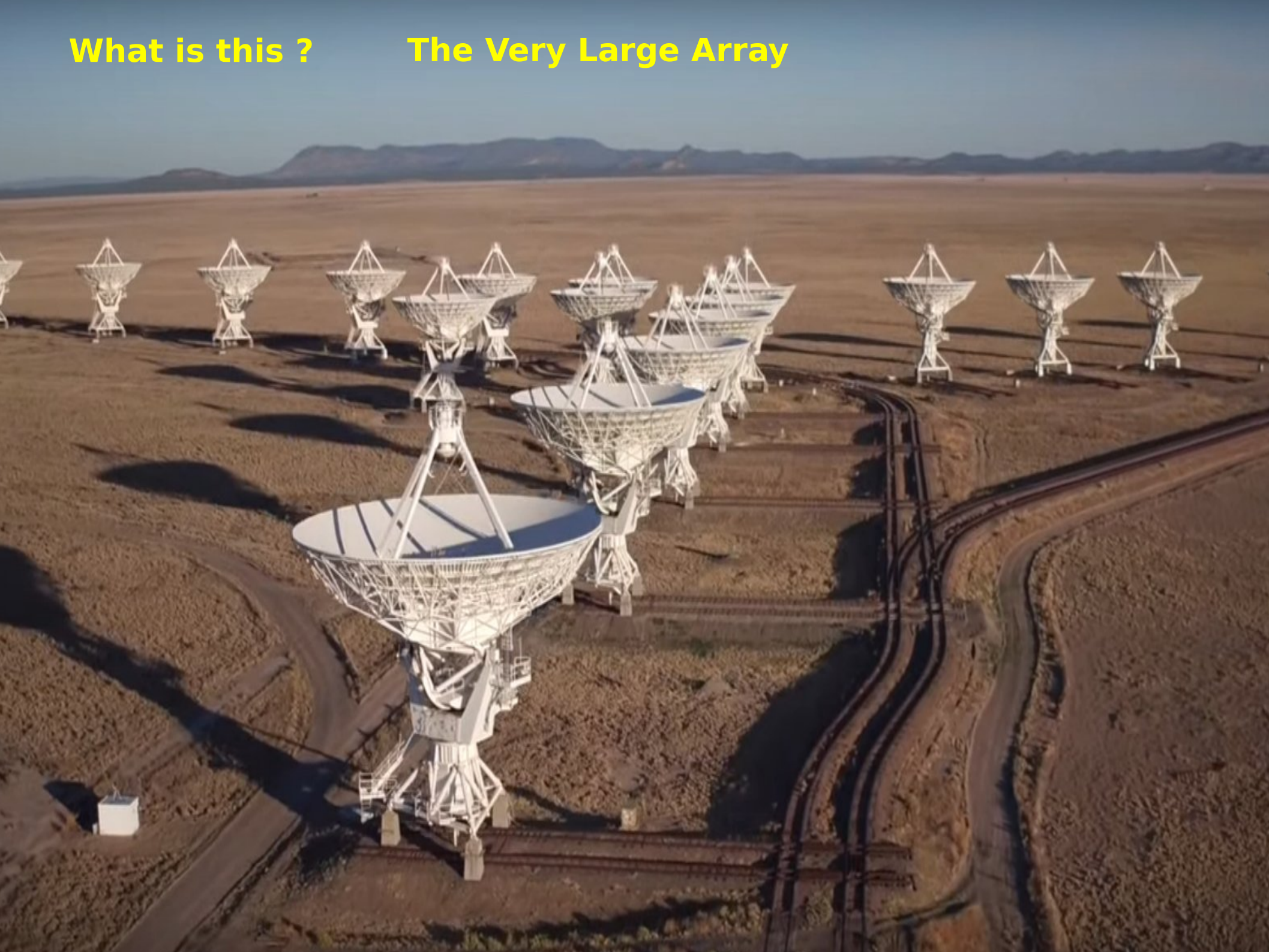

Very Large Array
NRAO Very Large Array
Karl G. Jansky
Very Large Array...
National Radio
Astronomy Observatory
Long Wavelength Array
Google

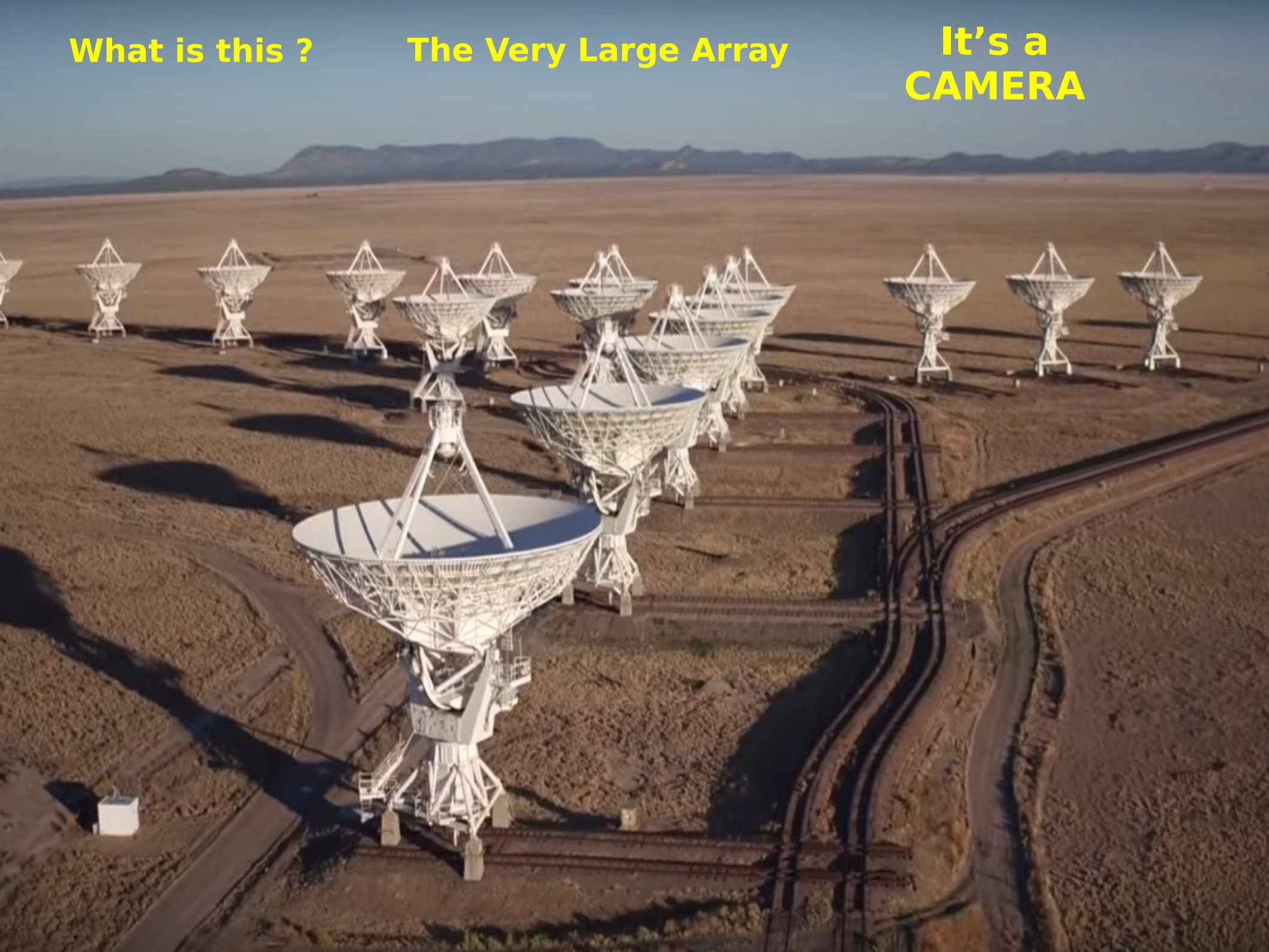
You are here !

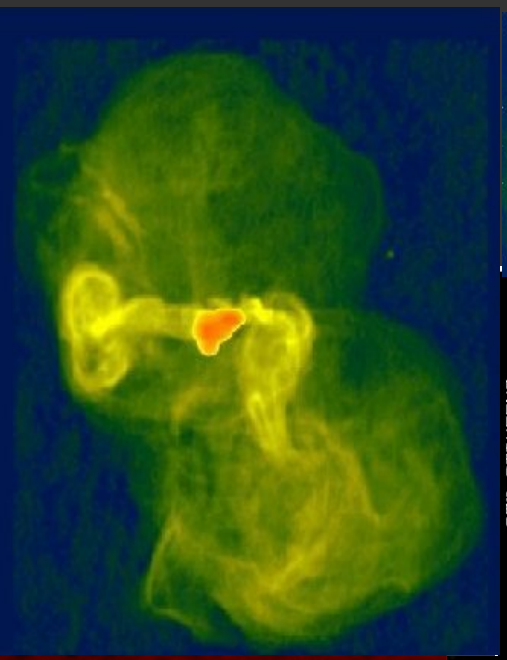
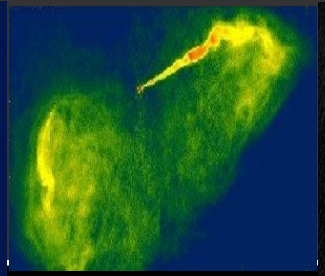
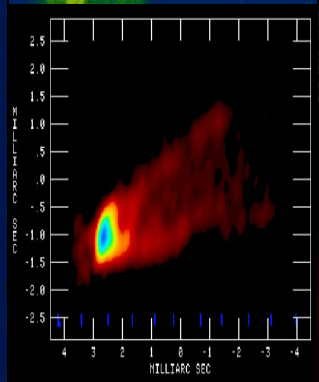


What is this ?

