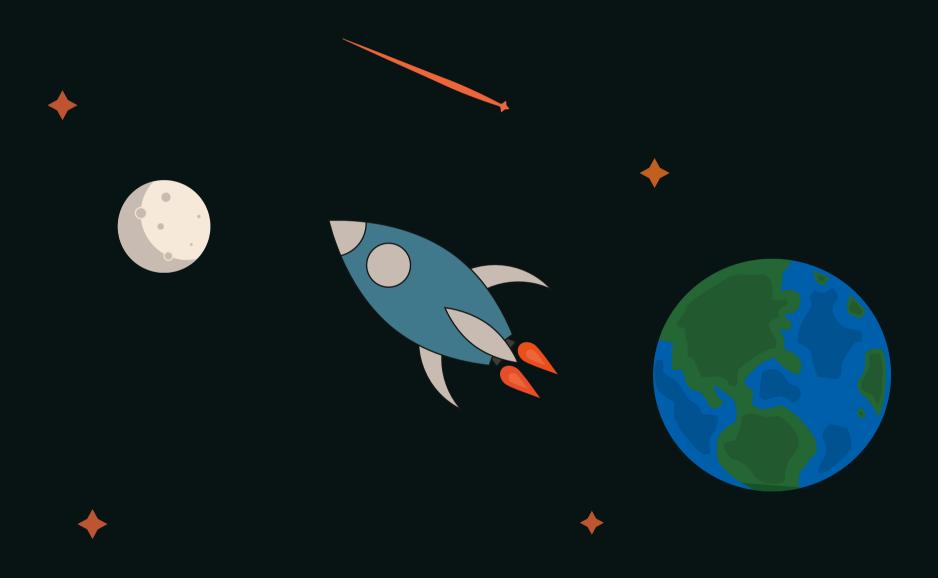
A Periodic Space Adventure



Start here!

Choose your character





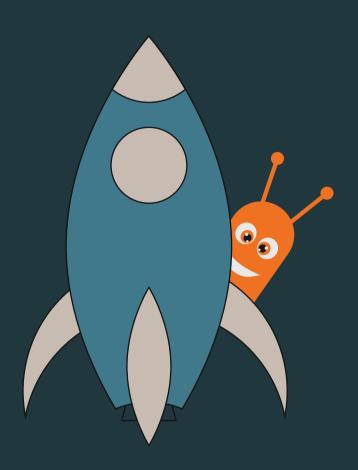
Hi, I'm Miko! Are you ready to learn about how to get to space? Let's go!

Lesson 1

Lesson 2

Quiz

What is a spaceship?



A spaceship is a vehicle that brings people and goods to space.

It needs to be strong, solid and light to escape Earth's gravity.

The spaceship is mostly made up of the elements Aluminium and Titanium.

26.982

Aluminium

2 47.867
Titanium

26.982

Aluminium



Aluminium is a non-toxic metal that is strong yet light.

When combined with other metals it becomes so strong that people build ships and planes with it.

Did you know?

Aluminium is 100% recyclable!

13





Each element has a unique atomic number.

Aluminium has 13 electrons and 13 protons, so its atomic number is 13.

Electrons, protons and neutrons are atoms which makes up everything in the universe.

26.982

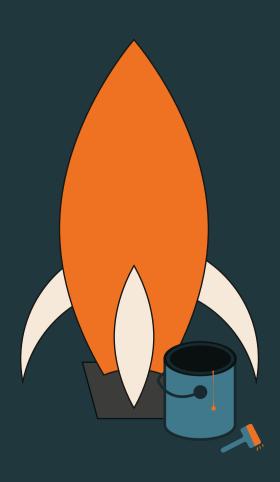




26.982 is the atomic weight of aluminium when including atoms.

It is measured in atomic mass unit or "u" which is roughly equal to the mass of 1 proton and 1 neuron. **22** 47.867

Titanium



Titanium is another nontoxic metal that is used to build strong materials with.

It is also used in the making of paint, plastics and surgical tools.

Did you know?

Titanium is found on the Moon, meteorites and in some stars.

22





Each element has a unique atomic number.

Titanium has 22 electrons and 22 protons, so its atomic number is 22.

Electrons, protons and neutrons are atoms which makes up everything in the universe.

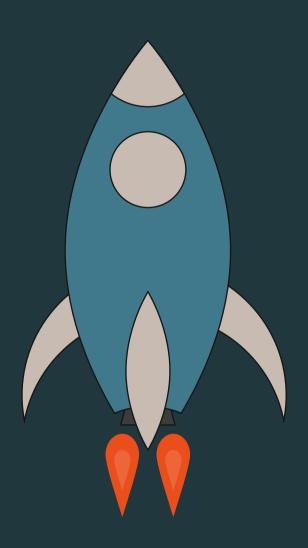
47.867



47.867 is the atomic weight of titanium when including atoms.

