WonderFest Activity Station Descriptions

Updated: 8/5/2025

Once you've selected your WonderFest Topic, choose from the listed activities according to the size of your event. For example: If you've chosen a Small WonderFest you should pick three activities from your selected topic. See the table: WonderFest Size, # of Activity Stations and Fees for details on size and number of activities.

Bubbles

1. Bouncing Bubbles

- Boing, Boing, Boing! We've all bounced a ball, but have you ever bounced a bubble? Participants will get to create bubbles that bounce and learn how we do this as well as why bubbles usually don't bounce.

2. Bubble-ception

- A bubble inside of a bubble? Let's see what happens! Participants will get to create bubbles in bubbles of different sizes. They will also learn the science of what happens when we create these bubbles.

3. Build Your Own Bubble Wand

- What different shapes can you make with your bubble wand? What shapes will your wand make? With this activity, we will explore bubbles by making our own wands and learning why they are the shapes they are!

4. Colored Bubbles

- What would happen if bubbles weren't clear? How would we make that happen? This activity will explore how we can create art by coloring our own bubbles with food coloring.

5. Dry Ice (Sublimation) Bubbles

- This activity will teach participants about the properties of dry ice and how it works. We will also show how we will use this to make big bubbles!

6. Foaming Bubble Snakes

- Have you ever seen bubblessssss as long as a snake? Participants will get to create a bubble snake using a sock as well as learning how bubbles form.

7. Glow-in-the-Dark Bubbles

- Ready, set, BLOW! Or is it Glow? With this activity we will explore the fun of blowing bubbles while also learning how things that glow in the dark work!

8. Net Bubbles

- Bubble, bubble, bubble, POP! Participants will get to see how to create a bubble net using common supplies. They will then get to practice using it to make giant bubbles!

9. Reactive Dough

- With this activity, participants will explore the acid-based reaction that occurs with reactive dough, while having some messy fun.

10. Zomes and Bubbles

- Bubbles always want to end as a sphere. So how could we create a cube bubble? Participants will get to use or create their own Zomes to make bubbles that are more cubed than sphered.

Engineering

1. Boats

- How can ships be so heavy and still float? In this activity participants will make and test their own boats to understand water displacement and buoyancy.

2. Catapults

- Participants will use a variety of common materials to create their own catapults. They then will test their catapults to determine distance, power and accuracy

3. Gears

- If you've ever seen the mechanism of a clock, you have seen interlocking gears. Make your own gears and learn how the turning force is transferred between gears.

4. Hinges

- You can find hinges in a house, on a boat, on a box, or even in your body! Learn how to create hinge joints to create an engineering project all of your own.

5. Hover Crafts

- Up, up, up and away! Create an object that can float, hover, and fly. Use a variety of materials to design your own hovering object.

6. Lego Dacta

- Follow guide booklets to create your own simple machines out of Lego. Make a working crane, a silly faced crank, and more!

7. Marble Coasters

- Do you enjoy following the path of a marble along a complicated track? Using different materials, participants will make a complex path for a marble to move through while learning about key physics concepts.

8. Paper Airplanes

- We have all played with paper airplanes before. But how do they actually fly? In this activity, participants will make their own paper airplane and learn how thrust, drag and gravity make the airplane fly... or fall to the ground.

9. Scribble Bots

- Hey! Don’t scribble, color in the lines! Not with these robots. Can you make a robot that makes scribble art?

10. Watercolor Robots

- Take a more painterly approach to Scribble Bots - learn how to make a robot that can paint!

11. Wind Turbines

- How do wind turbines transform wind into usable energy? Create your very own ‘Wind turbine’ and learn the process by which wind turbines can power our homes.

12. Ziplines

- How can a string and pulley help rock climbers down a mountain? With this activity participants will learn how ziplines work by designing, testing, and improving their own models.

Explore Earth

1. Candy Coring Geology

- How do scientists study inside the Earth? Participants will get to act like geologists as they drill “core samples” from their favorite candies. Can you identify the candy just from the sample? WonderLab will provide a physical example of a (created) ice core sample to further scientific discussion.

2. Frog Dissection

- Frogs are a key species that environmental scientists use to identify the health of an ecosystem due to being amphibians. Learn about the importance of frogs to the study of science and their internal organs by dissecting stuffed animal frogs.

3. Observe Clouds (requires a window or being outside)

- Learn how clouds form through condensation. Create your own cloud that is made of rubbing alcohol instead of H2O! Identify clouds in the sky.

4. Oil Spill Clean Up

- Oil spills affect our oceans, marine life, and environment in many different ways. With this activity, we will try several ways to best clean up an oil spill.

