TPAC

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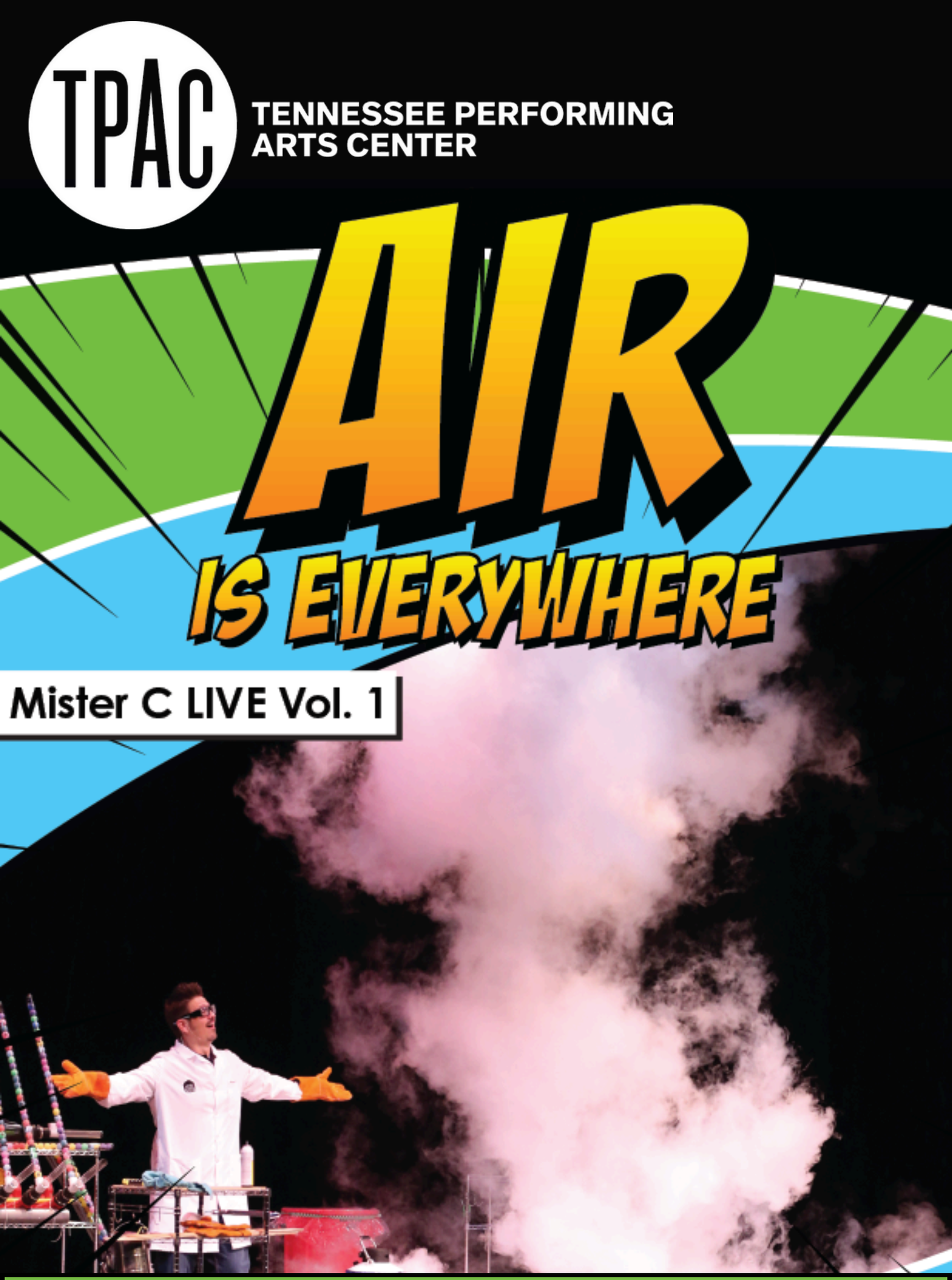
AIR IS EVERYWHERE