It is measured in atomic mass unit or "u" which is roughly equal to the mass of 1 proton and 1 neuron.

How do we fly to space?



Have you ever let air out of a balloon? The air goes one way and the balloon the other.

Spaceships works the same way. Burning fuel comes out the engine, producing enough force to push the spaceship forward.

Burning fuel is made of Hydrogen, Uranium and Thorium.

1.008

Hydrogen

90 232.038

Thorium

92 238.629

Uranium

Hydrogen



Hydrogen is the first and simplest element that exists because it only has one proton and one electron.

It produces water when it burns and is used in many man-made products like gas, plastics and food.

Did you know?

Hydrogen makes up 75% of all matter in the universe!

٦





Each element has a unique atomic number.

Hydrogen has 1 electron and 1 proton so its atomic number is 1.

Electrons, protons and neutrons are atoms which makes up everything in the universe.

1.008

H



1.008 is the atomic weight of hydrogen when including atoms.

It is measured in atomic mass unit or "u" which is roughly equal to the mass of 1 proton and 1 neuron.

90



Each element has a unique atomic number.

Thorium has 90 electrons and 90 protons, so its atomic number is 90.

Electrons, protons and neutrons are atoms which makes up everything in the universe.

232.038



232.038 is the atomic weight of thorium when including atoms.

It is measured in atomic mass unit or "u" which is roughly equal to the mass of 1 proton and 1 neuron.

90 Thorium



Thorium is a slightly toxic metal that can be found in nature.

Many scientists believe thorium would be a good nuclear fuel because it is four time as common as uranium and makes much less waste.

Did you know?

Scientists believe there is enough thorium to power the the world for thousands of years!

92





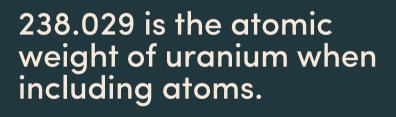
Each element has a unique atomic number.

Uranium has 92 electrons and 92 protons, so its atomic number is 92.

Electrons, protons and neutrons are atoms which makes up everything in the universe.

238.029





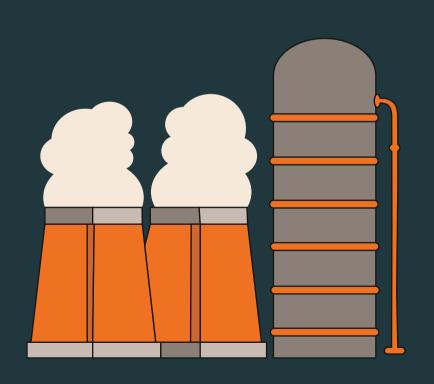
It is measured in atomic mass unit or "u" which is roughly equal to the mass of 1 proton and 1 neuron.



92

238.029





Uranium is a very toxic metal that can be found in small traces in most rocks and ocean water.

It is mainly used for fuel in nuclear power plants because it produces a huge amount of energy from small amounts of uranium.

Did you know?

Uranium is naturally made during an explosion of a star!

Start Quiz!

Start Lesson 1 again!

A. Small and fast

B. Big, heavy and slow

C. Strong, solid and light

A. Small and fast

B. Big, heavy and slow

C. Strong, solid and light

Submit answer!

A. Small and fast

B. Big, heavy and slow

C. Strong, solid and light

Correct!

Next!

A. Small and fast

B. Big, heavy and slow

C. Strong, solid and light

Submit answer!

A. Small and fast

B. Big, heavy and slow

C. Strong, solid and light

Wrong!

Try again!

A. Small and fast

B. Big, heavy and slow

C. Strong, solid and light

Submit answer!

A. Magnesium and uranium

B. Aluminium and titanium

C. Thorium and hydrogen

A. Magnesium and uranium

B. Aluminium and titanium

C. Thorium and hydrogen

Submit answer!

A. Magnesium and uranium

B. Aluminium and titanium

C. Thorium and hydrogen

Correct!

Next!

A. Magnesium and uranium

B. Aluminium and titanium

C. Thorium and hydrogen

Submit answer!

A. Magnesium and uranium

B. Aluminium and titanium

C. Thorium and hydrogen

Wrong!

Try again!

A. Magnesium and uranium

B. Aluminium and titanium

C. Thorium and hydrogen

Submit answer!

3. What 3 elements are burning fuel made of?

A. Hydrogen, thorium and uranium

B. Magnesium, uranium and thorium

C. Titanium, aluminium and thorium

3. What 3 elements are burning fuel made of?

A. Hydrogen, thorium and uranium

B. Magnesium, uranium and thorium

C. Titanium, aluminium and thorium

Submit answer!

3. What 3 elements are burning fuel made of?

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Correct!

Next!

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Submit answer!

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Wrong!

Try again!

3. What 3 elements are burning fuel made of?

A. Hydrogen, thorium and uranium

B. Magnesium, uranium and thorium

C. Titanium, aluminium and thorium

Submit answer!