What is this ? The Very Large Array




What is this ?
The Very Large Array
It’s a CAMERA




MILLIARC SEC
2.5
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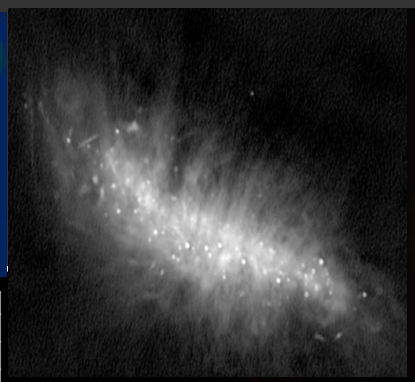

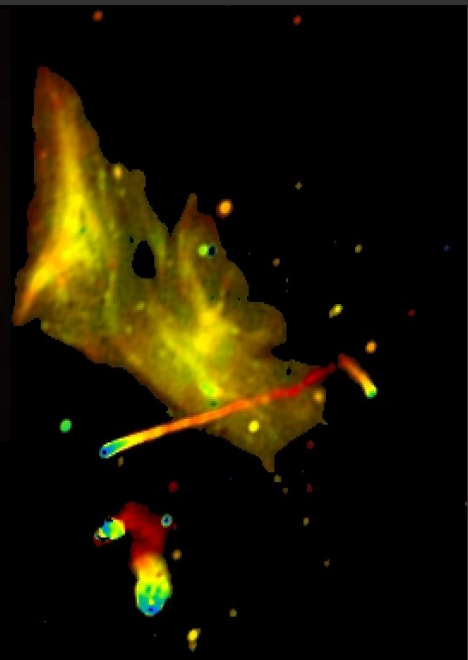
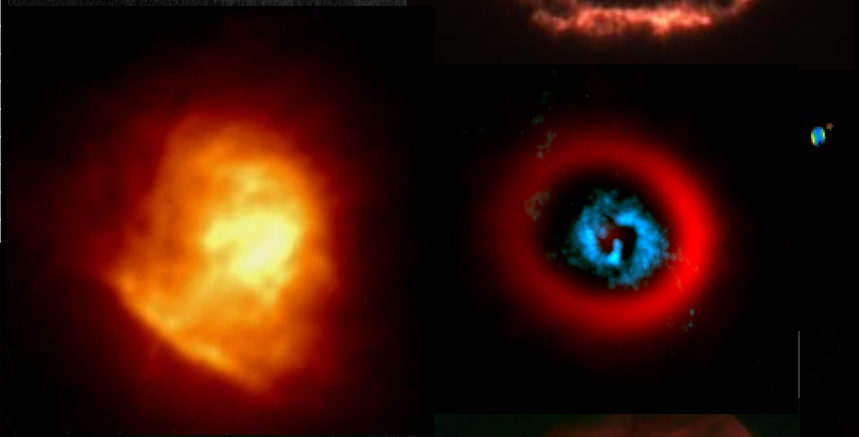
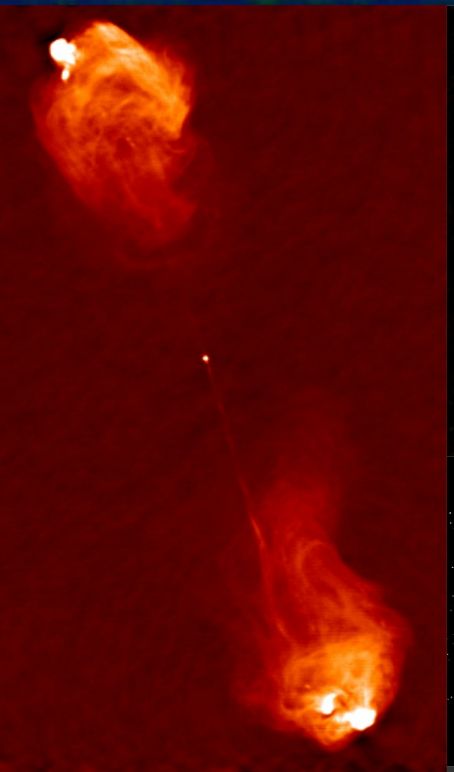
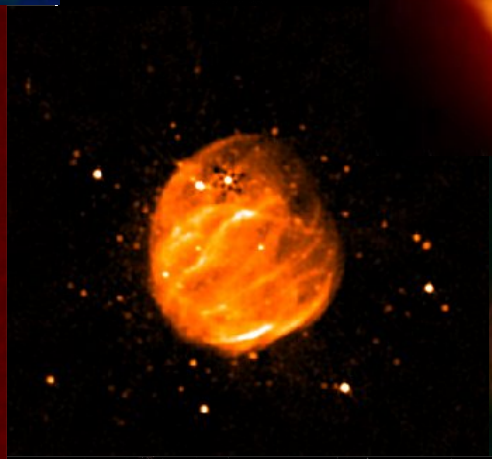

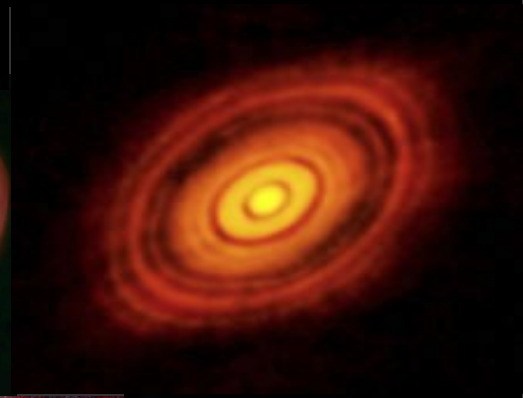

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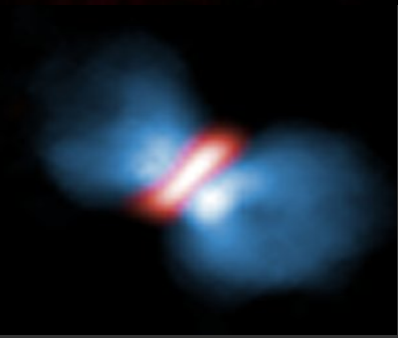
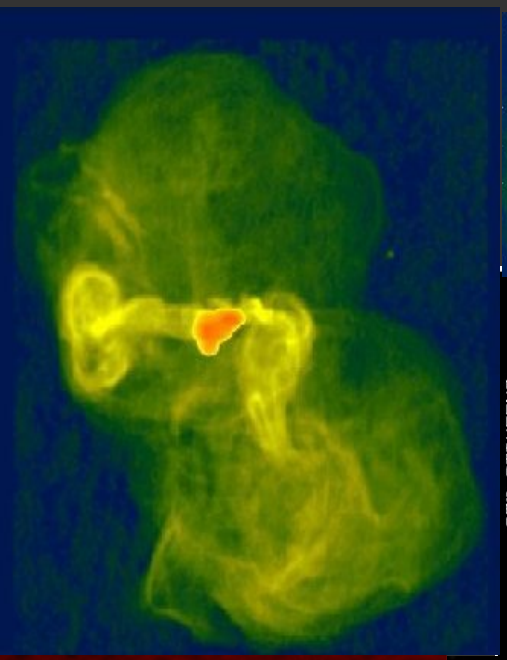
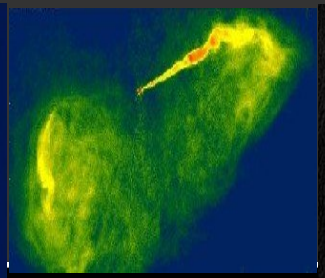
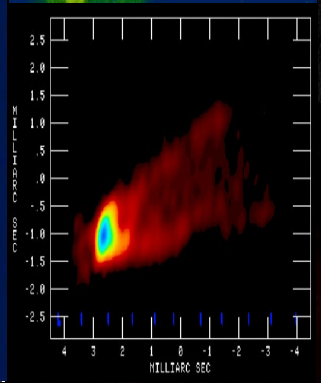
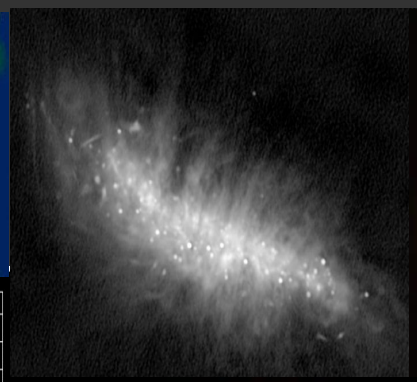


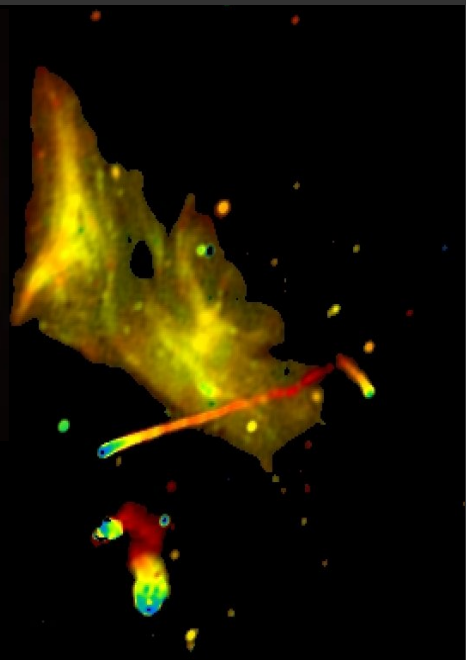
Objects in Space. Pictures taken with a radio camera.

