

SPACE EXPLORATIONS

MATH

SCIENCE



LANGUAGE
ARTS

SOCIAL
STUDIES

History of Space Exploration

Mankind has always been fascinated by the heavens. Early Greek mythology tells us that overcome by the sublime feeling that flying gave him, Icarus soared through the sky joyfully, but in the process came too close to the sun, which melted his wings.

Robert H. Goddard, born in 1882 began dreaming of rockets traveling into space before the Wright brothers ever invented the airplane. In 1909 he conceived of powering rockets with liquid fuel.

The first successful orbital launch was of the Soviet unmanned *Sputnik I* mission on October 4, 1957. This success led to an escalation of the American space program, which unsuccessfully attempted to launch Vanguard 1 into orbit two months later. On January 31, 1958, the U.S. successfully orbited Explorer I on a Juno rocket. In the meantime, the Soviet dog Laika became the first animal in orbit on November 3, 1957.

In 1961, the first manned space flights occurred. The first human spaceflight was *Vostok 1*, carrying 27 year old cosmonaut Yuri Gagarin on April 12, 1961. The spacecraft completed one orbit around the globe, lasting about 1 hour and 48 minutes. The U.S. launched its first astronaut into space within a month of Gagarin's flight with the first Mercury flight, by Alan Shepard. However, orbital flight was not achieved by the United States until John Glenn's flight nearly a year later. Valentina Tereshkova, the first woman in space, orbited the Earth 48 times aboard Vostok 6 in June of 1963.

The first space walk was accomplished by Ed White during the orbital flight of Gemini IV in 1965. Later that year, Gemini VI and VII blasted off separately, and after orbiting the Earth, docked. This was crucial as the maneuver would be essential in future missions. The early spacecraft returned to Earth and landed in the ocean where the capsules were retrieved.

Man actually orbited the moon in 1968. The three American astronauts were flying on Apollo 8. One year later, on Apollo 11,

Neil Armstrong became the first man to ever walk on the moon. The last manned moon mission was in 1972.

In 1973 the focus of space exploration shifted to America's Skylab space station. Astronauts in orbit conduct solar astronomy and Earth resources experiments, medical studies, and student experiments.

Beginning in 1962, unmanned spacecraft began exploring neighboring planets. Viking I and II landed on the surface of Mars in 1976 and sent information and photographs back to Earth. Voyager I and II traveled between 1977 and 1989 and took photos of Saturn, Jupiter, Uranus, and Neptune.

In 1981, the first Space Shuttle was launched. The space shuttles are the first reusable spacecrafts.

The first portion of the space station *Mir* was launched by the Soviet Union in 1986. However, it was not until 1995 that the American space shuttle Atlantis docked with *Mir*.

The space shuttle Discovery launched the Hubble Space Telescope in 1991.

Sixteen nations, led by the United States, partnered to create the International Space Station. Astronauts continue to occupy this space station. This partnership began in 1998.

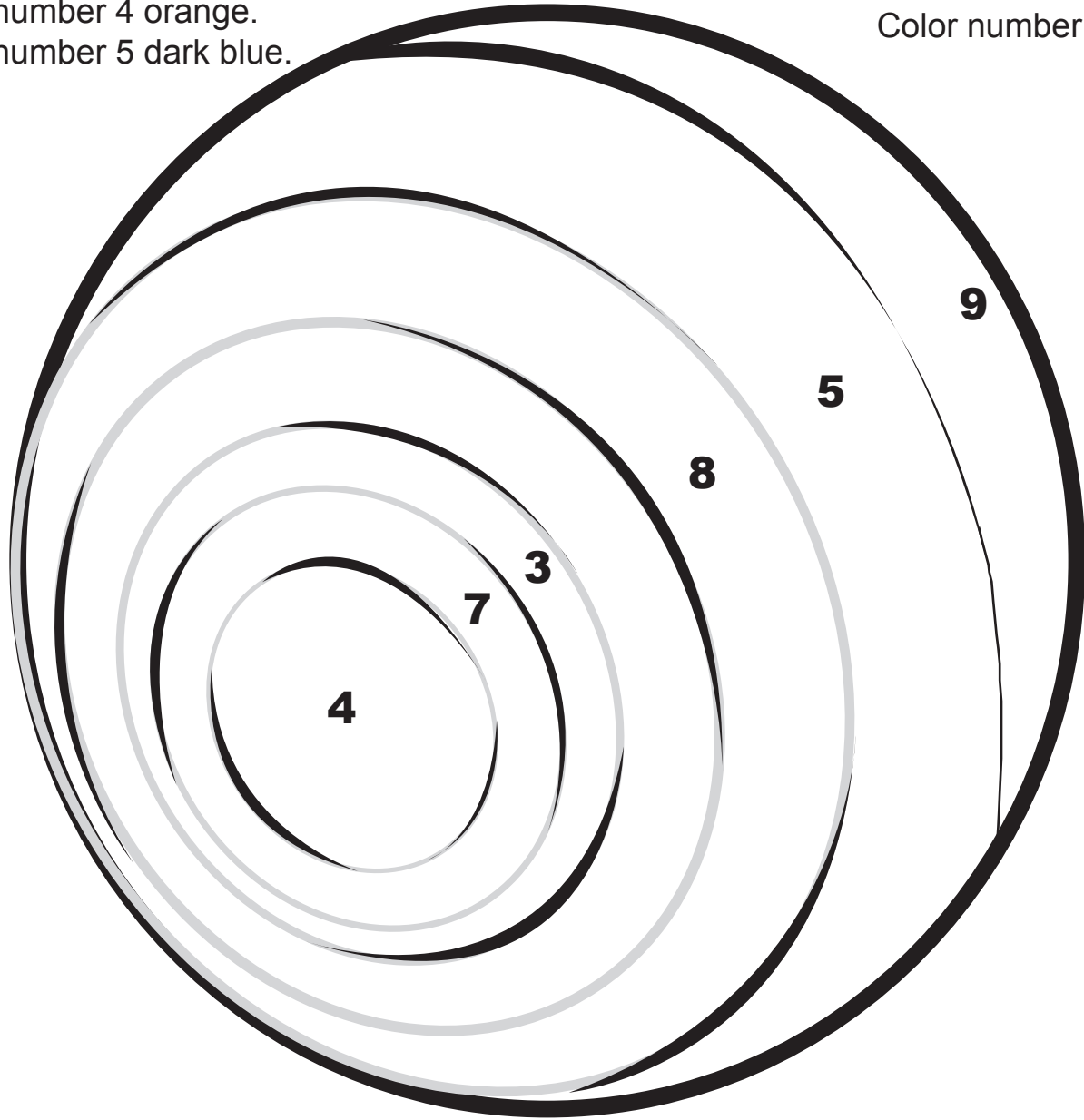
China launched its first taikonaut into space 42 years after the launch of Vostok 1, on 15th October 2003, with the flight of Colonel Yang Liwei aboard the Shenzhou 5.