A. Titanium and aluminium

B. Hydrogen and titanium

C. Uranium and thorium

A. Titanium and aluminium

B. Hydrogen and titanium

C. Uranium and thorium

Submit answer!

A. Titanium and aluminium

B. Hydrogen and titanium

C. Uranium and thorium

Correct!

Next!

A. Titanium and aluminium

B. Hydrogen and titanium

C. Uranium and thorium

Submit answer!

A. Titanium and aluminium

B. Hydrogen and titanium

C. Uranium and thorium

Wrong!

Try again!

A. Titanium and aluminium

B. Hydrogen and titanium

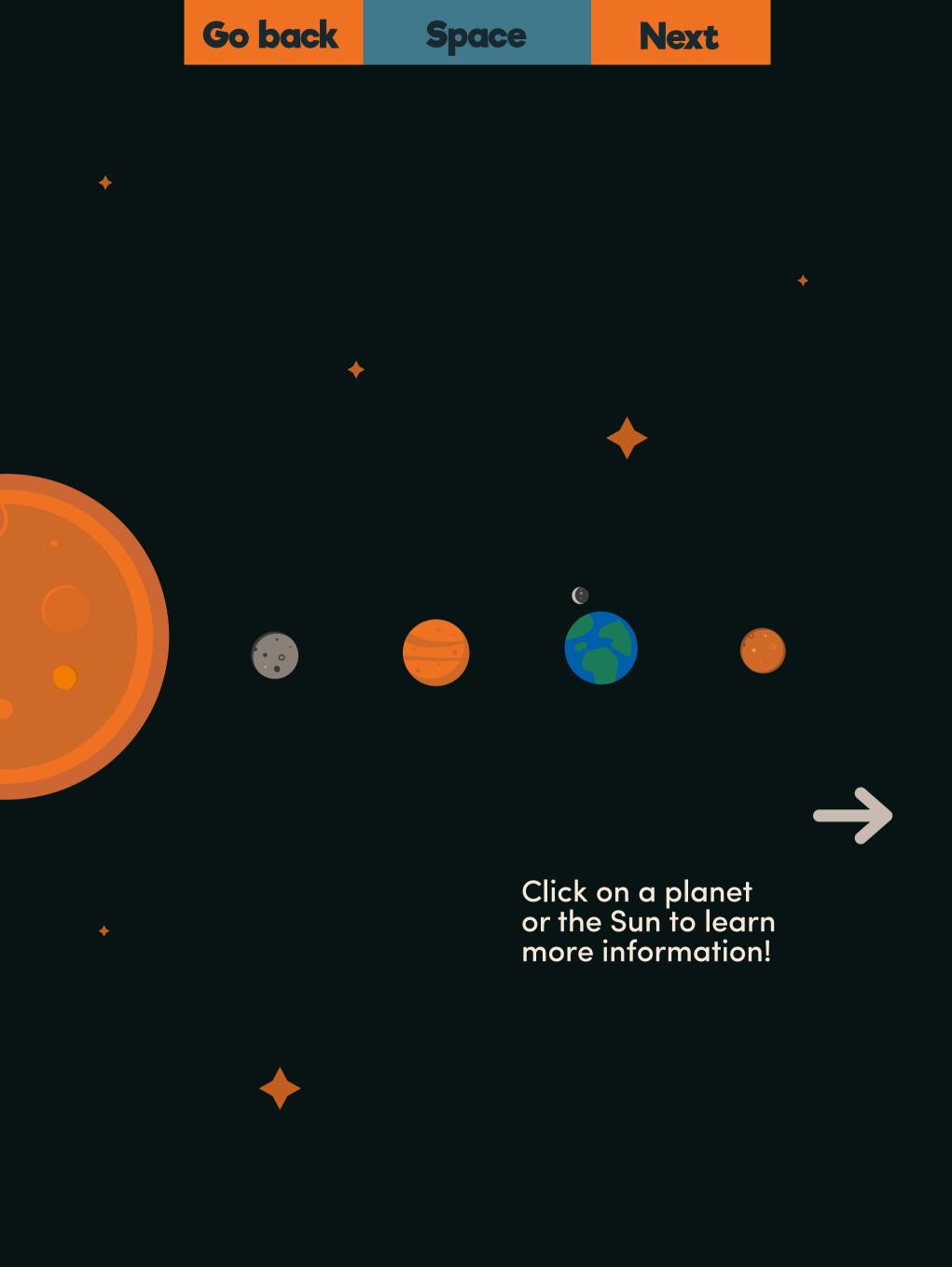
C. Uranium and thorium

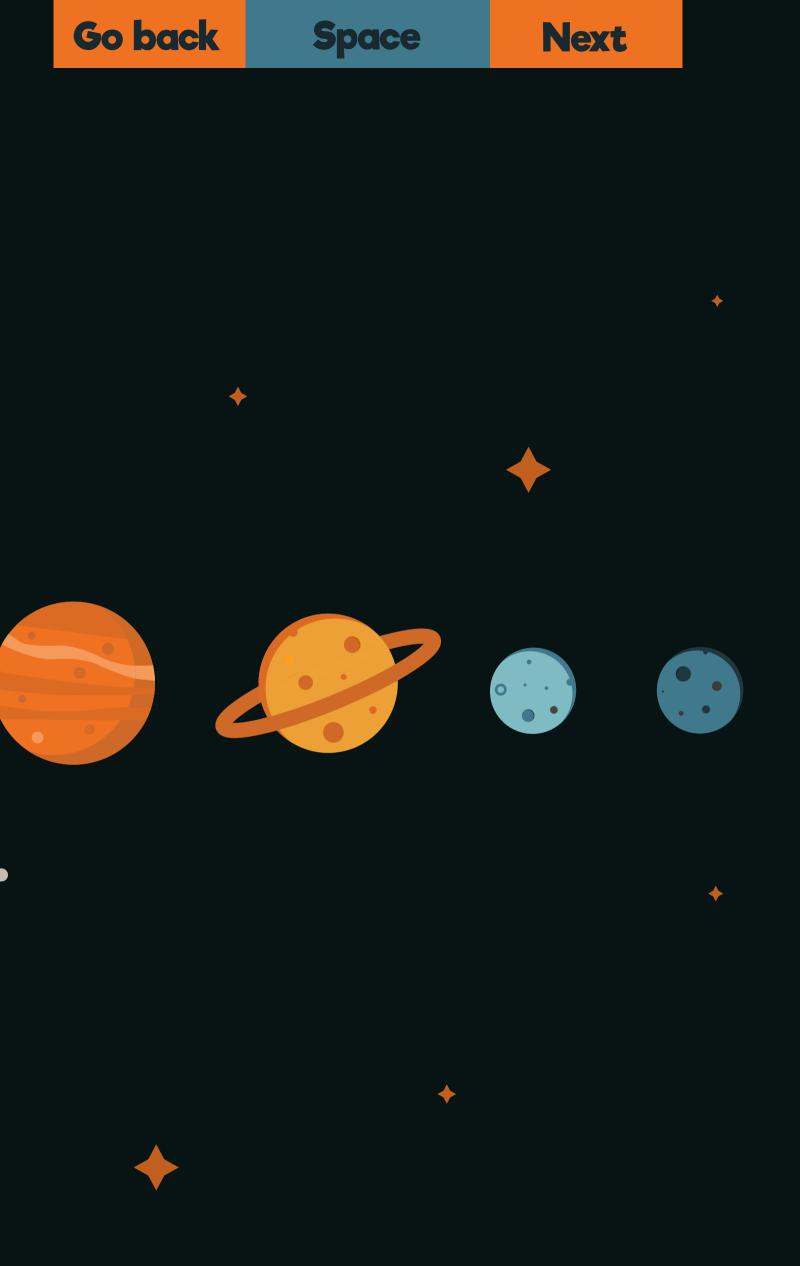
Submit answer!

Congratulations! You have passed the quiz!

Go to space!







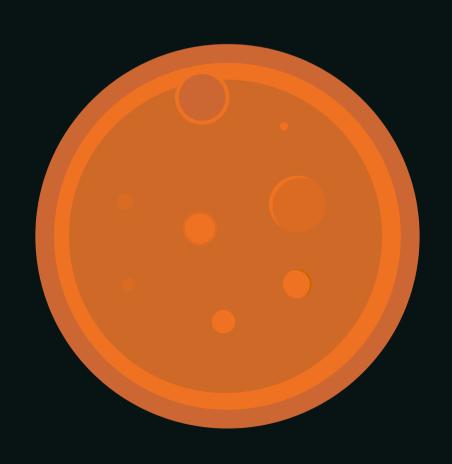
1 1.008

Hydrogen

2 4.0026

He

Helium



The Sun

The Sun is a star that gives life to Earth.

It mostly consists of hydrogen and helium as well as other elements.

Did you know?

One million Earths could fit inside the Sun!

Hydrogen



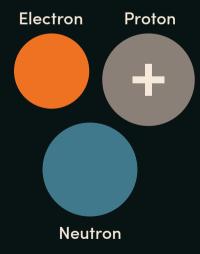
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Did you know?

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Each element has a unique atomic number.

Hydrogen has 1 electron and 1 proton so its atomic number is 1.

Electrons, protons and neutrons are atoms which makes up everything in the universe.

H



1.008 is the atomic weight of hydrogen when including atoms.

It is measured in atomic mass unit or "u" which is roughly equal to the mass of 1 proton and 1 neuron.

