Hi, I’m Abigail Atom! Let me tell you a little bit about myself. Positive protons and neutral neutrons sit at my center. Negative electrons whirl around the outside of me. All together, these three things make up me, Abigail Atom! I’m going to be your tour guide through the amazing world of physics. I will help you do fun activities so that you can learn more about your world and how it works. If you still can’t get enough, visit my good friend Buzz the Bee at physicscentral.com. He can show you even more fun physics. Come join me on this big adventure through our world!
“Electrify’s my favorite verb”
Said this weird but brilliant Serb
From Edison he did not cower,
He invented AC power!
Hidden Treasures

Tesla invented many things including the world’s first remote controlled toy boat! Can you find seven of Tesla’s inventions hidden in this room?

- loud speaker
- microwave
- radio
- television
- wall socket
- toy boat
- remote control
Balloon Animals

The first hot air balloon carried a sheep, a duck, and a rooster. Hot air balloons fly because hot air rises. You can experience this for yourself. In the summer, feel which air is hotter, the air near the ceiling or the air near the floor. Connect the dots to complete the picture.
Hydrogen atoms don’t like to be alone. In nature, hydrogen is almost always found with a friend such as another hydrogen atom. Which path connects the two hydrogen atoms?
Magnets always have a north end and a south end. North and south are attracted to each other. They attract many metal things, but not things made of aluminum like soda cans. Can you find all the differences between the two pictures?
Help the Electron Find the Proton!

Electrons are negatively charged and protons are positively charged. Positive and negative charges like to be together. Can you help the electron find the proton?
A rainbow is made up of seven colors: red, orange, yellow, green, blue, indigo, and violet. You can remember these colors and their order in a rainbow by remembering Roy G. Biv. Can you find these words about light in this puzzle?
It’s a Great, Big Universe!

Can you unscramble these words about our solar system?

rtsas ______________________________  rateh ______________________________
onmo ______________________________  srma ______________________________
usn ________________________________  latneps __________________________
ltpou ______________________________ nsveu ____________________________
snuaru ____________________________  tipjure ____________________________
crymure ____________________________ runsat ____________________________
tenpneu ____________________________

Now use these words to complete the crossword puzzle.

Across

2. There are now 8 of them in our solar system.
5. This planet is very, very hot and is closest to the sun.
6. This is not a planet anymore because it was too small. It is also the name of a popular Disney dog.
9. This planet is named after the Roman god of the sea and is the farthest planet from the sun.
11. Though many people think that little green men live here, most scientists agree there is no life on this planet.
12. This planet has beautiful rings. A popular type of car is named after it.

Down

1. They light up the night sky and make up constellations.
3. It is the center of the solar system and is the closest star to earth.
4. This is the largest of the planets with a mass that is 2-and-a-half times that of all other planets combined. It has a great red spot.
5. Mars has two, but we have only one. It is not made of cheese.
7. Named for the Roman god of the sky, it is the coldest of all the planets and spins on a very tilted axis.
8. This planet is covered with clouds, is often called the “morning star,” and is named after the Roman goddess of love.
10. Third rock from the sun.
Newton’s Apple

First, fill in the blanks in the Mad Lib list with the correct parts of speech. Then put these words in the blanks in the story and read it out loud. Who knew Sir Isaac Newton could be so funny?!

Parts of Speech:
1. Adjective __________________________
2. Noun __________________________
3. Past Tense Verb __________________________
4. Body Part __________________________
5. Plural Noun __________________________
6. Plural Noun __________________________
7. Verb __________________________
8. Adjective __________________________
9. School Subject __________________________
10. Plural Noun __________________________
11. Verb __________________________
12. Adjective __________________________
13. Adjective __________________________

Isaac Newton

Sir Isaac Newton was a very _______ physicist. One day when he was sitting under an apple _______ an apple _______ on his _______ and he thought “Aha! It must be because of gravity!” He used gravity to explain how _______ fall and how the _______ _______ around the sun. He also created a(n) _______ branch of _______ called calculus. Newton not only loved _______, he also loved to _______ fig tarts. In 1891 Nabisco named their new fig tart after him, the Fig Newton. Maybe one day a _______ fruit will help you make a _______ discovery.
Electromagnetism explains how magnets and electricity work together. See how many words you can make using the letters in the word:

E L E C T R O M A G N E T I S M

_____________  _______________  _______________

_____________  _______________  _______________

_____________  _______________  _______________

_____________  _______________  _______________

_____________  _______________  _______________

_____________  _______________  _______________

_____________  _______________  _______________

_____________  _______________  _______________

_____________  _______________  _______________
Ask an adult to help you cut out the game pieces and numbered slips of paper below. Remove the staples from the book to remove the game board. Each person draws a number and the person who draws the highest number will go first!
The higher the resistance, the more slowly current flows.

Capacitors store energy, then release it quickly!

When there is a short circuit, current can skip some resistors.

Resistors which have resistance slow current down!

Usually, some current chooses to go one way and some chooses to go the other way.

At a junction, current can decide which way to go.

The arrow tells which way current is allowed to flow in a diode.

Blocked by a diode, lose one turn!

Diods only allow current to flow in one direction!

Batteries make current flow faster.

A battery gives you energy!

Did you know batteries store energy and release it slowly.

In 1895, Nikola Tesla built a power plant powered by Niagara Falls.

Did you know your brain sends signals to your muscles using electricity?

HIGH RESISTANCE! LOSE 3 TURNS

LOW RESISTANCE! LOSE 1 TURN

CURRENT FLOWS THROUGH A CIRCUIT!

START HERE!

LOW RESISTANCE! LOSE 1 TURN

CURRENT FLOWS THROUGH A CIRCUIT!

CONGRATULATIONS!

A: Because they liked each other!

Batteries make current flow faster.

A battery gives you energy!

LOSE 3 TURNS

LOSE 3 TURNS

LOSE 3 TURNS

LOSE 2 TURNS

LOSE 2 TURNS

LOSE 2 TURNS

LOSE 1 TURN

LOSE 1 TURN

LOW POWER

A battery gives you energy!

Did you know that Thomas Edison invented the electric light bulb in 1879?

Diodes only allow current to flow in one direction!

In SHORT CIRCUIT! You will move through a circuit and try to be the first to reach the light bulb. Batteries and short circuits will speed you up but resistors and diodes could slow you down. Have fun!