January of 2004 was marked by the landing of two robot rovers (Spirit and Opportunity) on opposite side of the planet Mars. Later that year, the Cassini spacecraft reached Saturn (it was launched in 1997). The first private suborbital manned space flights also occurred that year.

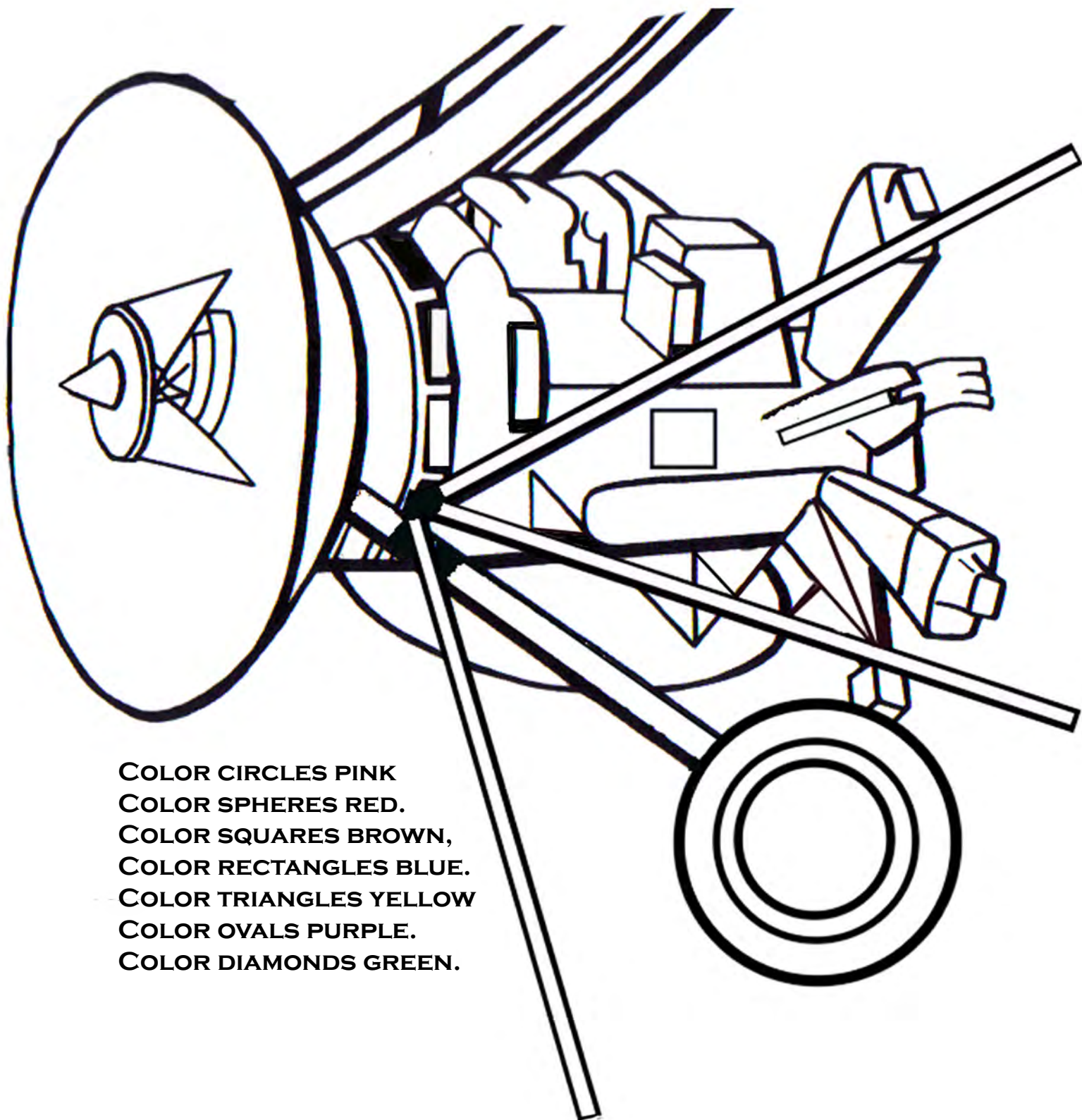
Uranus

Color number 1 purple.
Color number 2 green
Color number 3 yellow.
Color number 4 orange.
Color number 5 dark blue.

Color number 6 red.
Color number 7 gold.
Color number 8 light blue.
Color number 9 grey.



Uranus is the 7th planet from the Sun. The clouds that circle the planet are greenish-blue. Uranus also has 11 thin rings (not shown here) that surround the planet.

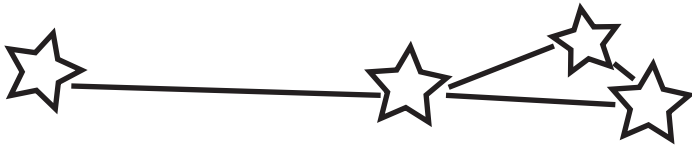


**COLOR CIRCLES PINK
COLOR SPHERES RED.
COLOR SQUARES BROWN,
COLOR RECTANGLES BLUE.
COLOR TRIANGLES YELLOW
COLOR OVALS PURPLE.
COLOR DIAMONDS GREEN.**

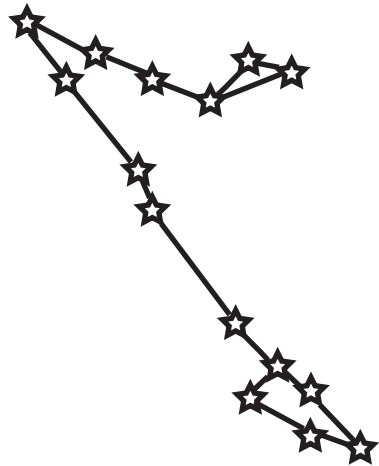
**THE CASSINI SPACECRAFT TRAVELED TO SATURN AND
HAS MADE MANY DISCOVERIES ABOUT ITS RINGS AND MOONS.**

WRITE THE NUMBER OF STARS IN THE CONSTELLATIONS
IN THE BLANK BELOW THE CONSTELLATION.