5. Paper Mountains

- Mountains are majestic and beautiful! If you are camping at the base of one, however, you may want to know more about the way rain storms affect that area. With the paper mountains experiment, participants can observe how gravity and land formations impact the flow of water to certain areas!

6. Rising Sea

- With this experiment, participants will observe coastal sea-level rise. Explore the different environmental effects causing this rise in sea-level and why it’s important to track the changes on coastlines!

7. Seismograph

- Scientists use seismographs as a tool to record earthquakes and measure their strength. With this activity, we will be using our own miniature seismograph to show how different movements affect our drawings in different ways.

8. Stream Table

- How do streams naturally form over time? Can you guess the potential pathways of a stream? How do humans interfere with streams? Learn the answers to all of these questions while also having a fun, wet time!

9. Volcano Cross Section Puzzle

- Work with a team or individually to put together the different puzzle pieces that make up the cross section of a volcano. Learn how volcanoes form and why they erupt.

10. Water Cycle Game (two to three tables needed for this activity)

- How far can one water droplet travel in the water cycle? Take on the role of a water droplet as dice send you to different parts of the water cycle - travel through an animal, the soil, groundwater, a lake, a stream, into the ocean... and more!

Explore Space

1. Breath of Fresh Air

- How do space shuttles have so much oxygen for their passengers? Do an experiment to learn how oxygen is recycled in space.

2. Craters

- Ever noticed how lumpy the moon looks? Those lumps are craters! What causes them? In this activity, participants will make their own craters, and learn how they are created!

3. Filtered Light

- Have you ever been looking out the car window just to have the sunshine directly in your eyes? Did you reach for your sunglasses to blot out the brightness? With this activity, participants will learn how different filters affect light, and in what way astronomers use them to view the universe!

4. Mars Rovers

- Ground control to Major Tom! In this activity, two participants will act as different roles; one will play Mission Control and the other a Mars rover! Mission Control will give the Mars rover (who is blind folded) directions to navigate the Mars landscape. Can you work together and avoid the obstacles?

5. Moon Base

- What would it take for astronauts to live on the moon? Design your own moon base using building blocks, but make sure to include the necessities!

6. Nebula Spin Art

- What do space and salad spinners have in common? Nebulas of course! Make your own nebula model with paint and centrifugal force.

7. Objects in Motion

- Can you balance the Playdough planets? What happens when one is bigger than the other? With this activity, participants will explore how orbiting works with objects in our universe!

8. Observe the Sun (Must Be Done Outside)

- Using a Solar scope, participants can explore what the Sun looks like! This activity allows the Sun to be safely viewed. What do you notice about it?

9. Orbiting Objects

- Bring a gravity well to your next event! Learn about why planets orbit the Sun with hands on fun.

10. Pocket Solar System

- My very educated mother just.... just what? Having a hard time remembering the planets in the solar system? With this activity, participants get to create a pocket model of the solar system! Never forget what planet comes after Jupiter again.

11. Solar System Bracelets

- Learn the names, order, and sizes of the planets in our solar system. Create your own bracelet as a personal guide to space!

12. Space Guess Quest

- With this space themed board game, participants will try to guess their partner's mystery space object using yes-or-no questions only! The first one to guess correctly is the winner.

13. Star Formation

- Great balls of fire! Not really - stars don't combust, they actually use nuclear fusion... Learn how stars form with this hands-on activity.

14. Stomp Rockets

- Ready for take-off with the stomp rockets experiment? Participants will build their own rocket and launch it high into the air.

15. The Vacuum of Space

- What exactly is a vacuum? How would the vacuum of space affect astronauts without space suits? Learn these answers with the help of our hand-held vacuums and test subjects (squishy toys)!

Full STEAM Ahead

1. Balancing Bird

- How do we stay upright and balanced against the force of gravity? Can you learn the physics behind this with the balancing bird and try to find its center of gravity?

2. Binary Jewelry

- The language of computers is a versatile tool! In this activity, explore how Binary Code is used to program computers and robots, then make your very own coded jewelry to take home.

3. Color Changing Chemistry

- Acids and bases and the pH scale, oh my! Watch as an acid and base react with the pigments in goldenrod paper, and learn what the pH scale has to do with it all. Create a science-art masterpiece to take home!

4. Gravity Graph

- Physics and gravity meet art! The gravity graph shows the physical effects of gravity on an object in motion...and creates a cool art piece!

5. Lava Lamps

- Enjoy this groovy science experiment as you create your own lava lamp that uses the power of acid-base reactions to work. Select the color and add-ins for your lava lamp and take it home.