4.0026

Helium

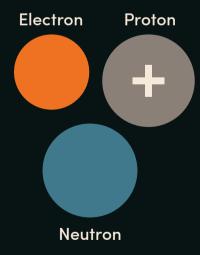


Helium is a gas that has. no colour or smell.

Helium is lighter than air so it is often used to fill airships and balloons.

Did you know?

Helium balloons can reach the edge of space!



Each element has a unique atomic number.

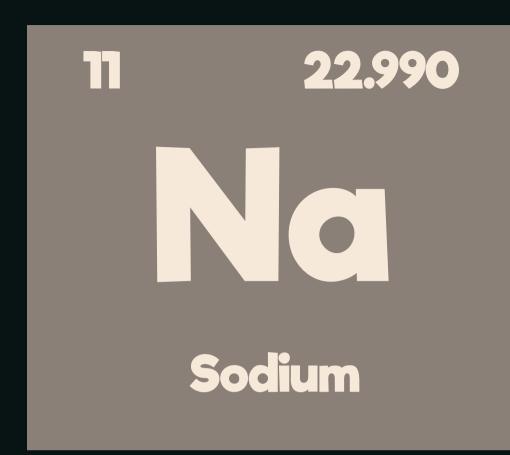
Helium has 2 electrons and 2 protons so its atomic number is 2.

Electrons, protons and neutrons are atoms which makes up everything in the universe.



4.0026 is the atomic weight of helium when including atoms.

It is measured in atomic mass unit or "u" which is roughly equal to the mass of 1 proton and 1 neuron. 8 15.999
Oxygen





Mercury

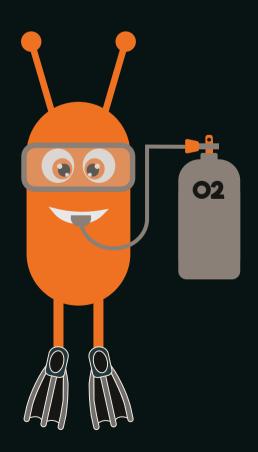
Mercury is a planet made of oxygen and sodium as well as other. elements.

Did you know?

Mercury is closest to the Sun but because it doesn't have a large atmosphere, it is not the hottest planet, Venus is. 8 15.999



Oxygen



Oxygen is a chemical element that is colourless, odourless and tasteless.

All living things on Earth use oxygen to breathe but is also used in medicine to help people.

Did you know?

Without plants, there would be very little oxygen in the air.





Each element has a unique atomic number.

Oxygen has 8 electrons and 8 protons so its atomic number is 8.

Electrons, protons and neutrons are atoms which makes up everything in the universe.





15.999 is the atomic weight of Oxygen when including atoms.

It is measured in atomic mass unit or "u" which is roughly equal to the mass of 1 proton and 1 neuron. **11 22.990**

A Callium Sodium



Sodium is a non-toxic metal with a silver-white colour and burns with a yellow flame.

Sodium is used in many forms like table salt, baking soda and soap among many others.

Did you know?

Our bodies lose sodium when we sweat!



Each element has a unique atomic number.

Sodium has 11 electrons and 11 protons so its atomic number is 11.

Electrons, protons and neutrons are atoms which makes up everything in the universe.



22.990 is the atomic weight of sodium when including atoms.

It is measured in atomic mass unit or "u" which is roughly equal to the mass of 1 proton and 1 neuron. 6 12.011

Carbon

7 19.007

Nitrogen



Venus

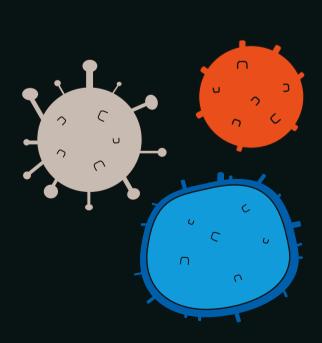
Venus is a planet made of carbon dioxide and nitrogen.

Did you know?

One day on Venus is longer than one year on Earth!

12.011

Carbon



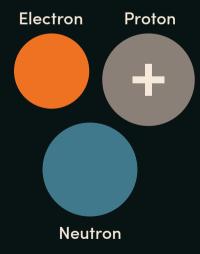
Carbon is a non-metal that is one of the most important elements to life on Earth. It makes up our bodies, organs and cells.

Carbon is found in plants, diamonds and plastics to list a few.

Did you know?

Carbon occurs in all known forms of life.





Each element has a unique atomic number.

Carbon has 6 electrons and 8 protons so its atomic number is 6.

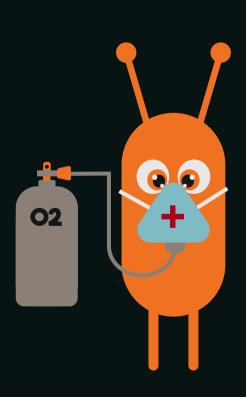
Electrons, protons and neutrons are atoms which makes up everything in the universe.



