Meet the atom

Did you know?

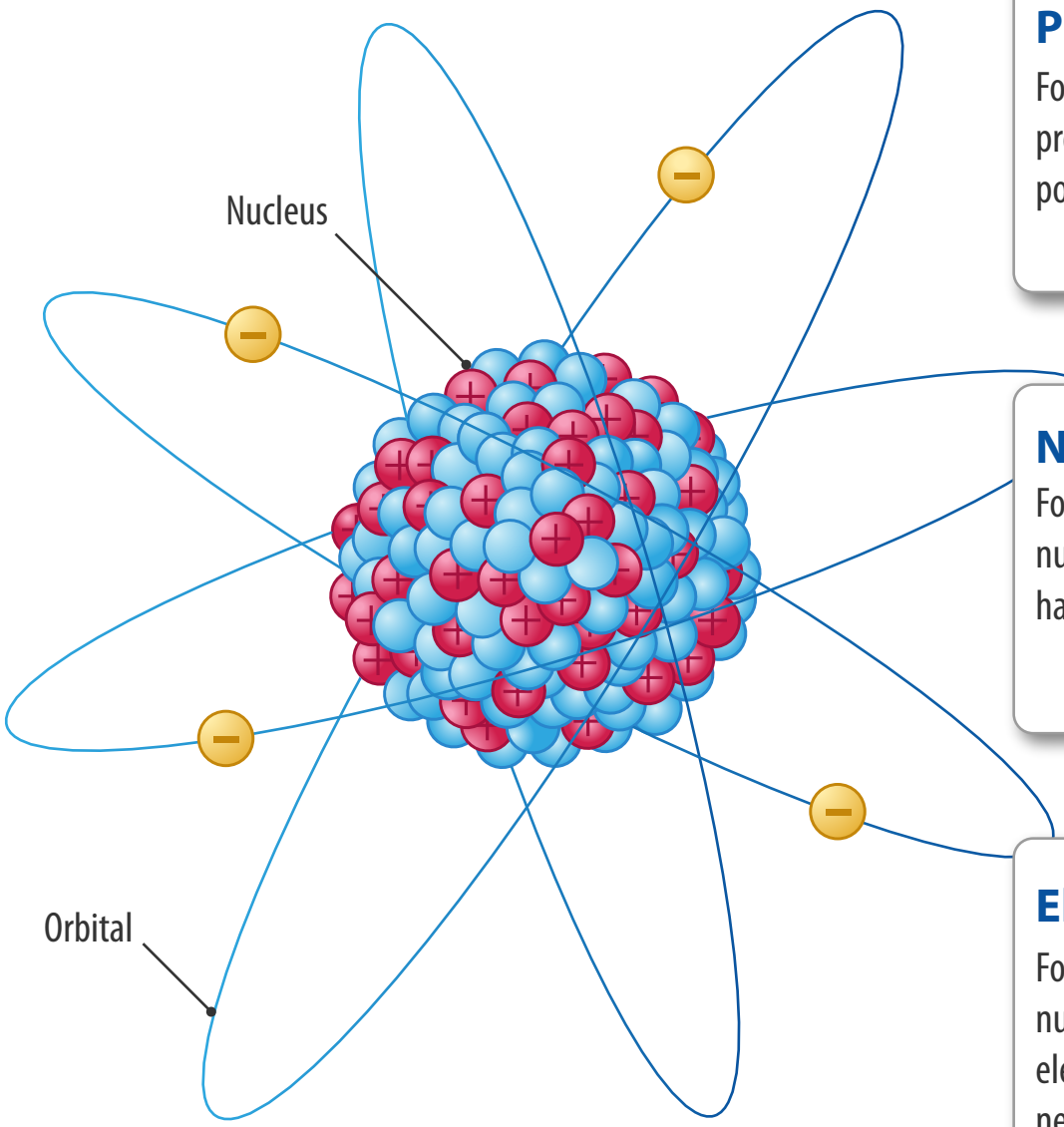
Everything is made of atoms!