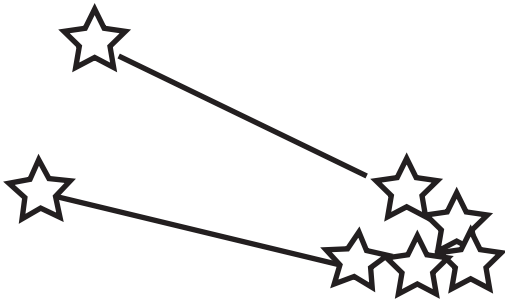
ARIES, THE RAM



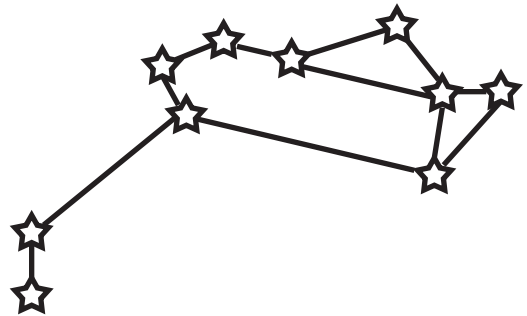
PISCES, THE FISH



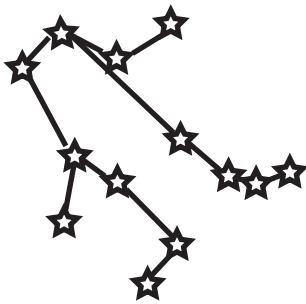
TAURUS, THE BULL



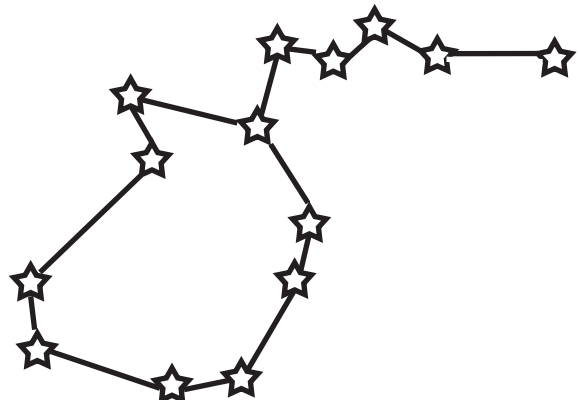
SAGITTARIUS, THE ARCHER



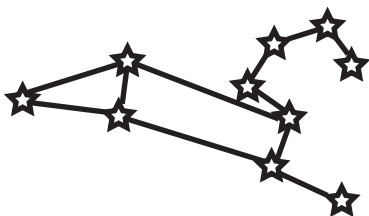
GEMINI, THE TWINS



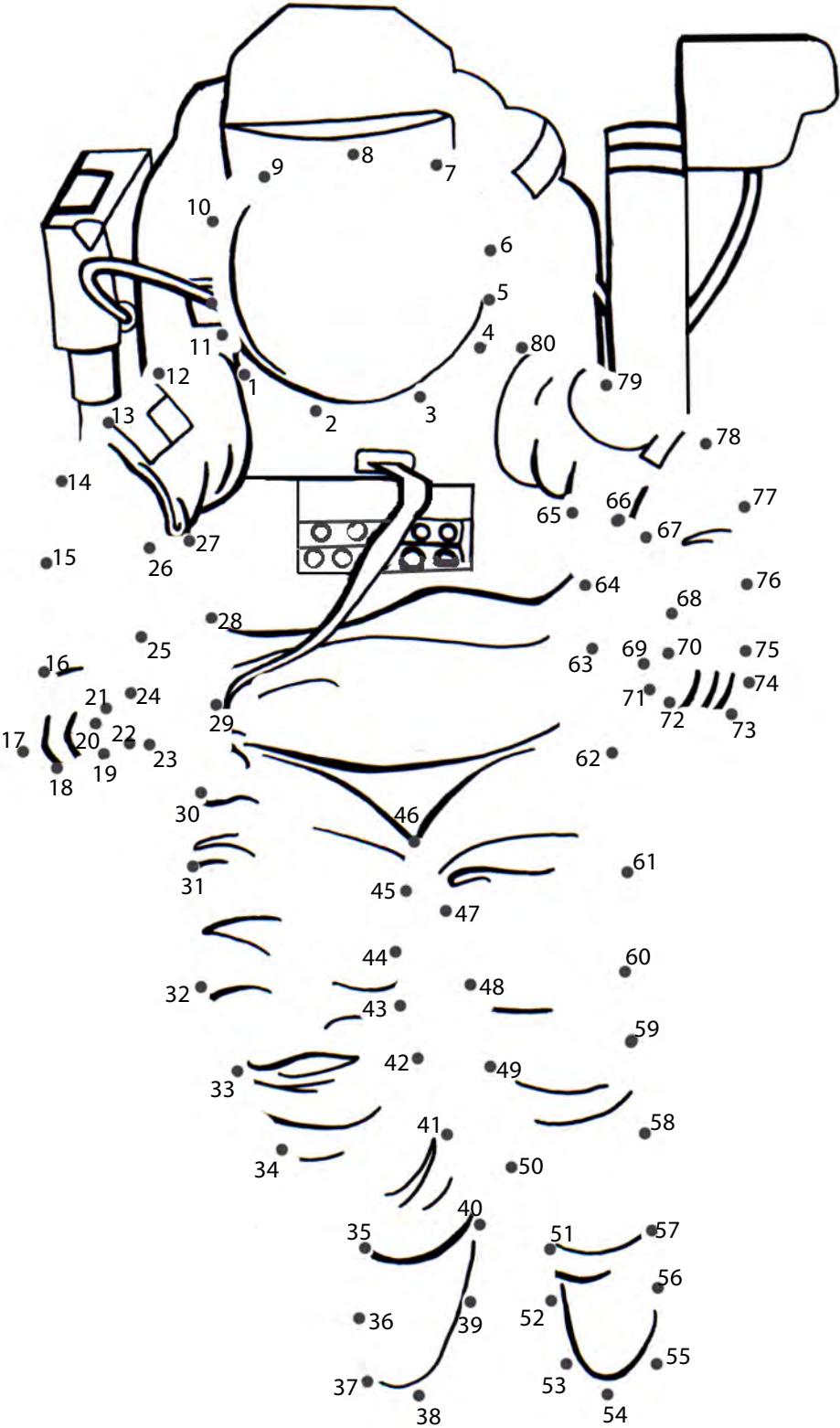
AQUARIUS, THE WATER BEARER



LEO, THE LION



CONNECT THE DOTS TO FIND OUT WHAT THIS IS.