12.011 is the atomic weight of Carbon when including atoms.

It is measured in atomic mass unit or "u" which is roughly equal to the mass of 1 proton and 1 neuron. 7 19.007

Nitrogen



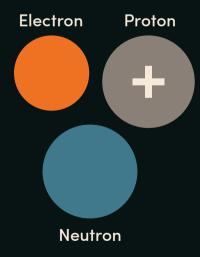
Nitrogen is a chemical element that is colourless, odourless and tasteless.

All living things on Earth use oxygen to breathe but is also used in medicine to help people.

Did you know?

There is more nitrogen than oxygen in the air you breathe!





Each element has a unique atomic number.

Nitrogen has 7 electrons and 7 protons so its atomic number is 7.

Electrons, protons and neutrons are atoms which makes up everything in the universe.



19.007 is the atomic weight of nitrogen when including atoms.

It is measured in atomic mass unit or "u" which is roughly equal to the mass of 1 proton and 1 neuron.

26 36.066

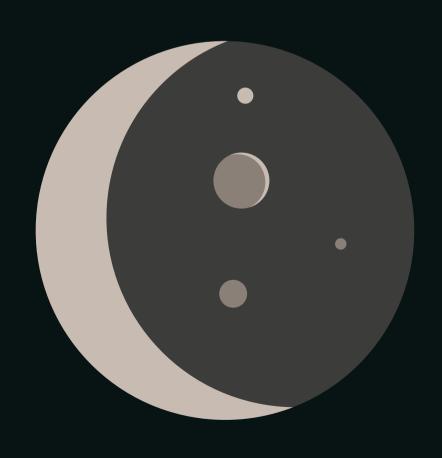
Fe

Iron

32.065

5

Sulfur



The Moon

The Moon is the Earth's only satellite and consists mostly of iron and sulfur as well as other elements.

Did you know?

The tides on our beaches are caused by the Moon!

36.066

Fe Iron

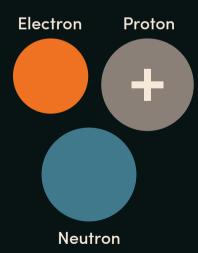


Iron is a metal that makes up most of Earth.

Iron is used to make cars, ships, buildings and more. It is also an important nutrient that humans need to survive.

Did you know?

Iron is what makes our blood red!



Each element has a unique atomic number.

Iron has 26 electrons and 26 protons so its atomic number is 26.

Electrons, protons and neutrons are atoms which makes up everything in the universe.



36.066 is the atomic weight of Iron when including atoms.

32.065

Sulfur



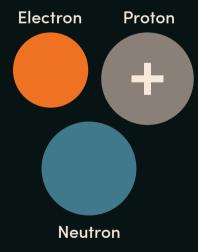
Sulfur is a yellow nonmetal. If you touch it, it is soft and can easily break with your fingers.

Sulfur can be used to create acid, cement, rubber and detergents.

Did you know?

Sulfur is very dangerous when mixed with oxygen or hydrogen.





Each element has a unique atomic number.

Sulfur has 11 electrons and 11 protons so its atomic number is 11.

5



36.066 is the atomic weight of sulfur when including atoms.

8 15.999

Oxygen

14 28.085

Silicon



Earth

Earth is our home planet and the only planet we know that contains life.

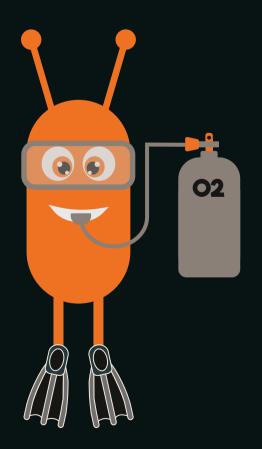
It consists mostly of oxygen and silicon as well as other elements.

Did you know?

All the continents on Earth used to be one large continent millions of years ago!

8 15.999

Oxygen



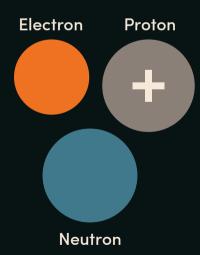
Oxygen is a chemical element that is colourless, odourless and tasteless.

All living things on Earth use oxygen to breathe but is also used in medicine to help people.

Did you know?

Without plants, there would be very little oxygen in the air.





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Oxygen has 8 electrons and 8 protons so its atomic number is 8.

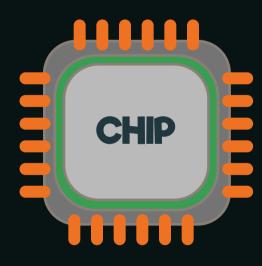




15.999 is the atomic weight of oxygen when including atoms.

28.085

Silicon



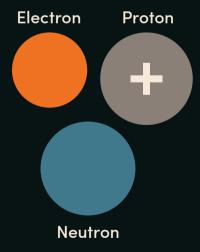
Silicon is a semimetal that is very important in modern technology.