Atoms are the tiny building blocks of everything: from your pencil, to pizza and even puppies, too!

You, too, are made up of trillions of atoms and groups of atoms called **elements.**

Uranium is one element that is used to make nuclear energy!

What else is made up of atoms?



Proton

Found in the nucleus, protons have a positive charge.

Neutron

Found in the nucleus, neutrons have no charge.

Electron

Found outside of the nucleus in orbitals, electrons have a negative charge.

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How nuclear energy works

Tiny atoms. Big energy!

It all starts with a neutron.

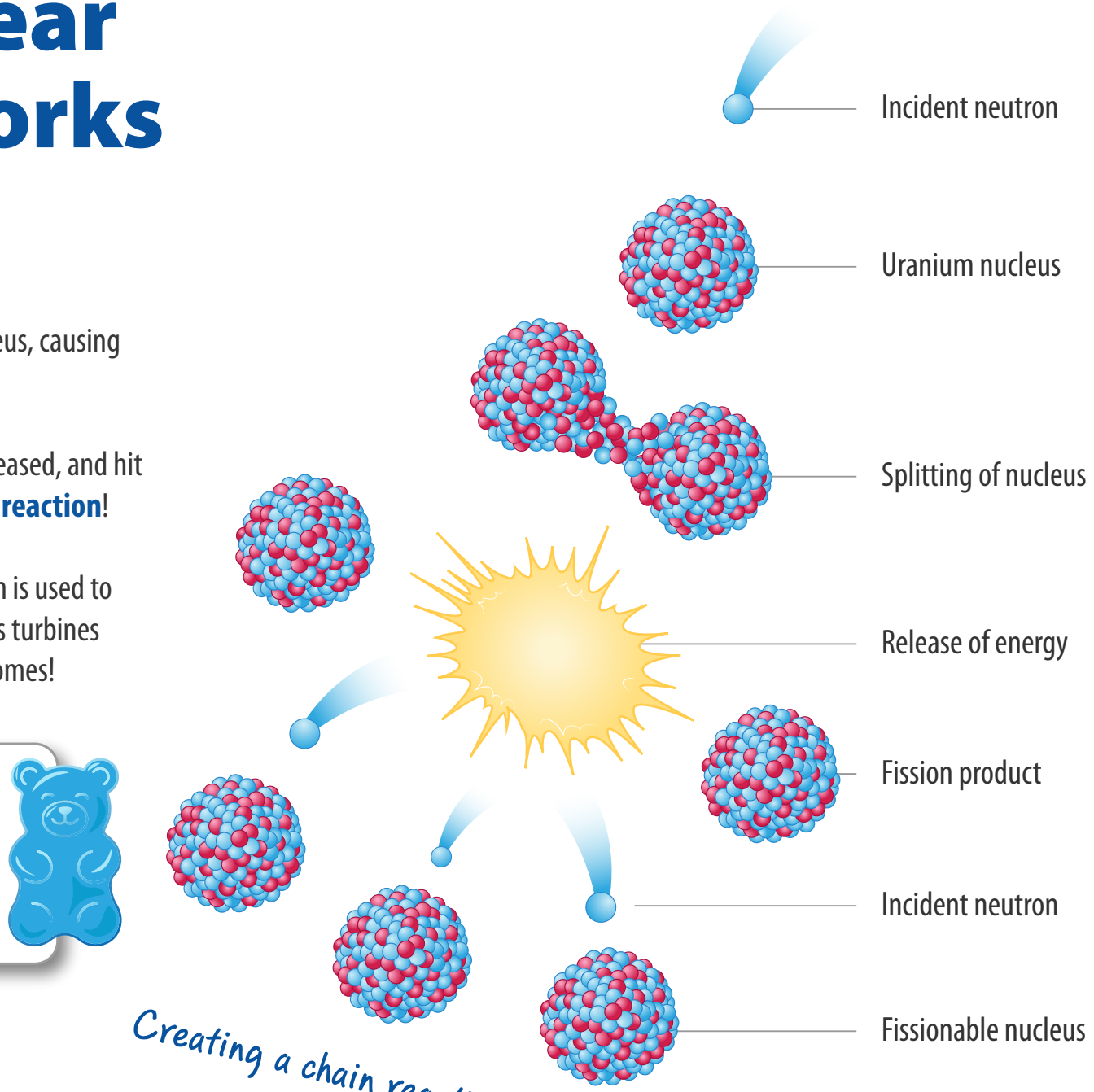
A **neutron** hits a uranium atom's nucleus, causing fission, or the atom to split.