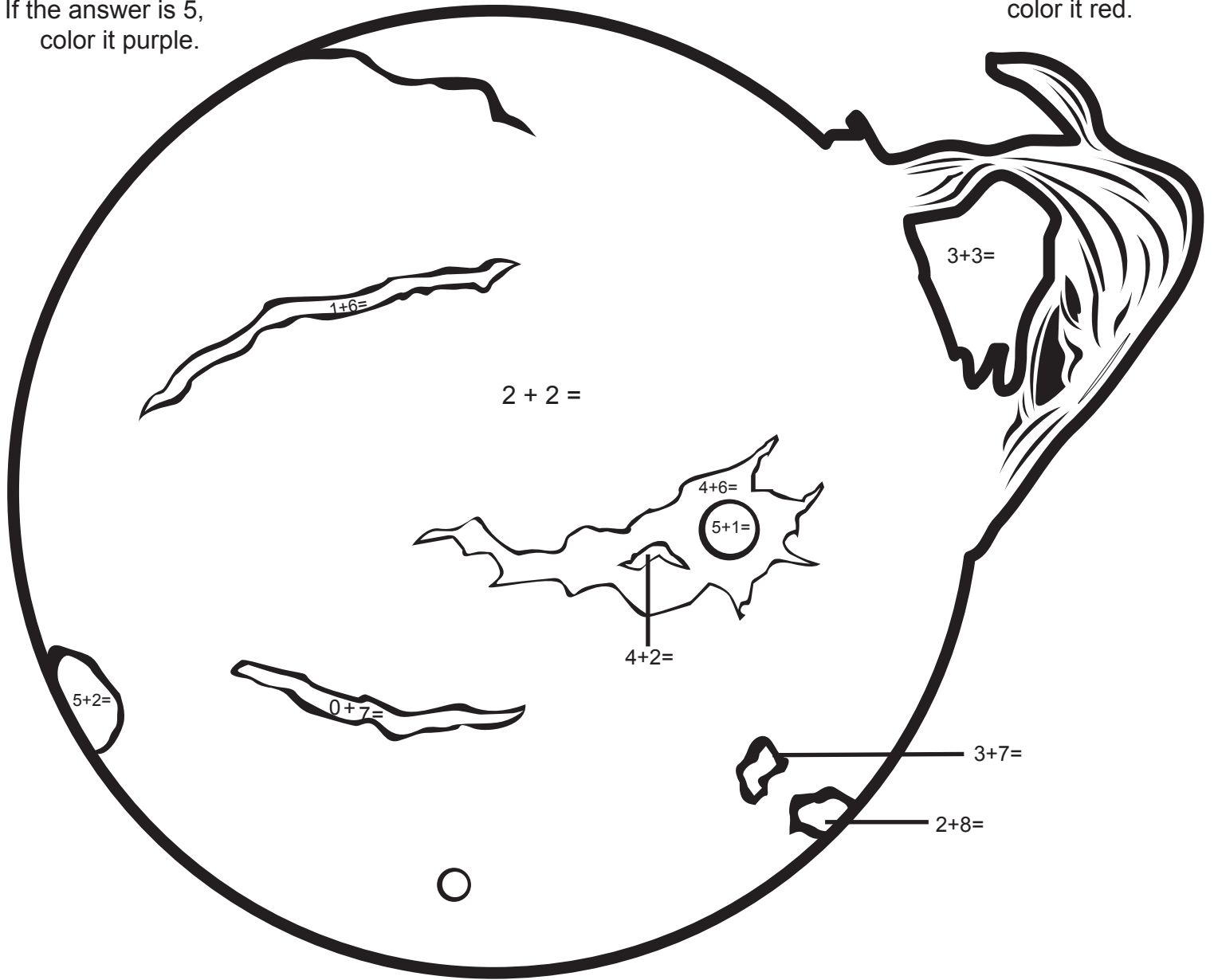


The Sun

If the answer is 2,
color it blue.
If the answer is 3,
color it green.
If the answer is 4,
color it yellow.
If the answer is 5,
color it purple.

If the answer is 6,
color it white.
If the answer is 7,
color it orange.
If the answer is 10,
color it red.

Use addition to find out what colors to use.



The Sun is a star at the center of our solar system. It gives off light and heat. The Sun is bigger than any of the planets. The Sun looks yellow from Earth.

Using the "History of Space Exploration" put the important

Hubble Space Telescope Launched

First successful orbital launch
(Sputnik I)

First space walk

Cassini reached Saturn;
robot rovers landed on
Mars

China launched its
first taikonaut into space

First space shuttle
launched

U.S. successfully
orbited Explorer I

Last U.S. manned
moon mission

1955

1960

1965

1970

1975

1955
Polio
vaccine
declared
in
safe
for
use

1957
"The
Cat
in
the
Hat"
was
published

1959
Fidel
Castro
becomes
premier
of
Cuba

1960
Maiman
perfected
the
laser;
John F.
Kennedy
wins U.S.
Presidential
election

1965
Martin
Luther
King, Jr.
led march
to Selma,
Alabama

1970
Kent State
University
protest;
Environmental
Protection
Agency
created
by U.S.
Congress

1975
Microsoft
established;
last
American
troops
leave
Vietnam

1980
Mount
St. Helens
erupts;
Moscow
Olympics
boycotted

space event in the proper position on the time line.