6. Origami

- Learn how to turn a 2D square of paper into a wondrous 3D creation! Follow a guide with support from WonderLab staff to fold one of hundreds of origami creations.

7. Pixel Art

- Create your own pixel art of pop culture icons or from your own design. Use Perler beads to make your creation come to life.

8. Rainbow Paper

- Why do oil spills look like rainbows on water? This activity explores thin film interference, the interaction between a film of oil on water that results in its rainbow sheen. Take home your very own rainbow!

9. Shrinky Dinks

- Learn about the properties of plastic through art. Make a design on a small sheet of plastic and watch science take action as it is heated up in a toaster oven.

10. Slime

- It's a fact that most kids love slime. Allow WonderLab staff the honor of dealing with the sticky mess as participants create their own slimes selecting their color and add-ins.

11. Spirograph

- Spirographs are a toy that have been around for almost 60 years, but they are still just as fun as ever! Use different sized gears to create your own unique design every time.

12. Thaumatropes

- It's all an illusion! Thaumatropes originated as a toy in the 19th century with lots of cool science behind it. This activity shows the physics behind this optical illusion, and allows participants to make their very own thaumatrope toy.

13. UV Art

- What is fluorescence? In this activity, participants will create art pieces using various paints, and then observe what happens to the paint under a UV light. We will also explore how scientists use fluorescence to identify specific compounds on Earth!

Let's Do Chemistry

1. Atoms to Atoms

- Ever played Apples to Apples? This chemistry version helps get participants excited about learning chemistry and build confidence in their knowledge of chemistry concepts.

2. Candy pH Experiment

- What is in sour candy that makes it so sour? See how different types of candy react to water and baking soda and why.

3. Chemistry is Colorful

- What makes a black marker black? Are there different colors within black markers? Using paper chromatography, participants will see what happens when the ink of different black markers gets wet. The colors may surprise you.

4. Chemistry Makes Scents

- Sometimes it's hard to tell what a specific scent is! With Chemistry Makes Scents, participants explore the differences and similarities shared on a molecular level of two mystery scents.

5. Electroplating

- Before there was modern-day chemistry, the world had perfumery and alchemy! Learn about the science of electroplating and take a swing at it yourself by plating a nickel with copper.

6. Happy Atoms

- Learn about atoms - the building block of our world! Create molecules and learn what makes up the world around us using the tablet program, Happy Atoms.

7. Molecules in Motion

- What is air pressure doing to objects on Earth? If we vacuumed away that pressure, how would it affect certain objects? Find out with this vacuum chamber experiment.

8. Nature of Dyes

- Ever wonder what makes ice cream different colors? What about make-up? Test out what happens to dye when you change its pH!

9. Rocket Reactions

- With rocket reactions, participants will test what happens when water, baking soda, and citric acid are mixed and confined in a test tube. Fire in the hole!

10. What's in the Water?

- What IS in the water? Participants will perform various experiments on two water samples to determine what properties make the samples different.

Minding your Body

1. Balancing Act

- Will you topple? Try to keep upright on the balance beam and avoid folding while ducking under the limbo stick. Learn how the inner ear controls if you fall or finish with this introduction to the vestibular system.

2. Benham's Disk

- Do you trust your eyes? Create personalized black and white tops and see the colors come forth. What colors will you see?

3. Bio Bistro

- What is your food made of - would you still eat it if you knew what was in it? Work in small groups to discuss how humans have changed our food over generations, how new foods get invented, and the future of food.

3. Body Language

- What can you say without words? Learn about how body language plays a key role in communication. Play two different games that highlight the importance of things unsaid.

4. Brain Hats

- Bring out the brain outside your head! Learn about the four lobes and their functions while coloring and constructing your own brain cap. Find out where in your mind your thoughts come from.

5. Build a Neuron

- It's connected! Every thought in your mind and every action in your body is communicated through neurons. Build your own neuron and learn about the power contained in these little cells.

6. Human Body Puzzles

- Piece together what makes up our bodies with these cool puzzles. Learn about the skeletal, muscular, and nervous systems as you play!

7. Lung Capacity

- Test your lungs! Learn about how our diaphragm pushes and pulls our lungs into shape. Then build popsicle kazoos to exemplify the power of a single breath.

8. Mindflex

- Use your brain waves to compete head-to-head in the competitions provided in the game Mindflex. Push a ball towards your opponent and score goals to win.

9. Mind Games

- Push your brain to the limit! Solve and create Rebus Puzzles and challenge yourself to a Stroop Test. Have fun completing two mind bending activities while learning about insight problems and mental inhibition.