Silicon can be found in computer chips, ceramics and glass.

Did you know?

Silicon is the main element in many meteorites.





Each element has a unique atomic number.

Silicon has 14 electrons and 14 protons so its atomic number is 14.

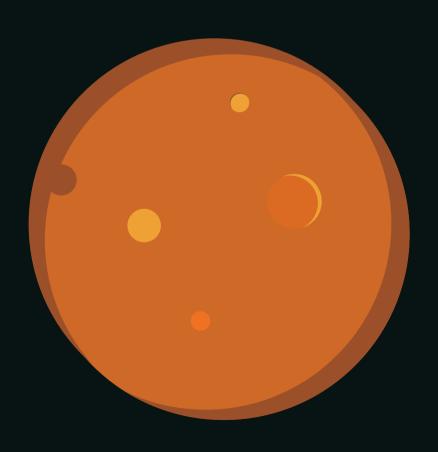
Si



15.999 is the atomic weight of silicon when including atoms.

8 15.999
Oxygen

14 28.085 Silicon



Mars

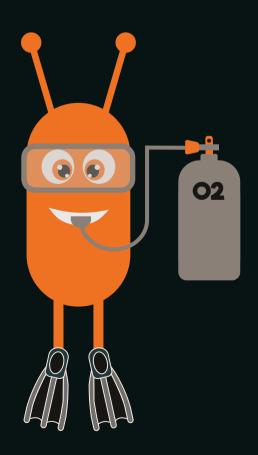
Mars is a planet made of mostly oxygen and silicon as well as other elements.

Did you know?

The tallest volcano on Mars is three times the height of Mount Everest!



Oxygen



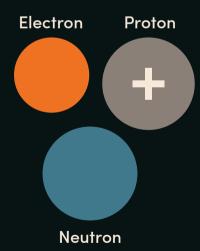
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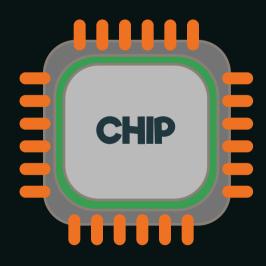




15.999 is the atomic weight of oxygen when including atoms.

28.085

Silicon



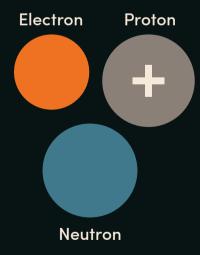
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Si



15.999 is the atomic weight of silicon when including atoms.

1 1.008

Hydrogen

2 4.0026

He

Helium



Jupiter

Jupiter is a planet made up of hydrogen and helium and is the largest planet in the Solar System.

Did you know?

On Jupiter you would weigh twice as much as on Earth due to its strong magnetic field.

Hydrogen



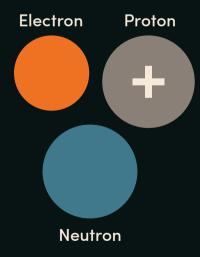
Hydrogen is the first and simplest element that exists because it only has one proton and one electron.

It produces water when it burns and is used in many man-made products like gas, plastics and food.

Did you know?

Hydrogen makes up 75% of all matter in the universe!





Each element has a unique atomic number.

Hydrogen has 1 electron and 1 proton so its atomic number is 1.

H



1.008 is the atomic weight of hydrogen when including atoms.

4.0026

Helium

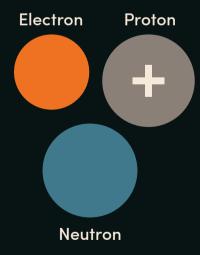


Helium is a gas that has. no colour or smell.

Helium is lighter than air so it is often used to fill airships and balloons.

Did you know?

Helium balloons can reach the edge of space!



Each element has a unique atomic number.

Helium has 2 electrons and 2 protons so its atomic number is 2.

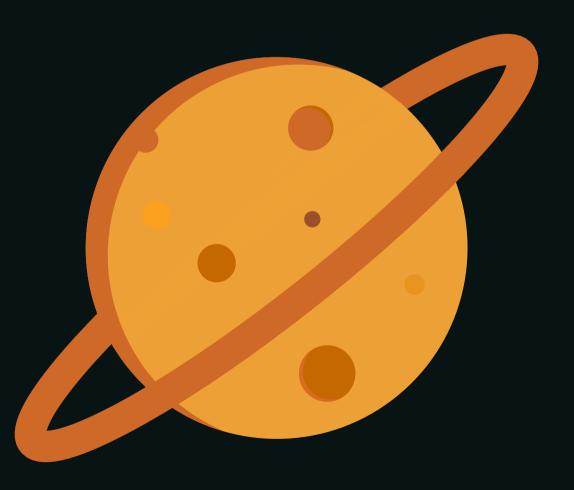


4.0026 is the atomic weight of helium when including atoms.