When the atom splits, neutrons are released, and hit other uranium atoms, causing a **chain reaction**!

This chain reaction releases heat, which is used to heat water into steam. This steam spins turbines that create **electricity** to power our homes!

Did you know?

A uranium pellet that's the size of a **gummy bear** can produce the same amount of energy as a **ton** of coal!



Creating a chain reaction!

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Energy is everywhere

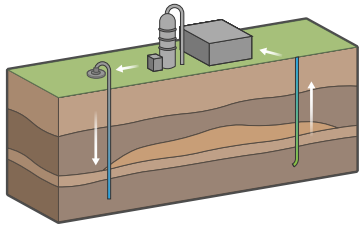
How do we make energy?

Energy can be made from multiple primary sources: flowing water, sun rays and natural gas in the Earth.

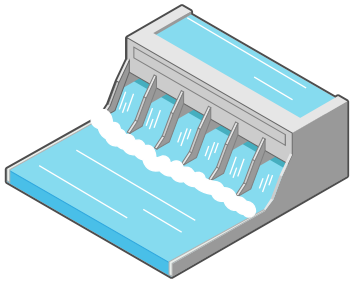
This energy can then be used to create secondary energy, such as **heat** and **electricity,** to use for heating, transportation and more.

Having multiple sources of energy is important for energy stability, security and efficiency.

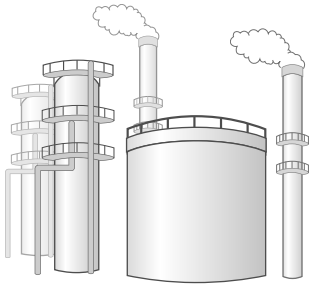
Which of these have you seen around your town?



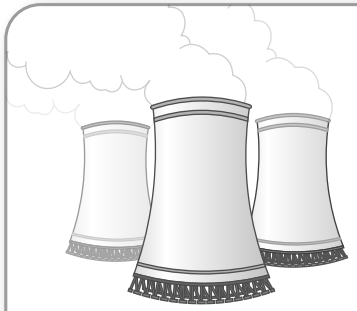
Geothermal



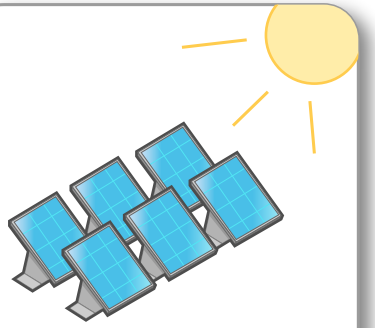
Hydropower



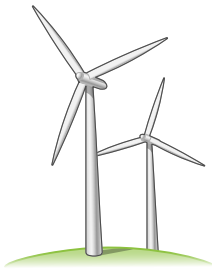
Natural gas



Nuclear



Solar



Wind

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What is radiation?

Radiation are subatomic packets or waves of energy. Every day we come across small amounts of it.

It is naturally occuring in sunlight, soil and even some food.

Man-made radiation is used to power X-ray machines, smoke detectors and microwaves.

Some types of radiation rays can be harmful, which is why there are many regulations to help keep us safe.