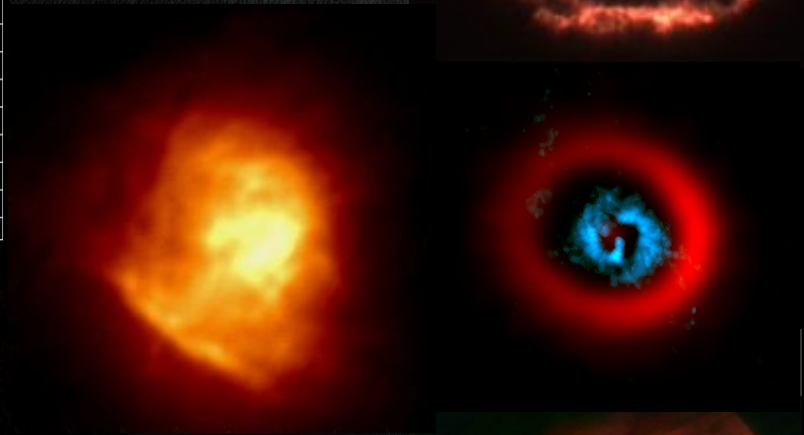


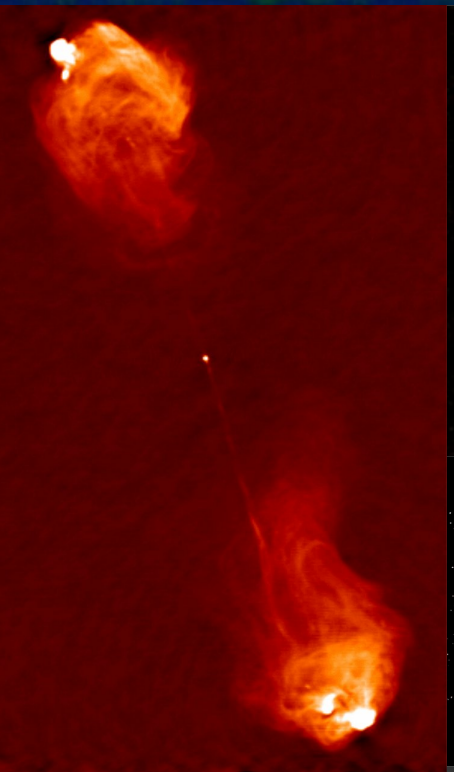


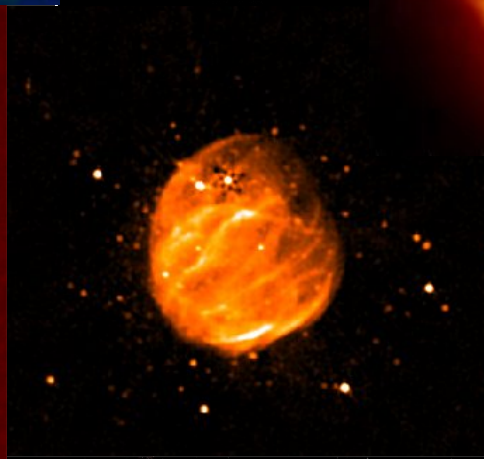


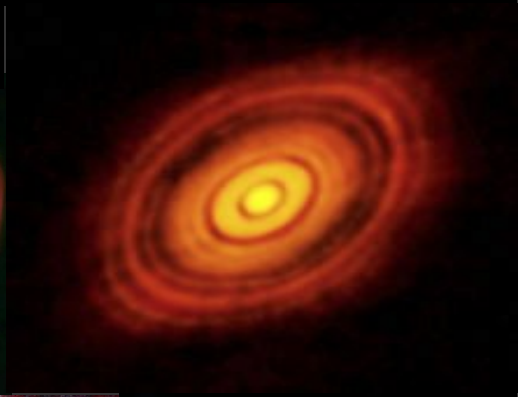


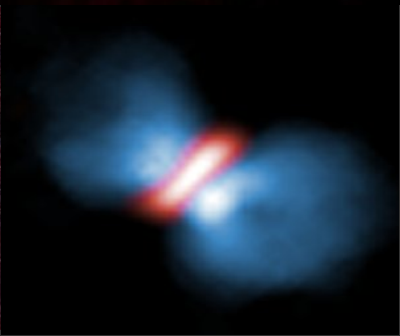












Objects in Space. Pictures taken with a radio camera.

HOW does this camera work ?

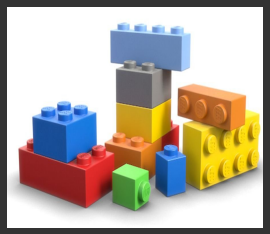
WHY do people do this ?

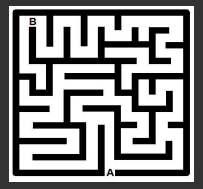
Objects in Space. Pictures taken with a radio camera.

HOW does this camera work ?

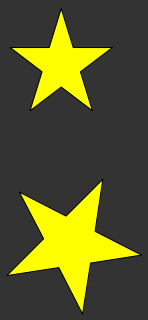
WHY do people do this ?

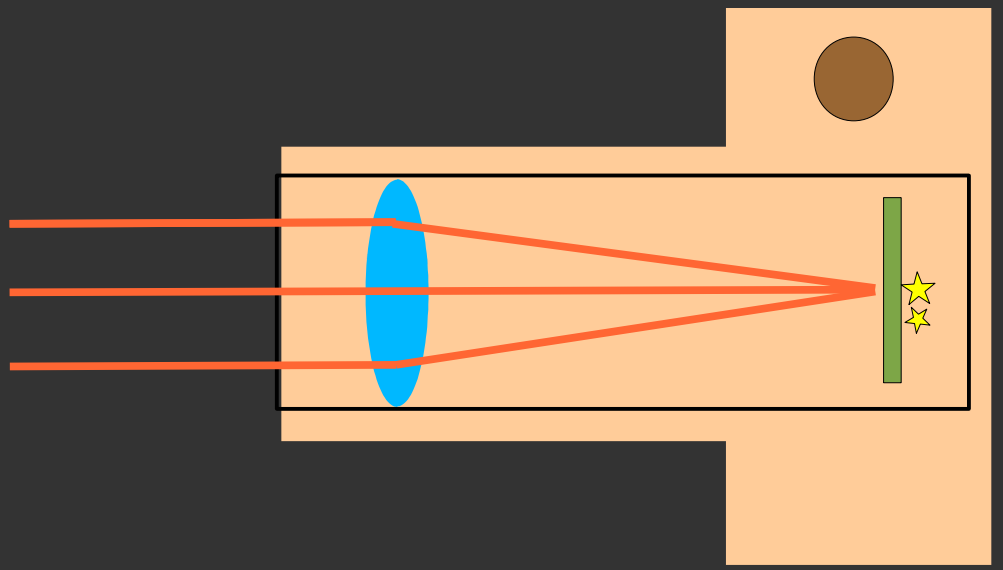
Is this fun ?



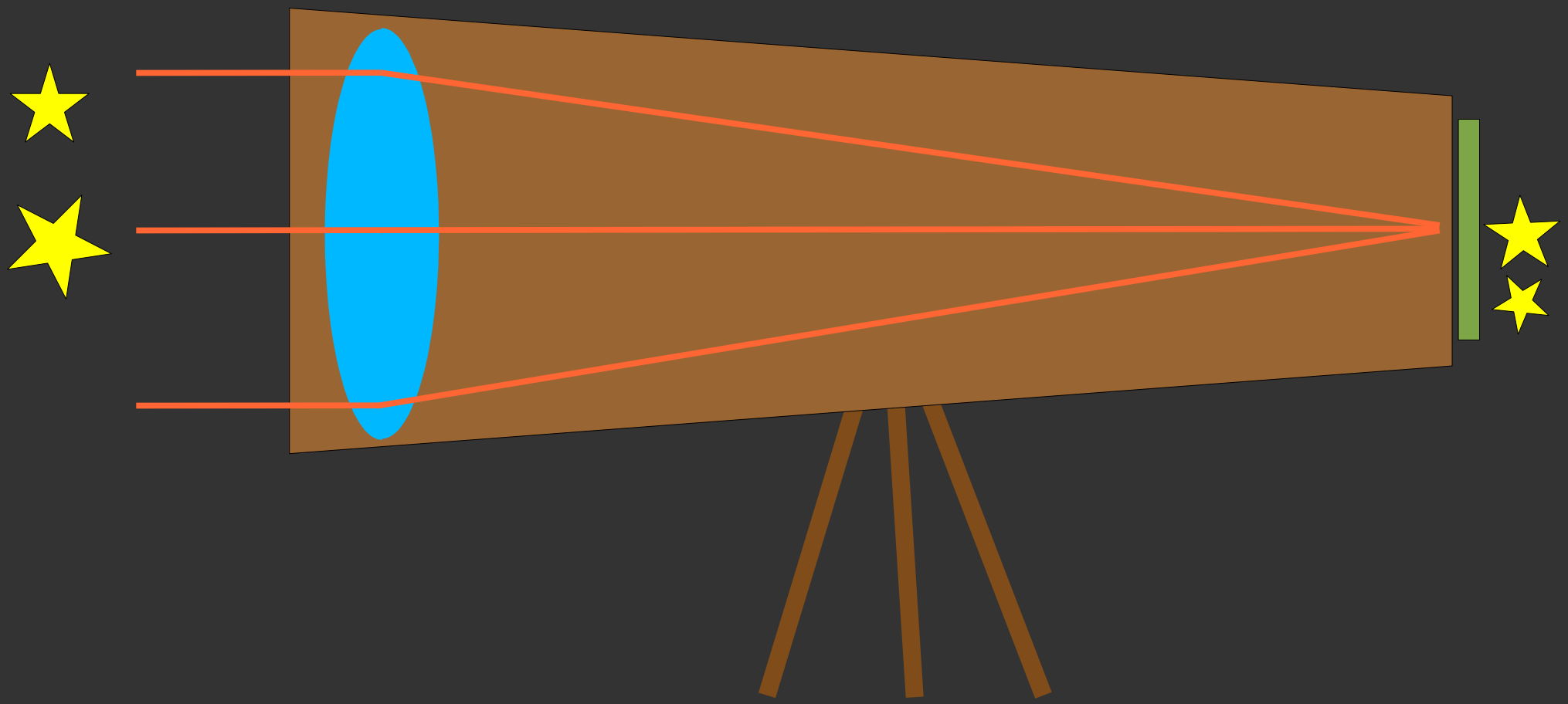


Camera = Lens + CCD

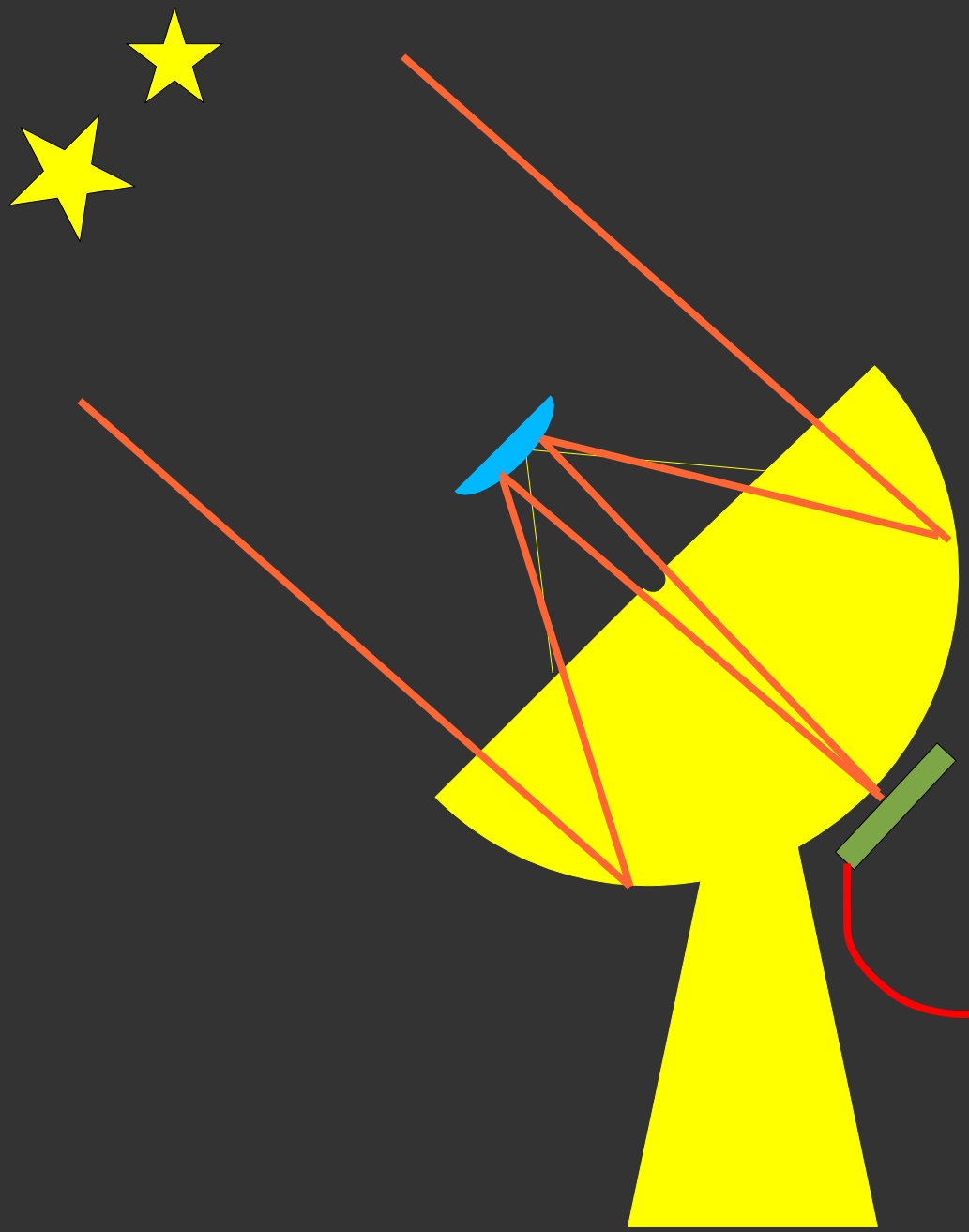




Telescope = Big lens + CCD



Telescope = Dish or Mirror (instead of a lens)