Atlantis docked
with Mir

First portion of
Mir launched

Beginning of
exploration of
neighboring planets

Skylab space station

Man orbited the
moon

First woman in space

First manned
space flights

Creation of the
International
Space Station

1980

1985

1990

1995

2000

2005

1981
Sandra
Day
O'Conner
becomes
1st woman
to serve
on U.S.
Supreme Court

1985
Mikhail
Gorbachev
becomes
U.S.S.R.
Communist
Secretary-
General

1990
Operation
Desert
Shield
begins
in the
Persian
Gulf

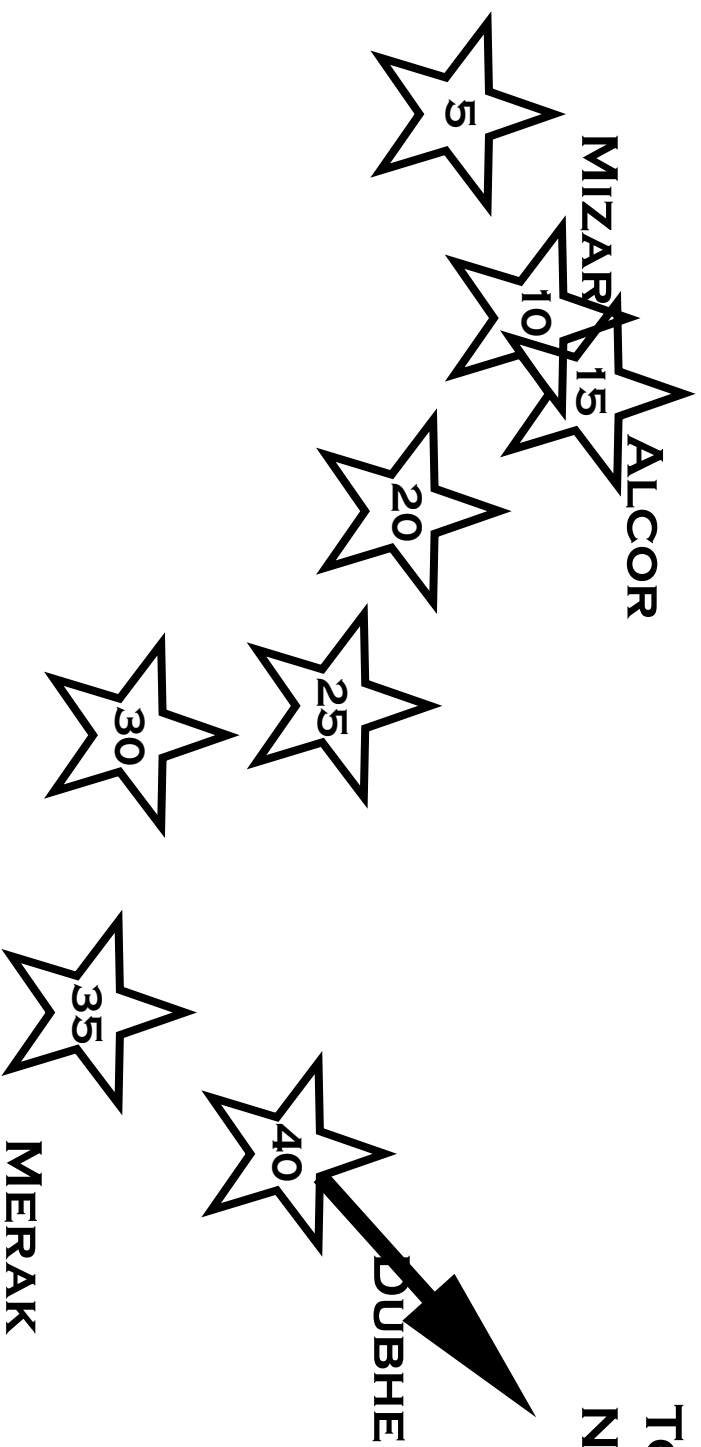
1995
Bombing of
the Murrah
Federal
Building in
Oklahoma City;
Louis
Farrakhan leads
"Million Man March"

2000
Genetic
code of
the human
chromosome
is completely
mapped

2005
Hurricane
Katrina
slammed
into
Gulf Coast;
Iraq's first
free
election
in 50
years

URSA MAJOR

TO THE
NORTH STAR



CONNECT THE DOTS BY COUNTING BY 5'S.

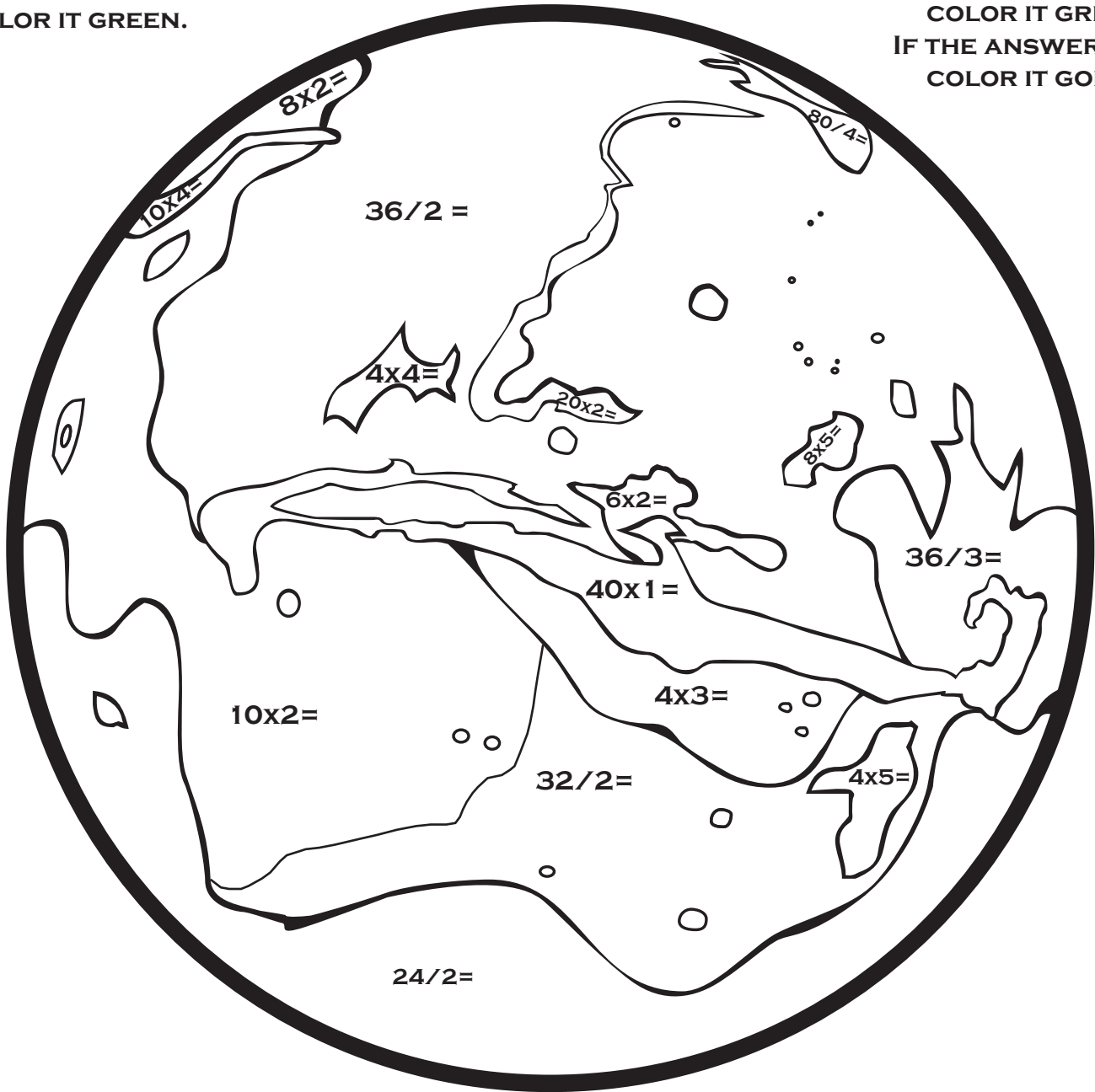
URSA MAJOR MEANS "BIG BEAR." DUBHE AND MERAK ARE KNOWN AS THE "POINTER STARS." THEY ARE USED TO FIND THE "NORTH STAR."