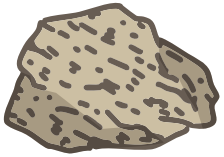
Exit signs

Sun rays

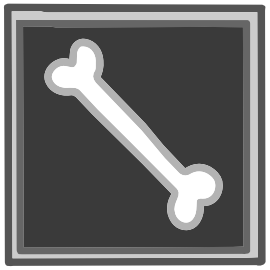




Smoke detectors



Rocks



X-rays

Did you know?

Your body produces tiny amounts of naturally occurring radioactive **potassium**!

Potassium is also found in bananas.



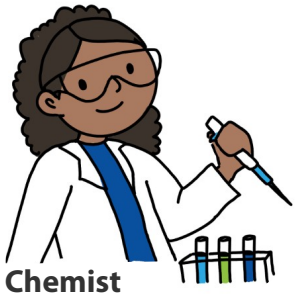
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Nuclear careers

Which career looks the most exciting to you?

There are many ways to be a part of nuclear!

Check out all the different careers



Chemist
Works with chemicals and materials in the laboratory.



Cybersecurity Expert
Protects systems and keeps data safe from hackers.



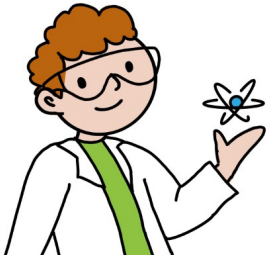
Emergency Planner
Plans and practices to keep people safe in emergencies.



Engineer
Designs and solves problems to build safe systems.



Environmental Scientist
Studies our air, water and land for a safe future.



Nuclear Scientist
Studies atoms and materials to make new discoveries.



Robotics Engineer
Builds robots and machines that help people and solve problems.



Teacher
Inspires students and helps them learn and grow.

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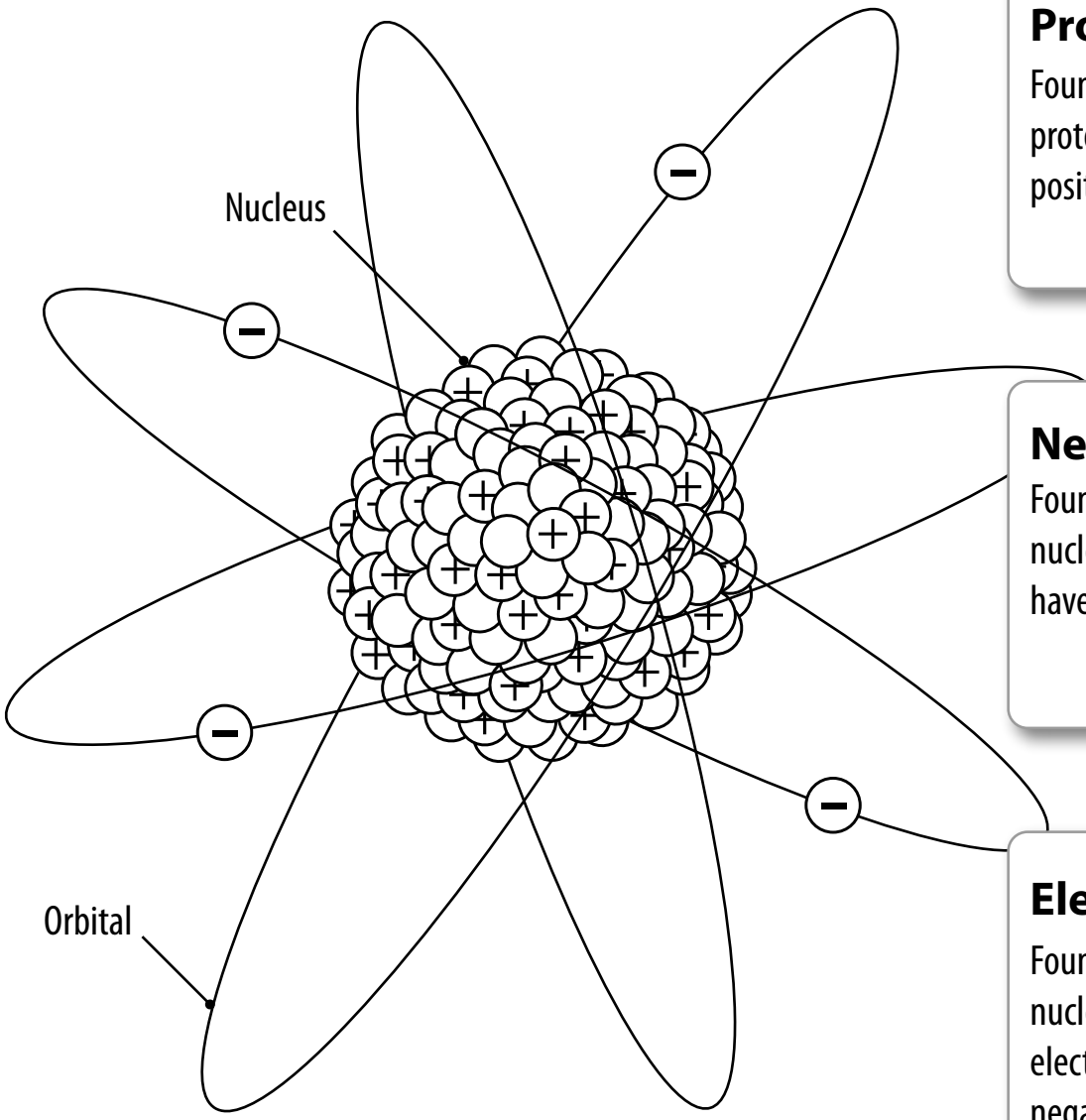
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Try coloring each part of the atom in!