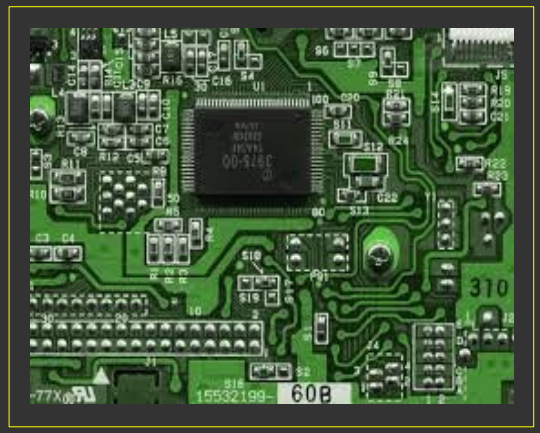


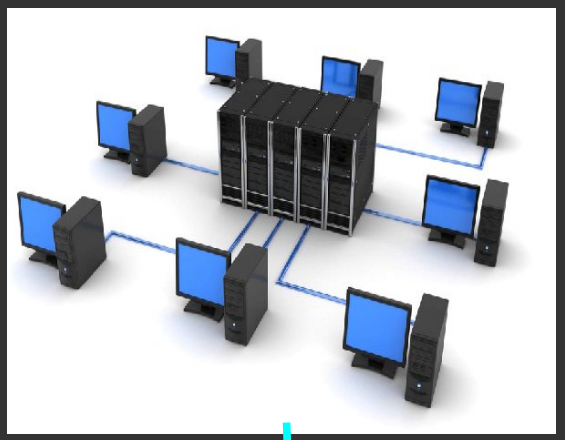
Big Telescope = An array of smaller ones

But ...

This is not a real lens or mirror ...

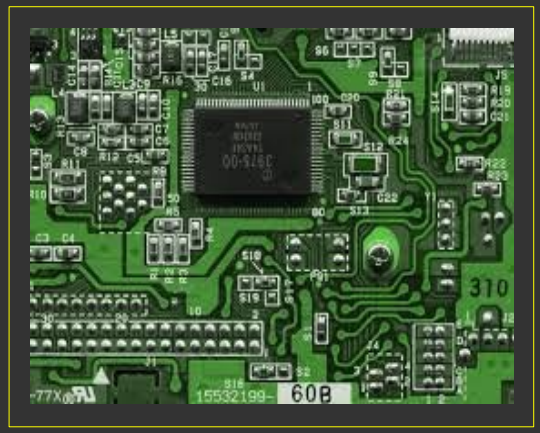
Big Telescope = An array of smaller ones

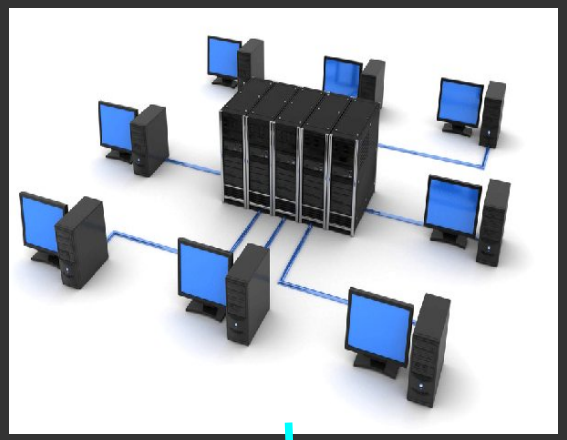




Encode the Math and Physics of how a lens and camera work into electronics and computer software.

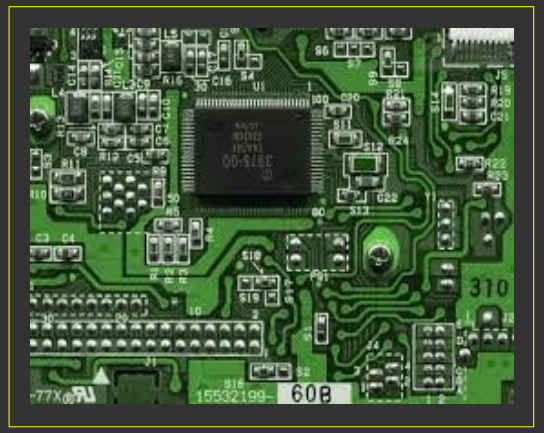
Big Telescope = An array of smaller ones

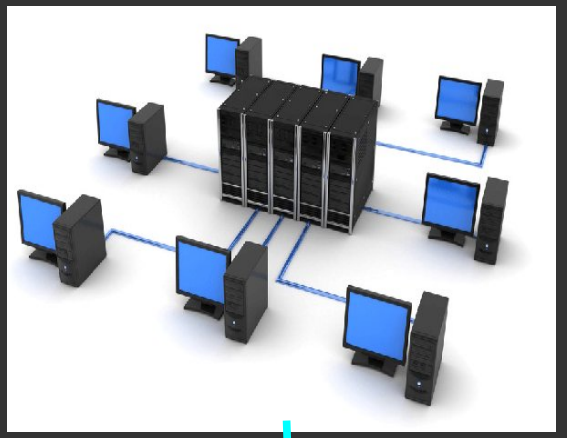


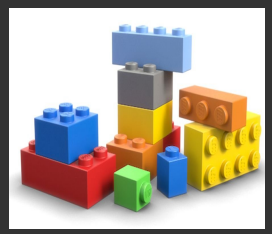


Encode the Math and Physics of how a lens and camera work into electronics and computer software.

Engineering, Electronics and Software







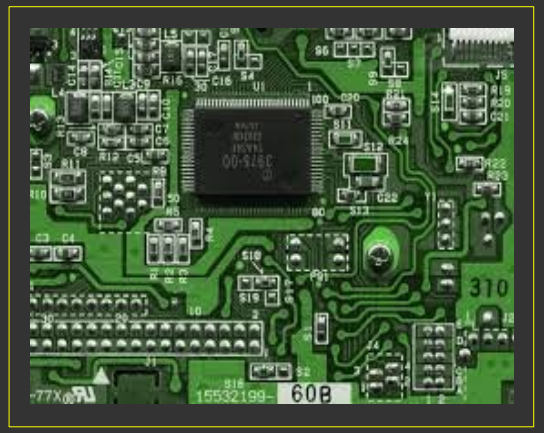
Dish antennas

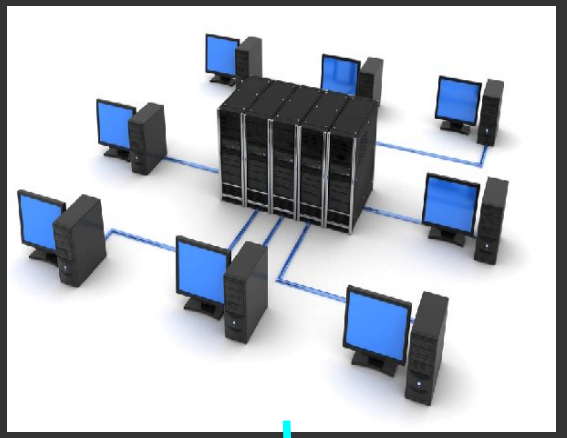
Circuit design

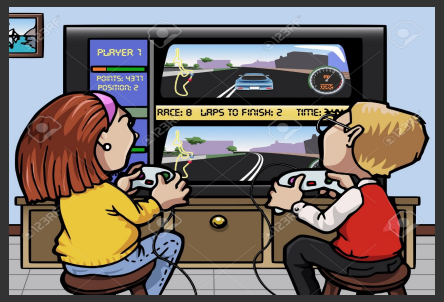
Power (solar)

Construction

Engineering, Electronics and Software



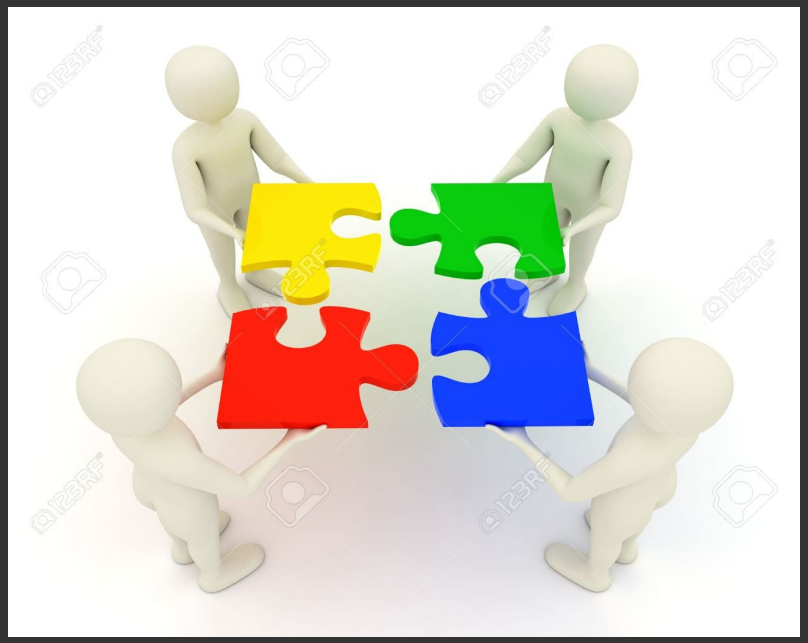




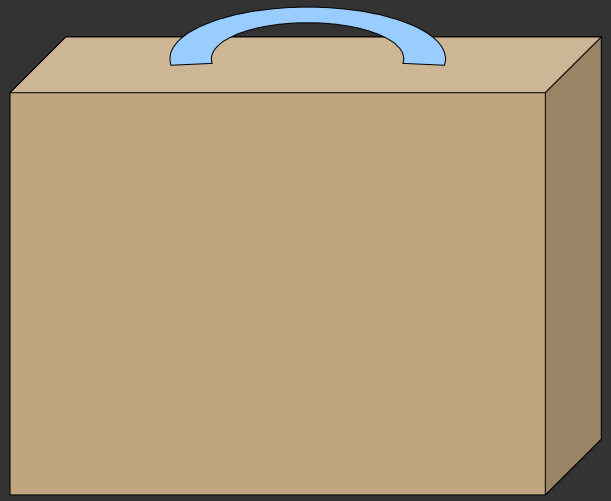
Write software to make a computer follow the Physics of real life.