IF THE ANSWER IS 2,
COLOR IT PURPLE.
IF THE ANSWER IS 3,
COLOR IT PINK.
IF THE ANSWER IS 4,
COLOR IT YELLOW
IF THE ANSWER IS 5,
COLOR IT GREEN.

Mars

USE MULTIPLICATION AND DIVISION
TO FIND OUT WHAT COLORS TO USE.

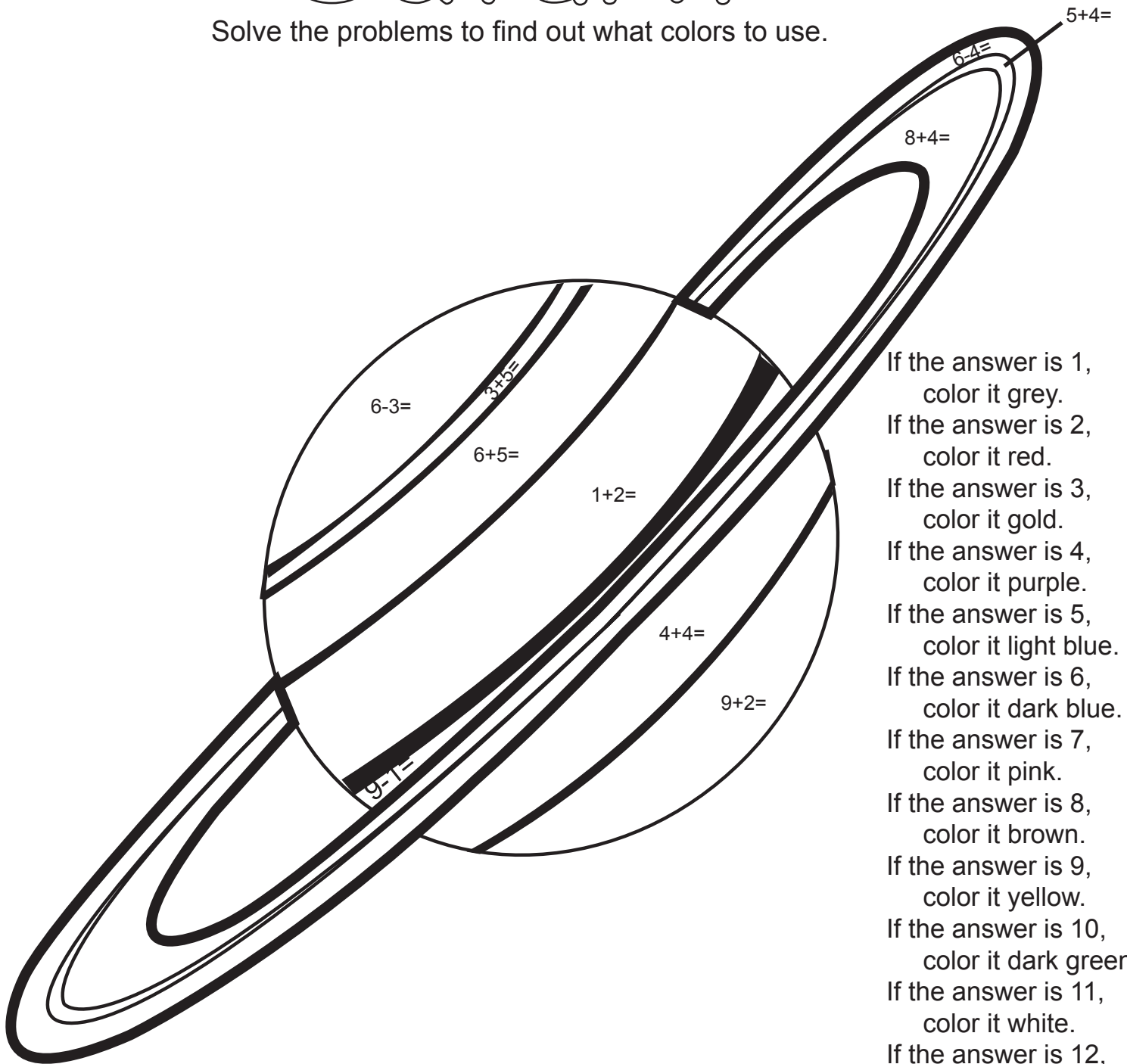
IF THE ANSWER IS 12,
COLOR IT BROWN
IF THE ANSWER IS 16,
COLOR IT RED.
IF THE ANSWER IS 18,
COLOR IT ORANGE.
IF THE ANSWER IS 20
COLOR IT GREY.
IF THE ANSWER IS 40.
COLOR IT GOLD.



MARS IS THE FOURTH PLANET FROM THE SUN. MARS IS COVERED WITH RED ROCKS. THERE ARE HUGE VOLCANOES AND LOTS OF CRATERS ON THE SURFACE. SO FAR, SCIENTISTS HAVEN'T FOUND ANY LIFE ON MARS.

Saturn

Solve the problems to find out what colors to use.



- If the answer is 1, color it grey.
- If the answer is 2, color it red.
- If the answer is 3, color it gold.
- If the answer is 4, color it purple.
- If the answer is 5, color it light blue.
- If the answer is 6, color it dark blue.
- If the answer is 7, color it pink.
- If the answer is 8, color it brown.
- If the answer is 9, color it yellow.
- If the answer is 10, color it dark green.
- If the answer is 11, color it white.
- If the answer is 12, color it light green.