26-50622

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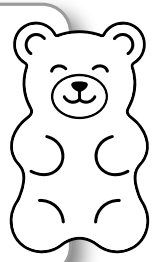
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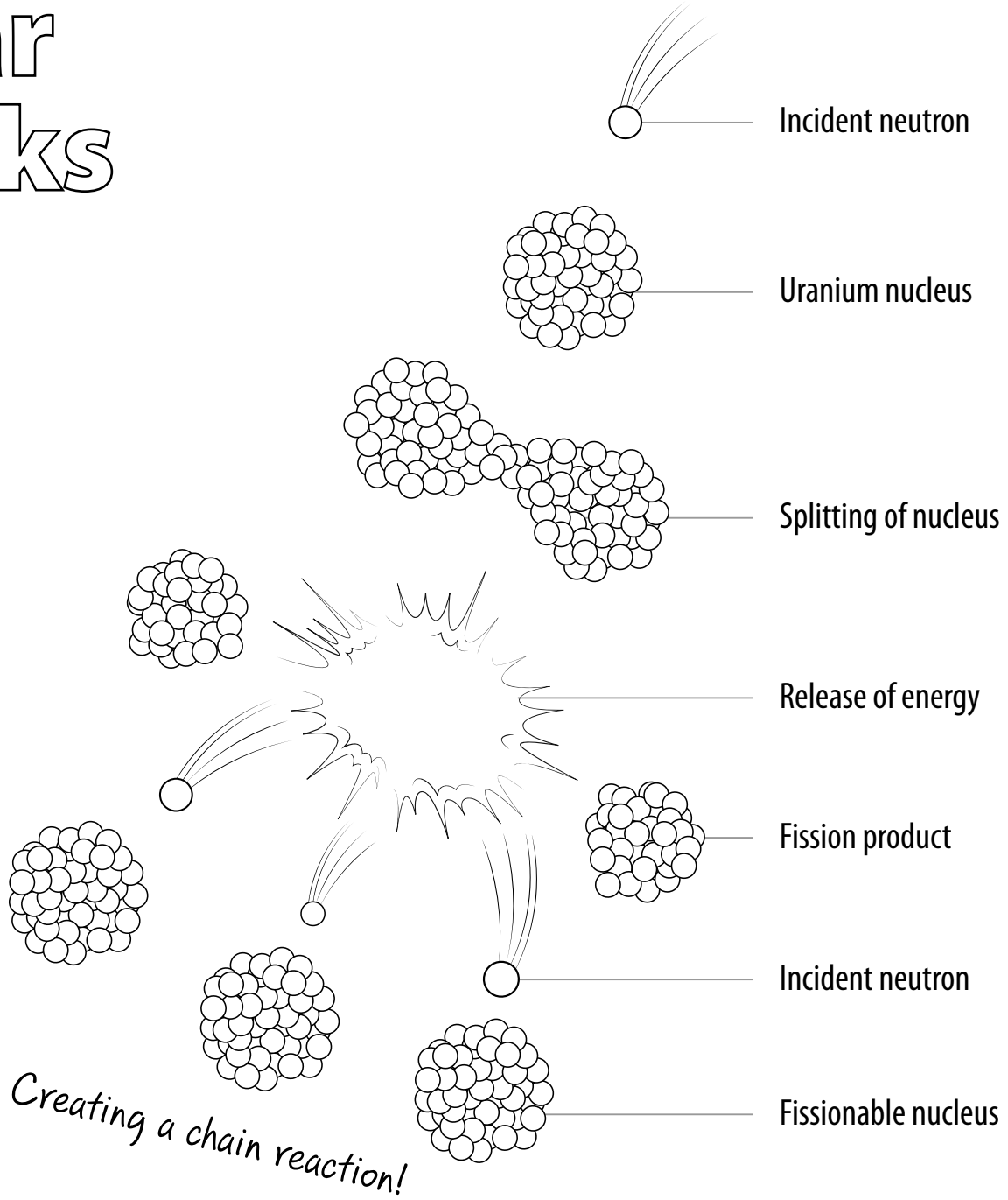
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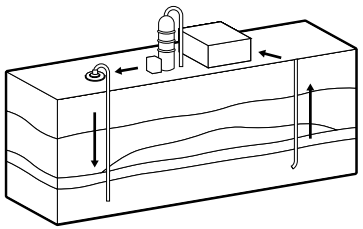
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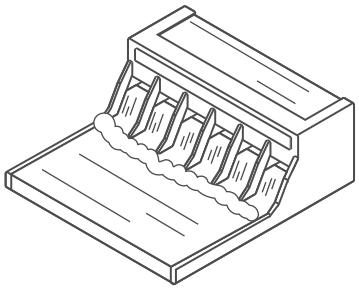
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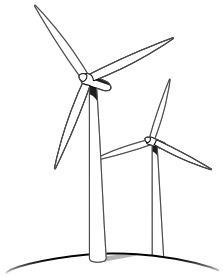
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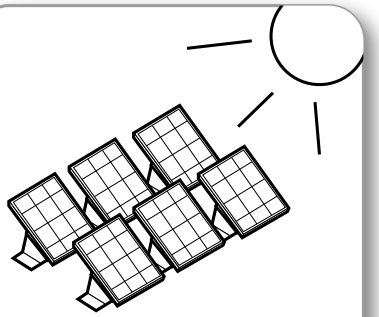
Geothermal



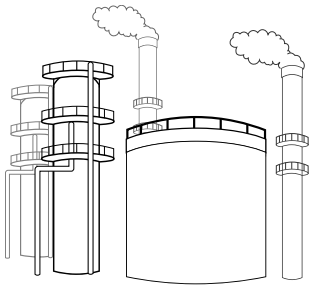
Hydropower



Wind



Solar



Natural gas



Nuclear

Idaho National Laboratory

What is radiation?

There are two types of radiation.

Naturally occuring and man-made!

Radiation are forms of rays given off by energy. Every day we come across small amounts of it.