Different types of telescopes !

What do these different telescopes see ?



What is in this box ?



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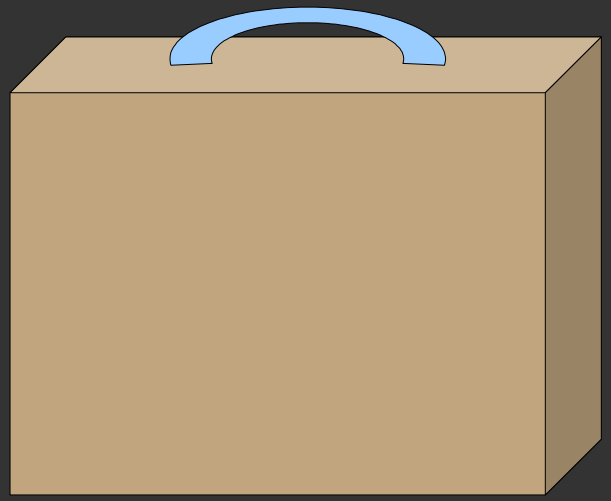
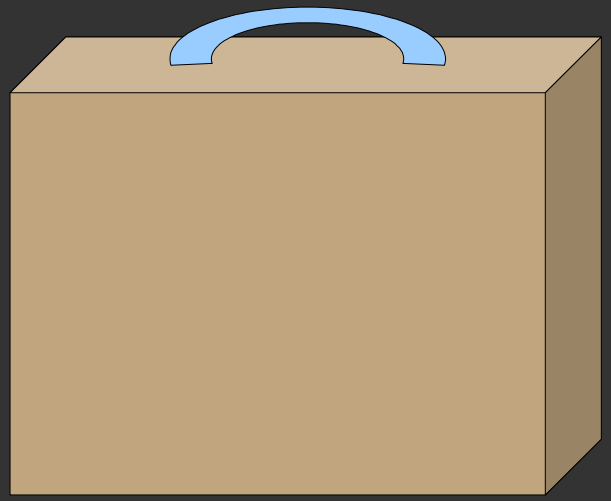


Visible

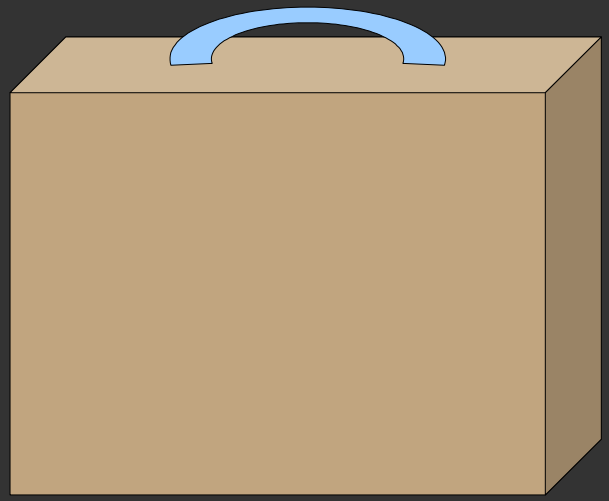
What is in this box ?



Visible

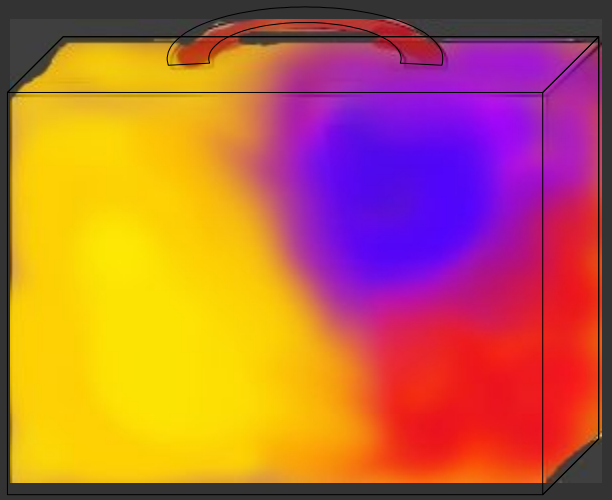
X-Ray

What is in this box ?