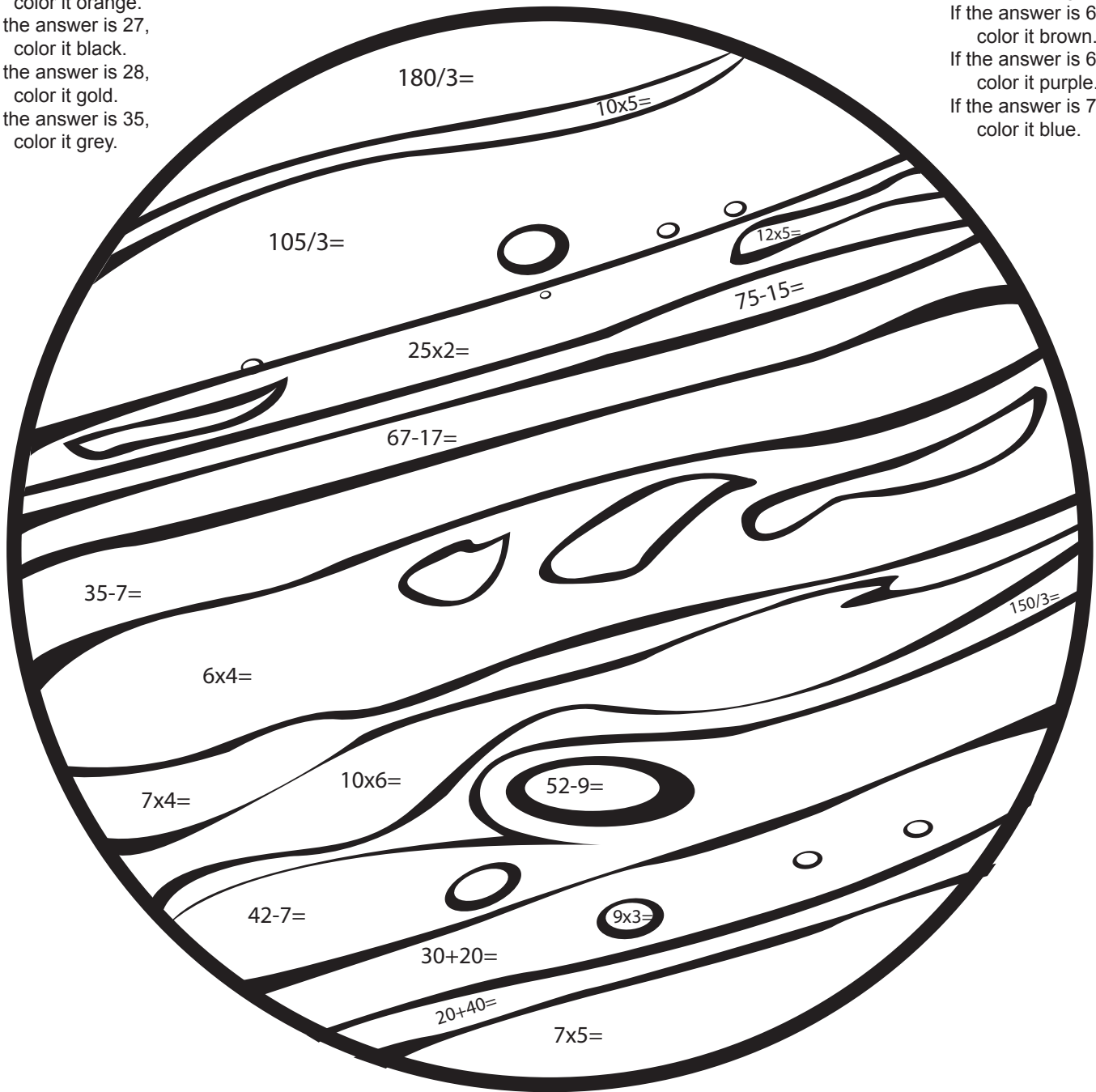
Saturn is the 6th planet from the Sun. It is a giant planet. Saturn has beautiful rings. Saturn is gold, brown, and white. Its rings are gold, brown, white, red, yellow and green.

Jupiter

If the answer is 7,
color it green.
If the answer is 24,
color it orange.
If the answer is 27,
color it black.
If the answer is 28,
color it gold.
If the answer is 35,
color it grey.

Solve the problems to find out what colors to use.

If the answer is 43,
color it red.
If the answer is 50,
color it beige.
If the answer is 60,
color it brown.
If the answer is 64,
color it purple.
If the answer is 75,
color it blue.