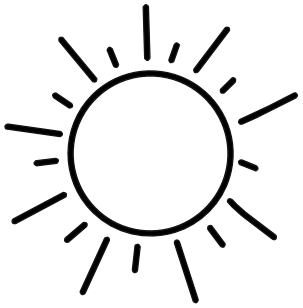
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Man-made radiation is used to power X-ray machines, smoke detectors and microwaves.

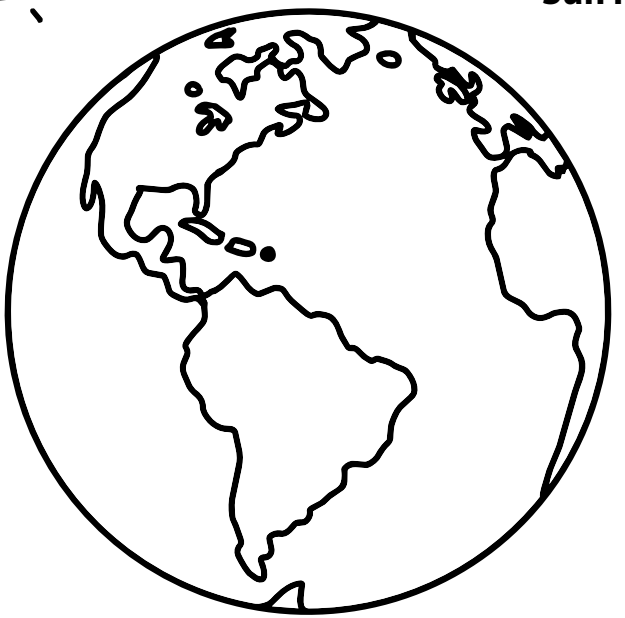
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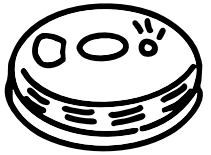


Exit signs



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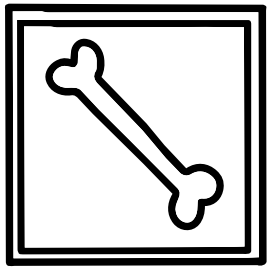




Smoke detectors



Rocks



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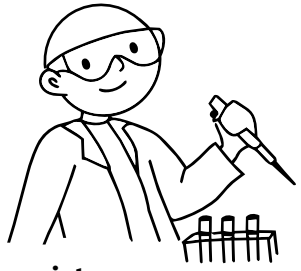
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Nuclear careers

Add hair and color in the drawing to make it look like you!

There are many ways to be a part of nuclear!

Check out all the different careers



Chemist
Works with chemicals and materials in the laboratory.



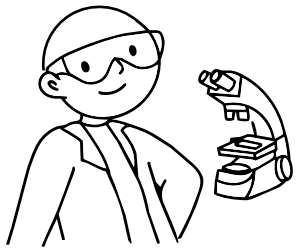
Cybersecurity Expert
Protects systems and keeps data safe from hackers.



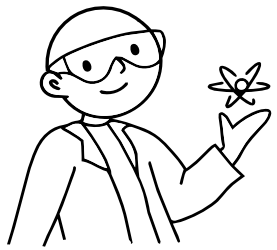
Emergency Planner
Plans and practices to keep people safe in emergencies.



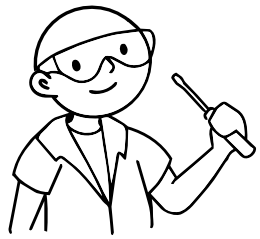
Engineer
Designs and solves problems to build safe systems.



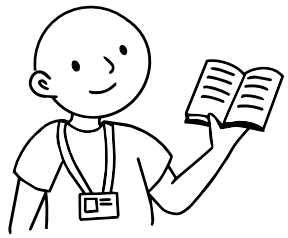
Environmental Scientist
Studies our air, water and land for a safe future.



Nuclear Scientist
Studies atoms and materials to make new discoveries.



Robotics Engineer
Builds robots and machines that help people and solve problems.



Teacher
Inspires students and helps them learn and grow.

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Which career looks the most exciting to you?

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