Visible

X-Ray



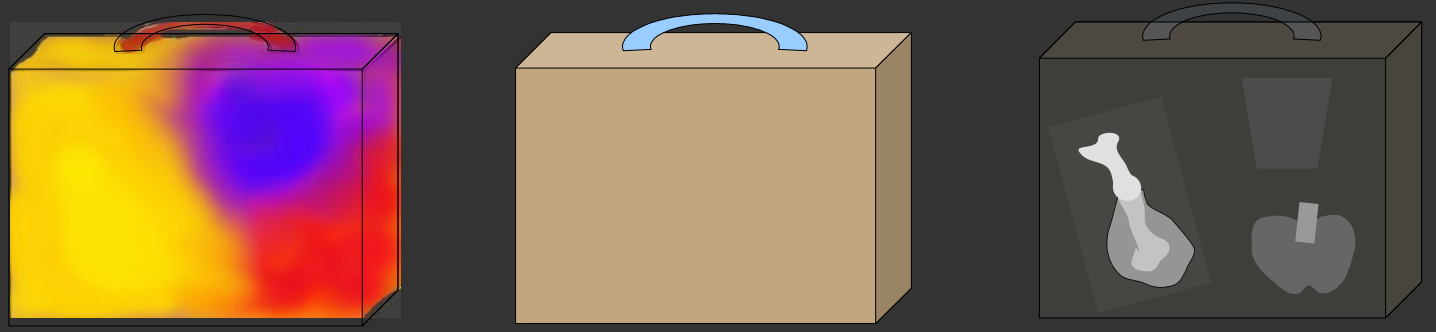
Hot

Normal

Cold

Infra-Red

Different kinds of light

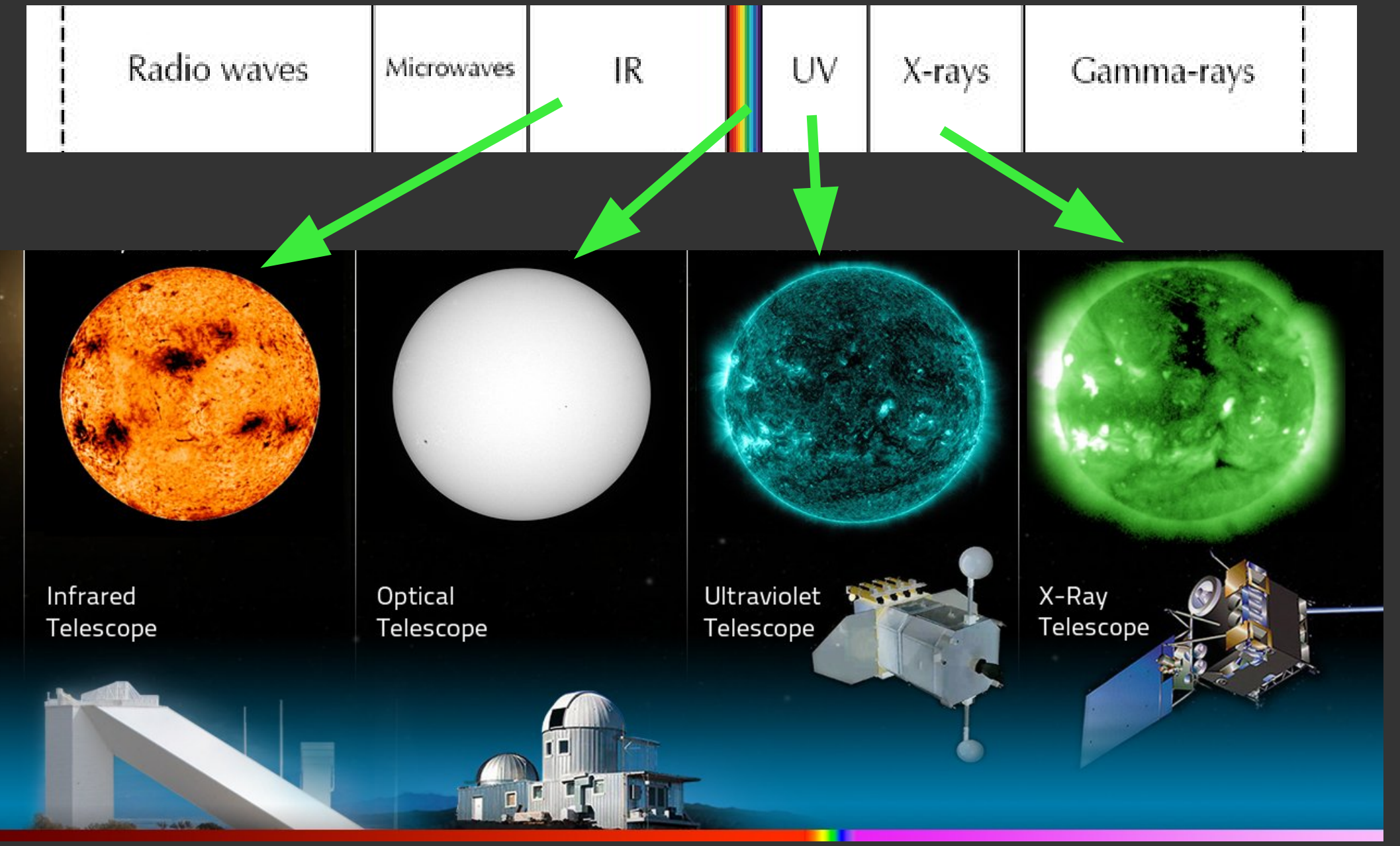


Infra-Red

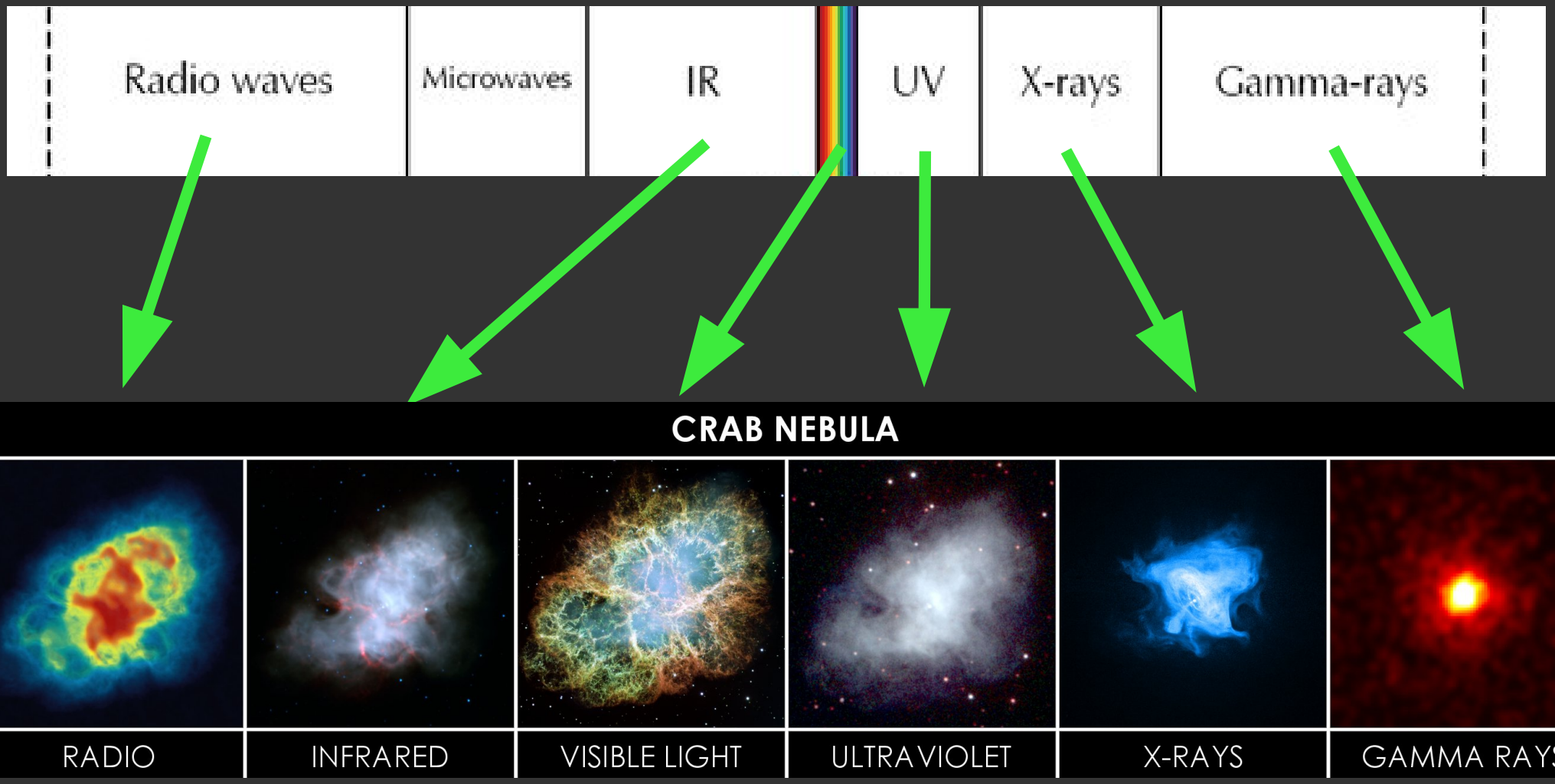
Visible

X-Ray

Different kinds of light

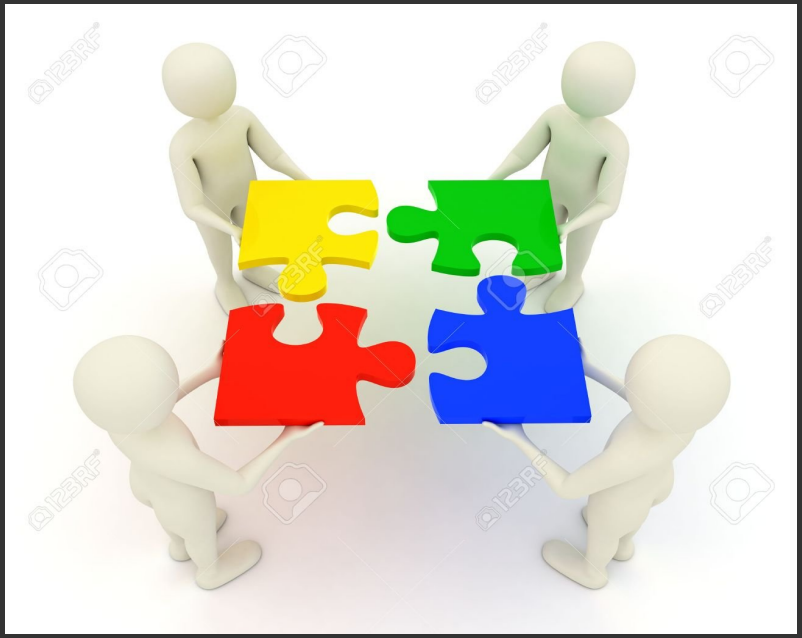


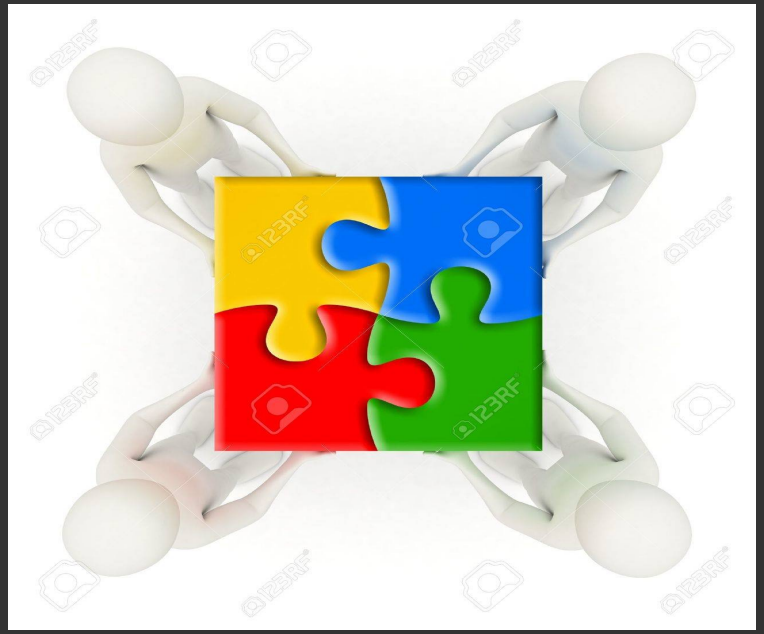
Different kinds of light



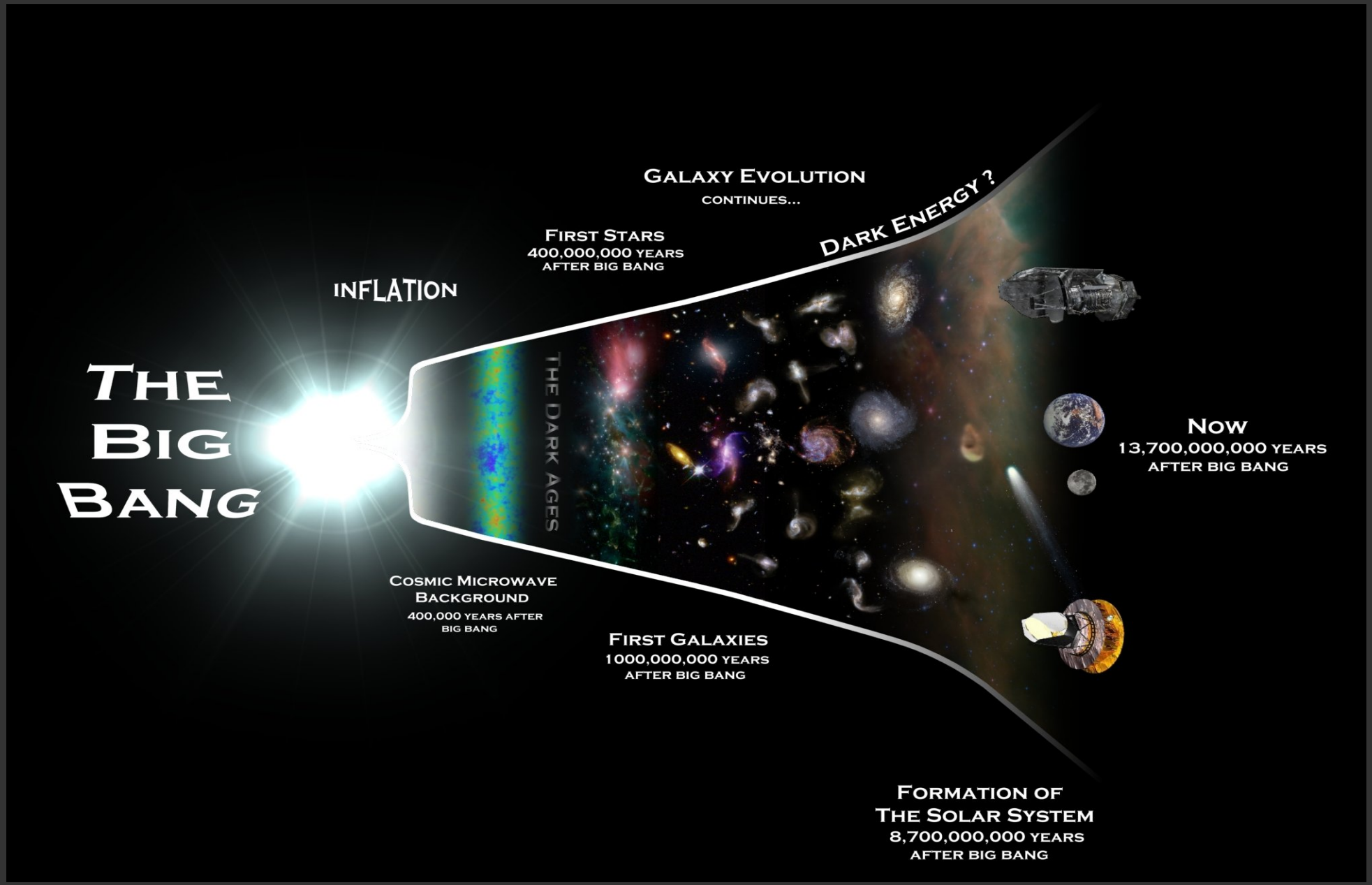
What do we do with all these pictures ?

What do we do with all these pictures ?