10. Optical Illusions

- Can you believe everything you see? Color and create a 3-dimensional optical illusion to learn about the Hollow Face Illusion and how our sight can be tricked. Watch as the paper animal appears to move its head to maintain eye contact with you,

11. Proprioception

- Sense out a new sense: proprioception. Learn about how you know where you body is and how science changes with new information. Demonstrate your sense with a two stage hands-on kinetic activity.

12. The Game of Associations

- Is your brain more like a filing cabinet or a spider web? Learn how we store information to create a vast network of knowledge and what factors influence how our webs form. Play a quick paced guessing game showing how similar, or how different, our minds are.

13. The Human Skeleton

- Plastic skeletons aren't just for Halloween, they are also great tools to study our body. Learn about the bones that make up our skeleton and how our bodies have changed over time. Can you put together our life-sized skeleton puzzle?

Tech Takeover

1. Brush Bots

- Can you build a robot using a toothbrush? In this activity, participants will build and race their brush bots in an obstacle course of their design.

2. Computer Cryptography

- Can you decode the secret message? Using binary code cryptography, explore the ways computers encode your private information to keep it safe!

3. Cubelets

- Cubelets are individually programmed cubes that connect together to make a working circuit. Make a cube-bot that does a silly dance, or a robot that only moves when you shine a light on it, or create your own design!

4. Little Bits

- Little Bits are individually programmed pieces that connect together to make a working circuit (a little more complicated than Cubelets). Create a robot that can measure temperature and light for a plant's growth, or a circuit that buzzes when you apply pressure to it, or make something brand new!

5. Makey Makey Conductivity Test

- Complete the circuit! In this activity, participants will hold a "ground" object that completes the circuit, allowing the computer to register the flow of electricity. Some objects conduct electricity better than others. Test out which ones work best!

6. Merge Cubes

- What's up with this cube? Whoa! Look at it now! Using an augmented reality (AR) camera app on a tablet, participants will watch the Merge Cube transform from a patterned block to planets in space or museum artifacts! Explore AR with this cool activity.

7. Ozobots

- Ozobots are tiny robots coded to read color patterns. They can moonwalk, speed up, slow down, turn in all directions, and spin! With this activity, participants can draw obstacle courses for these little robots to complete.

8. Robot Olympics

- Dash is a robot that can be programmed to do many different tasks. In this activity, participants will give Dash programmed commands and to play sports!

9. Snap Circuits

- Snap Circuits are a fun and simple first step to creating circuitry. Work in teams or individually to create your own electrical circuit. Follow the Snap Circuit guide or make something unique!

10. Squishy Circuits

- Salt dough is conductive! Let's use that fact to our advantage and make electrical circuits that travel through squishy salt dough.

11. Virtual Reality Adventures

- Explore the world of virtual reality with a series of apps that let you view the moon, human anatomy, and much more! By placing the WonderLab iPods into a VR headset, you can see things through a whole new lens.

The Science of Sound and Music

1. Boom Whackers

- Boom! How do different sized instruments make different sounds? This activity will explore sound waves and how different sounds are made with differently sized instruments.

2. Explore Tuning Forks

- What can you do with a tuning fork? In this activity, participants will hear the different frequencies of the tuning forks, as well as explore what the vibrations do when interacting with various mediums, like water, the table, or even your body!

3. Funky Chicken

- Is that a….. chicken? It sounds a bit funky. This activity explores how our vocal cords work to create sound. Just like the funky chicken, our vocal cords create vibrations.

4. Mini Pipe Organs

- Make a mini pipe organ! Once you've created your instrument, play it to better understand frequency. Participants will build knowledge about how the different vibrations through different sized mediums affect frequency.
- using household materials to make their own kazoo!

5. Penny Keyboard

- Can you play a keyboard? What about a keyboard made up of pennies? This activity explores circuits and sound! When you complete the circuit of the Makey Makey keyboard, it allows the bananas to be used as keys.

6. Popsicle Stick Harmonicas

- Use the power of a vibrating rubber band to make a popsicle stick harmonica. How many notes can you make with your new instrument?

7. Singing Glasses

- Pitch Perfect! The singing glasses all have a different frequency. Can you figure out why? This activity lets participants play singing glasses and explore the frequency of sound.

8. Slinky Sound Waves

- How does sound travel? With this activity, the different types of sound waves can be seen in action.

9. Spoon Gongs

- Although spoon gongs look a little silly, they sure have a cool science behind them! With this activity, participants will delve deeper into the science of sound, and explore how vibrations traveling through different mediums result in different sounds.

10. You Too, Can Make a Kazoo

- Why buy a kazoo when you could make your own? With this activity, participants will get to explore the physics behind how a kazoo makes noise by