Hydrogen

2 4.0026

Helium



Saturn

Saturn is a planet made of mostly hydrogen and helium and is famous for its bright, beautiful rings.

Did you know?

Saturn is the only planet that could float in water!

Hydrogen



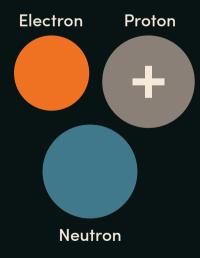
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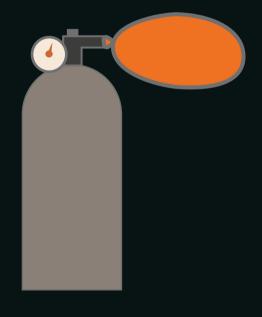
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1.008 is the atomic weight of hydrogen when including atoms.

4.0026

Helium

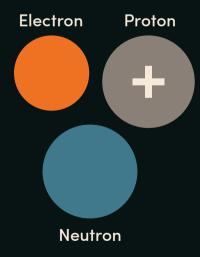


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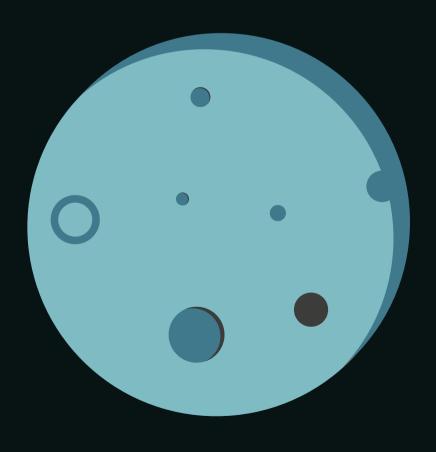
Helium has 2 electrons and 2 protons so its atomic number is 2.



4.0026 is the atomic weight of helium when including atoms.

1 1.008
LLL
Hydrogen

4.0026
Helium



Uranus

Uranus is a planet made of hydrogen, helium and methane. The methane makes Uranus blue.

Did you know?

Uranus is the coldest planet in our solar system.

1 1.008 L Hydrogen



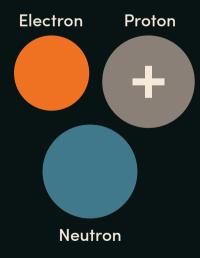
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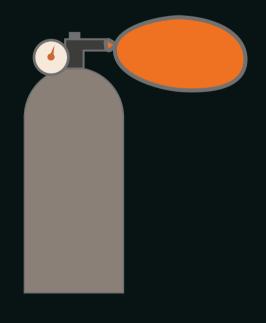




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4.0026

Helium

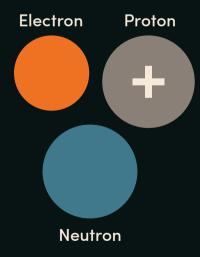


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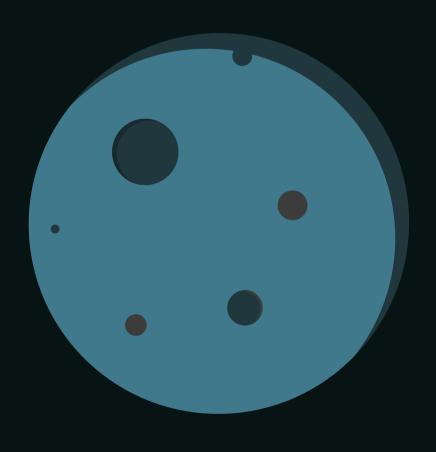


4.0026 is the atomic weight of helium when including atoms.

1 1.008

L
Hydrogen

2 4.0026
Helium



Neptune

Neptune is a planet made of hydrogen and helium and is the furthest from the sun.

Did you know?

Neptune has the strongest winds of any planet in the solar system.

1 1.008
Hydrogen



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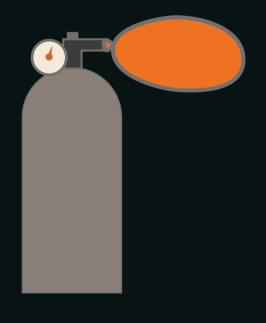




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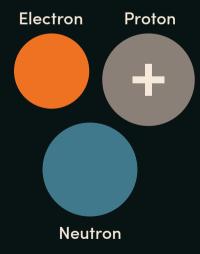


Helium is a gas that has. no colour or smell.

Helium is lighter than air so it is often used to fill airships and balloons.

Did you know?

Helium balloons can reach the edge of space!



Each element has a unique atomic number.

Helium has 2 electrons and 2 protons so its atomic number is 2.



4.0026 is the atomic weight of helium when including atoms.

Congratulations!

You have completed the Periodic Space Adventure!