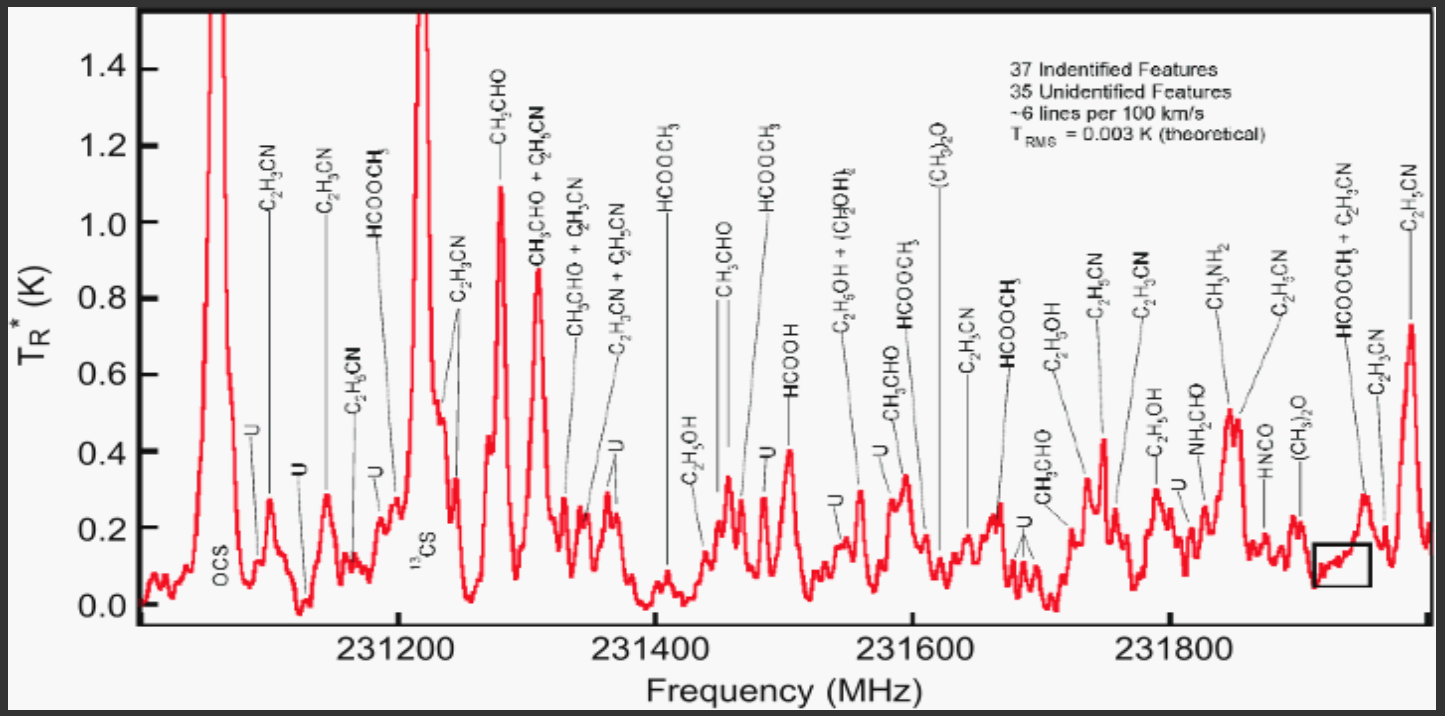


History of the Universe : A telescope is a time machine



Looking farther away = Looking back in time !

Chemistry : We are all made of stardust



Hydrogen, Carbon, Oxygen, Nitrogen

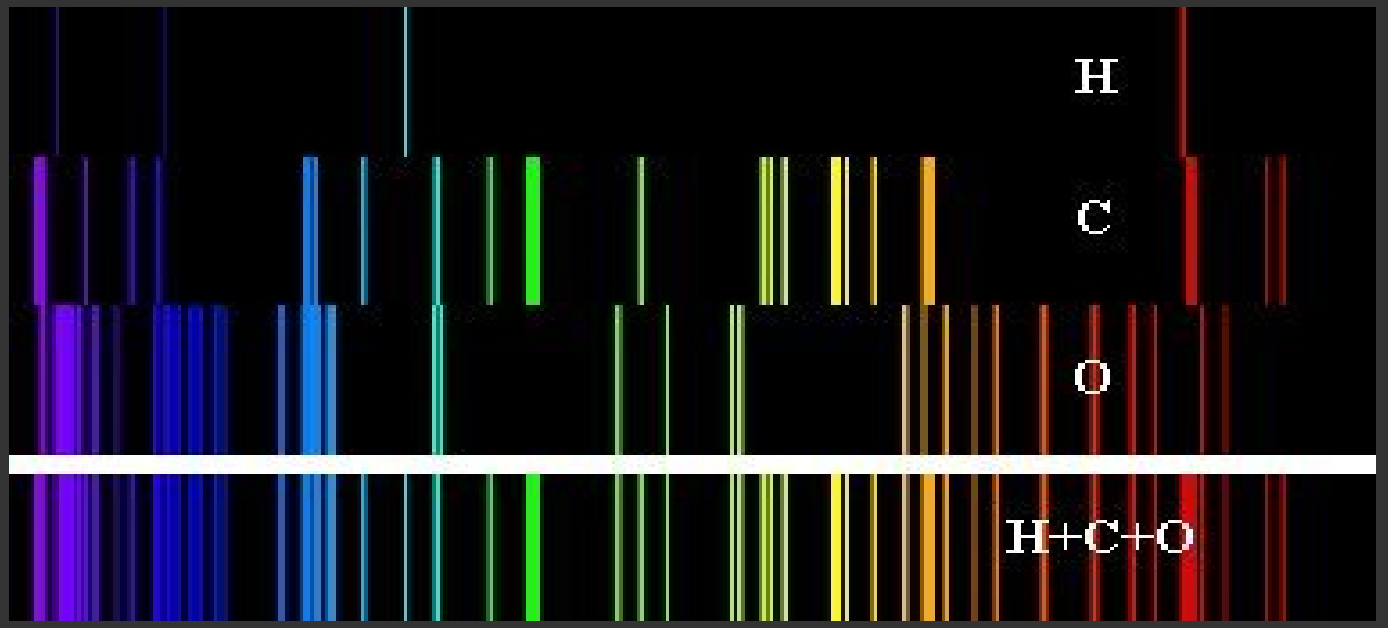
Salt, Sugar

Iron, Silicon

Water

Organic molecules

=> Search for life !