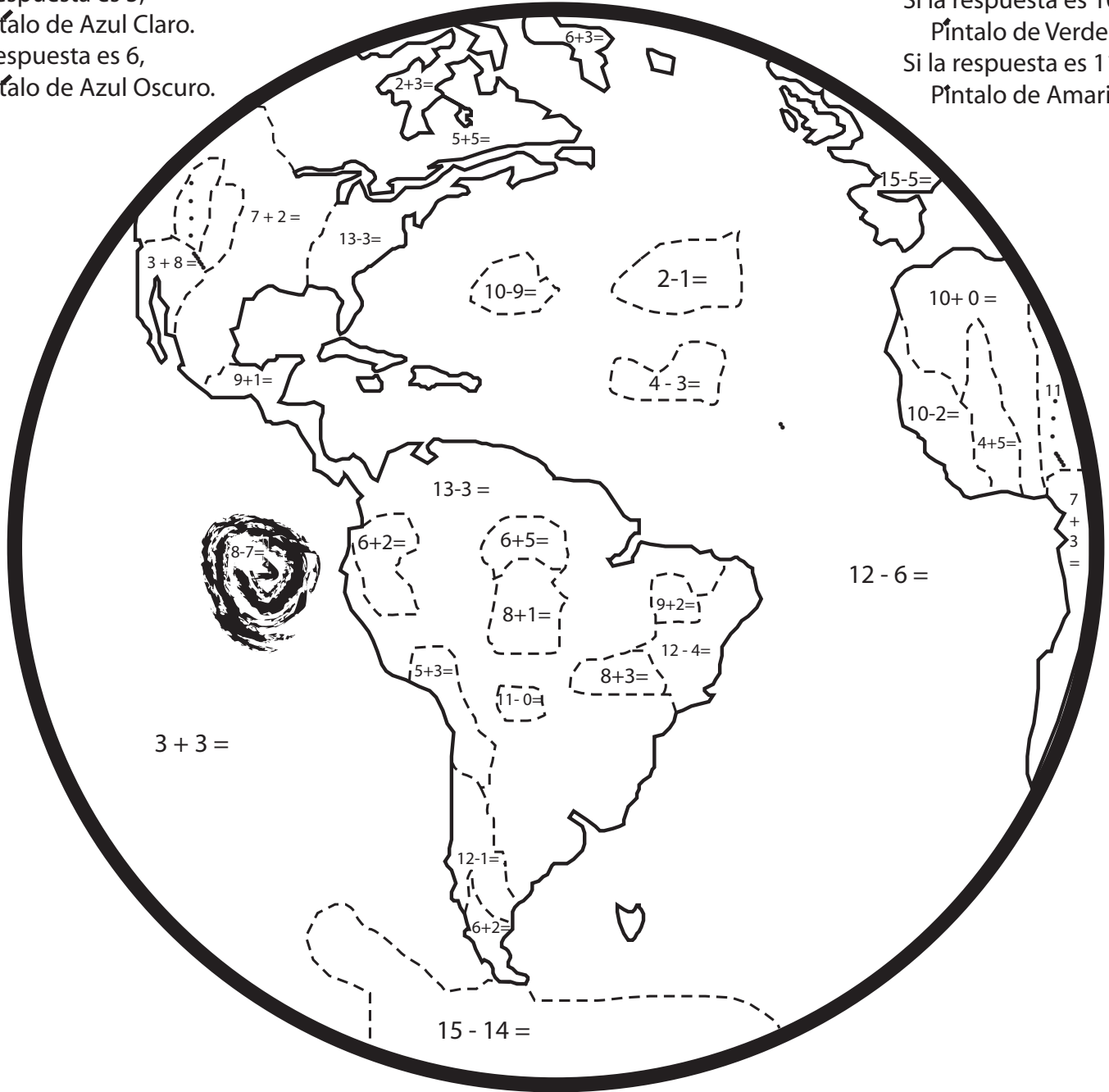
Jupiter is the fifth planet from the Sun. It is the biggest planet in the solar system. Jupiter is orange, red, yellow, brown, and white. Jupiter also has a Great Red Spot. You can color the red spot on the picture.

- Si la respuesta es 1, Píntalo de Gris.
- Si la respuesta es 2, Píntalo de Rojo.
- Si la respuesta es 3, Píntalo de Violeta.
- Si la respuesta es 5, Píntalo de Azul Claro.
- Si la respuesta es 6, Píntalo de Azul Oscuro.

TIERRA

Resuelve los problemas para encontrar el color que debes usar.

- Si la respuesta es 7, Píntalo de Rosa.
- Si la respuesta es 8, Píntalo de Marrón.
- Si la respuesta es 9, Píntalo de Verde Claro.
- Si la respuesta es 10, Píntalo de Verde Oscuro.
- Si la respuesta es 11, Píntalo de Amarillo.



La Tierra es el tercer planeta desde el Sol. Tiene agua en la superficie y aire que podemos respirar. La Tierra parece una esfera azul con tierra que se ve color marrón y verde y nubes que son blancas y grises. La distancia alrededor del ecuador de la Tierra (circunferencia) es de 24,092 milas.

THE MAZE OF SPACE EXPLORATION

DIRECTIONS: DRAW A LINE FROM AMERICA'S FIRST MANNED SPACE FLIGHT TO CASSINI REACHING SATURN. CONNECT THE EVENTS IN CHRONOLOGICAL ORDER.

FINISH

SPIRIT AND OPPORTUNITY

INTERNATIONAL SPACE STATION

CASSINI

COLUMBIA

MIR

HUBBLE SPACE TELESCOPE

VIKING I AND II

VOYAGER I AND II

APOLLO 17

LUNOKHOD I

APOLLO 11

GEMINI VI AND VII

JOHN GLENN

GEMINI IV (FIRST SPACE WALK)

ALAN SHEPARD, JR. (AMERICA'S FIRST MANNED SPACE FLIGHT)

START

SST

Solve the problems to find out what colors to use.

$5(11-7)=$

$2(4+2)=$

If the answer is 12,
color it light blue.

If the answer is 18,
color it orange.

If the answer is 20,
color it yellow.

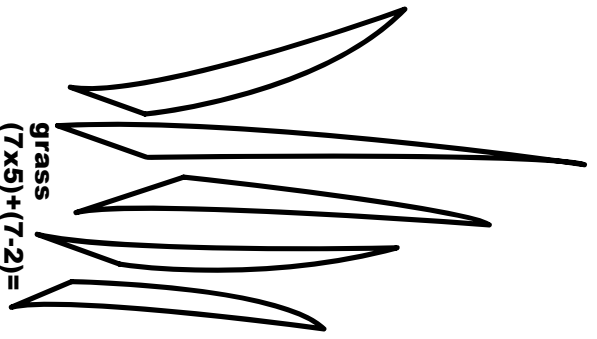
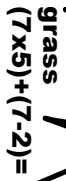
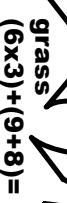
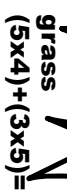
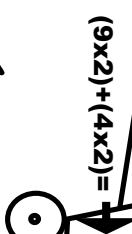
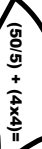
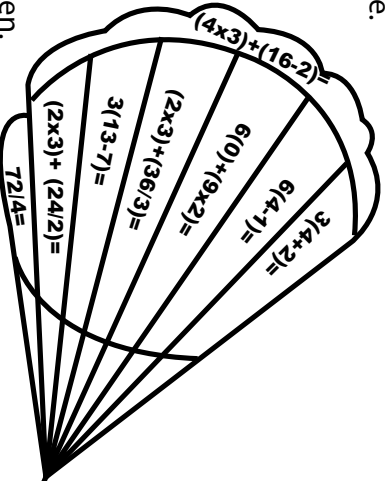
If the answer is 26,
color it grey.

If the answer is 30,
color it black.

If the answer is 35,
color it light green.

If the answer is 40,
color it dark green.

If the answer is 12,
color it light blue.
If the answer is 18,
color it orange.
If the answer is 20,
color it yellow.
If the answer is 26,
color it grey.
If the answer is 30,
color it black.
If the answer is 35,
color it light green.
If the answer is 40,
color it dark green.



USE THE INFORMATION BELOW THE GRAPH TO CREATE A BAR GRAPH COMPARING THE HEIGHTS OF THE ROCKETS.