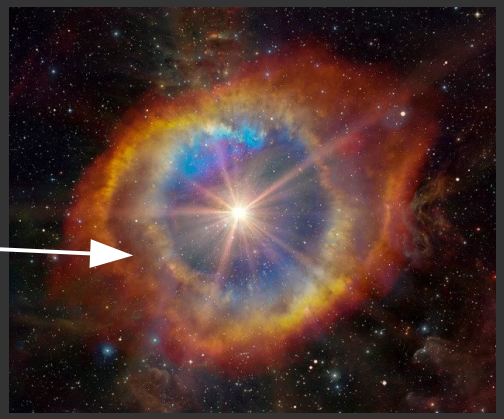


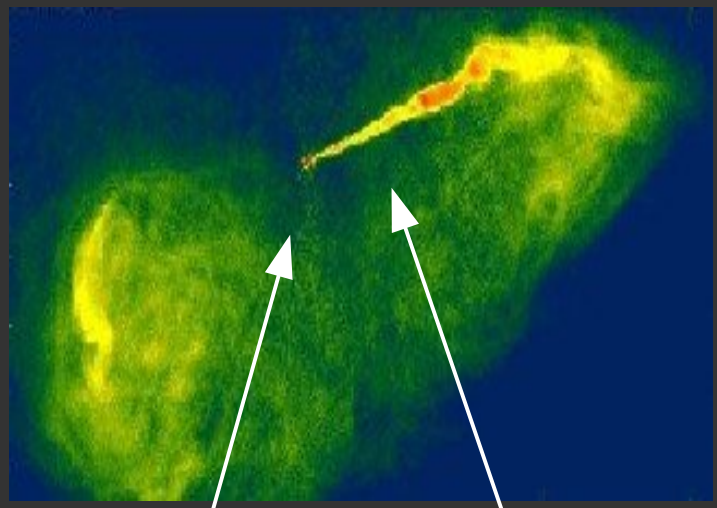
Extreme Physics in action

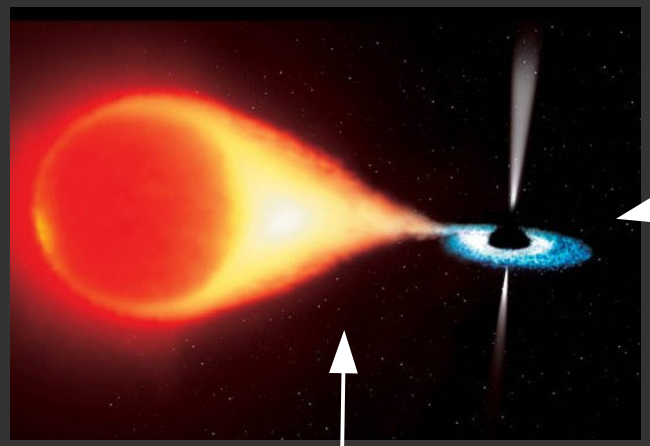
Gravitational Lens

Bending of light

Life Cycle of a Star

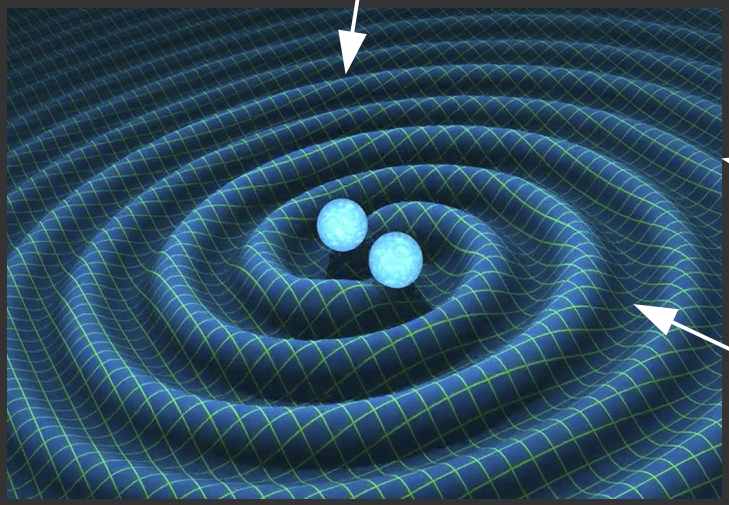






Black Hole

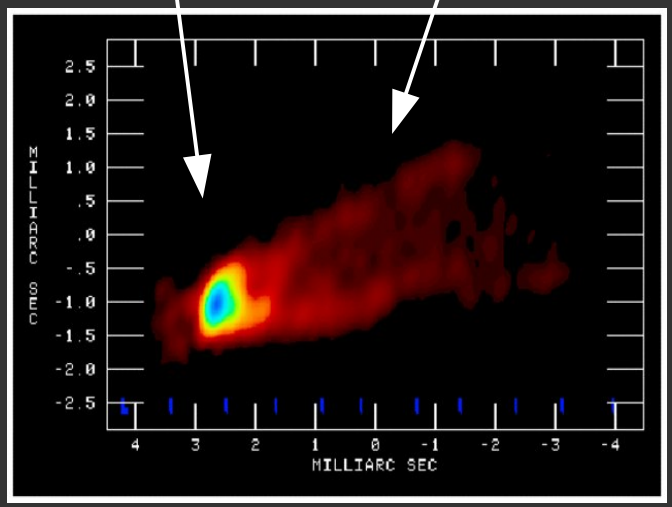
Jets of Plasma



Binary stars

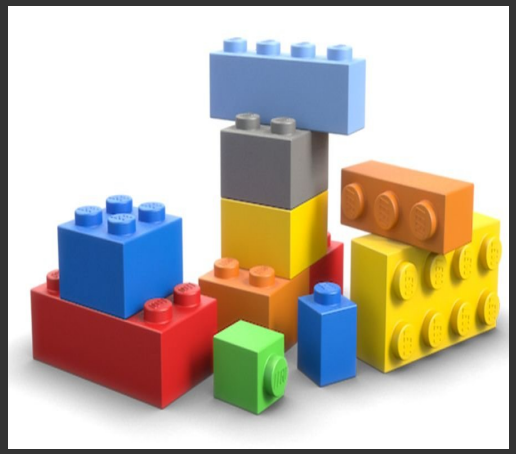
Spinning pulsars

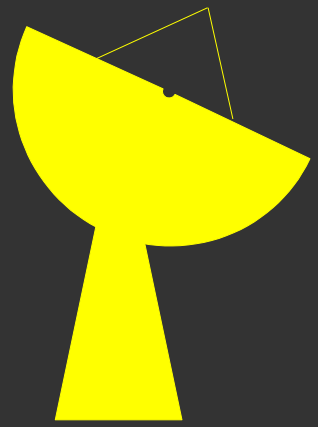
Gravity Waves



How do I know if I’m interested in all this ?

Next time you play ...





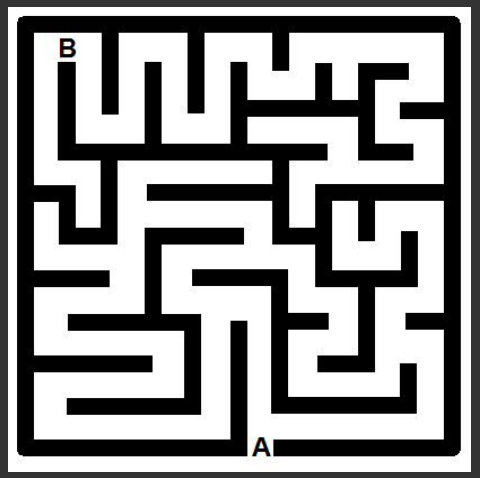
Build a dish antenna

- How big can you make the ‘dish’ without it falling over ?

- Now tilt just the ‘dish’. What can you do to keep it standing ?

Do you enjoy trying and figuring things out ?

Next time you play ...



Exchange a jigsaw puzzle set with a friend

- But, exchange only the pieces (no picture guide!)

Next, with a different puzzle,

- Leave out some of the pieces. Can you tell what the picture is ?

Do you enjoy being a detective ?

Next time you play ...

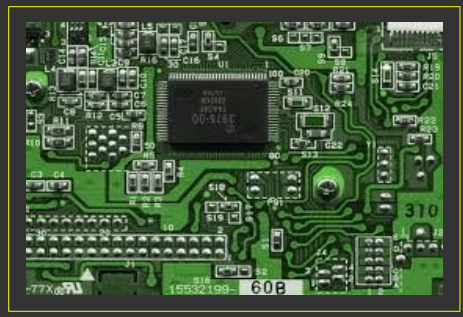
Remember...

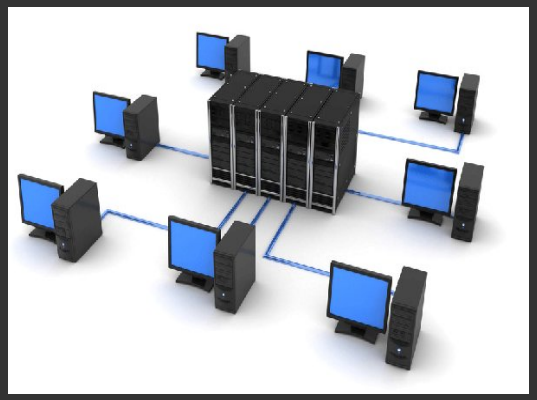
Everything that moves “ like real ”

has Physics and Math encoded in

Computer Software.

Do you want to learn how to make your own computer games ?





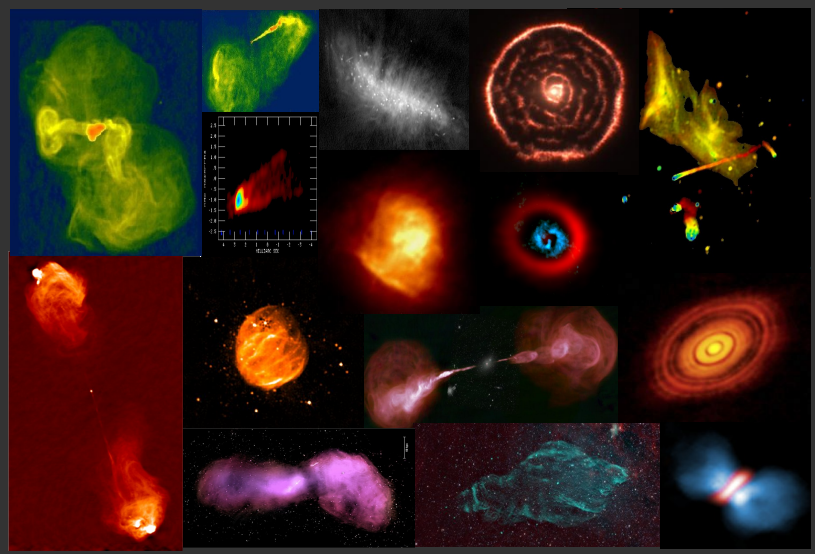
Socorro,NM is home to

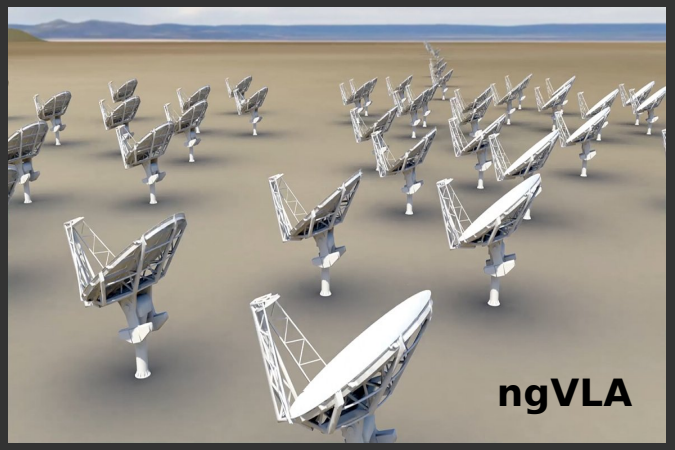
– A world class research facility

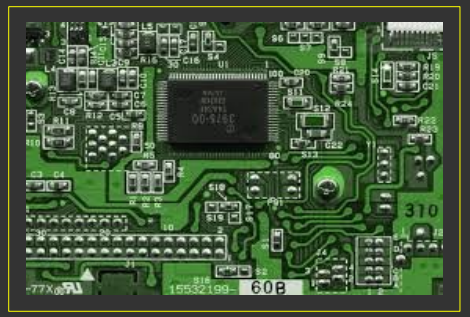
– Jobs in science, engineering, computers

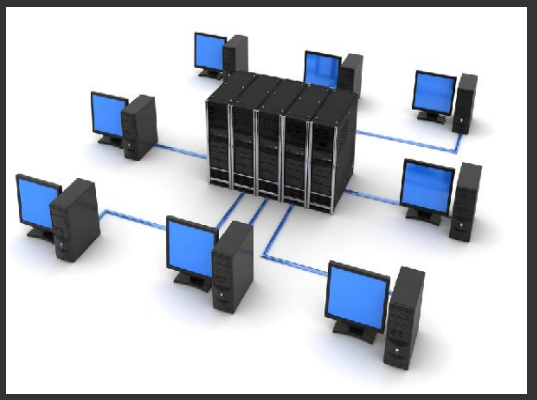
– Schools and a technical university

– ***YOU***









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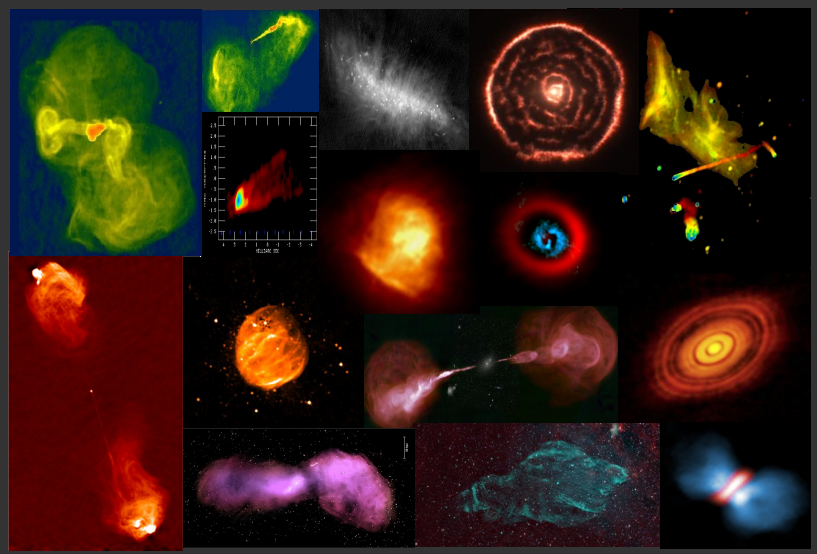


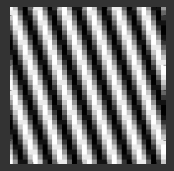
Things to learn in school and college

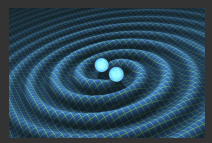
Physics

Optics

Computer Programming

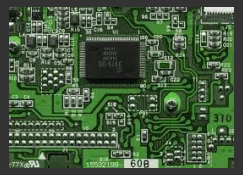
Math





Calculus

Electronics, Circuits



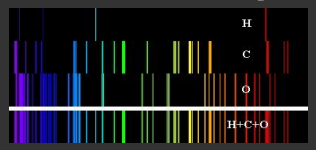
Data Analysis

Algebra

Engineering

Networks

Chemistry



Internet of things

Antennas

Science experiments

Signals

Artificial Intelligence

Radios

Photography

Solar Power

Solving puzzles