Mister C LIVE Vol. 1



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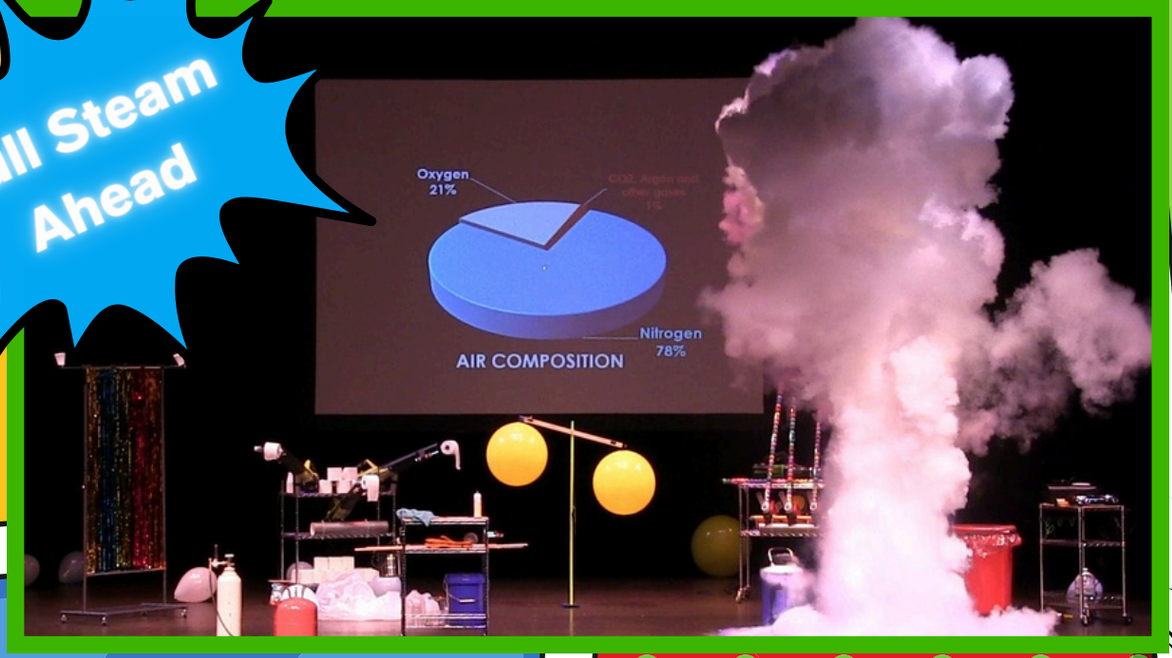
About the Show

Full Steam Ahead



Are you ready for some hair-raising science, toe-tapping music and mind-blowing media? Join Mister C for an amazing day of learning in the lab as he explores all things air! As the creator and host of the regional Emmy nominated show Full STEAM Ahead, Mister C is no stranger to finding exciting and engaging ways to explore STEAM in our everyday lives.

Mister C is a 20-year educator whose mission is to transform how everyone thinks about learning and gets everyone singing, dancing and learning to the tune of science. Students and teachers will be amazed with this fun and educational series as Mister C uses humor, media and the engineering design process to make the ordinary EXTRAordinary

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Who is Mr. C?

Mister C is not your ordinary educator!

As a 20-year veteran educator, Mister C has spent time as a classroom teacher, principal, curriculum specialist and district administrator. His specialty is knowing how to inspire and engage learners of all ages using video, music and live presentations to bring science to life.

Mister C is a 7-time Bronze Telly Award winner for DIY Science Time, regional Emmy Award winning producer for his show Speakers & Beakers, and three time regional Emmy nominated producer and host of Full STEAM Ahead. His on-air programming reaches over 100 million viewers across the USA. He is also the creator of the YouTube channel "Learning Science is Fun". Through all his platforms, millions of learners have had the opportunity to enjoy learning to a different beat with silly songs, exciting experiments and dazzling demonstrations."

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AIR-cabulary

Air Pressure

Air pressure is the force exerted onto a surface by the weight of the air. There is approximately 14.7 pounds of pressure per square inch at sea level.

Atmosphere

Atmosphere is the envelope of gases surrounding the earth or another planet. Earth's atmosphere has 5 layers which are the troposphere, stratosphere, mesosphere, thermosphere and exosphere.

Mass

Mass is the measurement of the amount of matter there is in an object. Mass of an object remains constant in all circumstances while weight varies due to gravity. Mass and is measured in grams (g) or kilograms (kg). Your mass on the earth and the moon are identical

Density

Density commonly is expressed in units of grams per milliliter and kilograms per liter and is defined as mass per unit volume. D = M/V

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DIY Air Cannon

TOPIC: AIR

Air is EVERYWHERE! Air is the invisible gaseous substance surrounding the earth. Build an air cannon to experience the movement of air through a space.

MATERIALS

- **Plastic or styrofoam cups**
- **Scissors**
- **Balloon**
- **Various items to knock over**
- **Clean work space and a parent helper**

EXPERIMENT

Difficulty:

Step 1: Gather materials.
Step 2: Cut the neck off of the balloon and keep the large part.
Step 3: Carefully cut a hole in the bottom of the cup about the size of a dime with your scissors. You may need an adult to help for this step.
Step 4: Attach the cut balloon to the mouth of the cup. Be sure to stretch it tightly and reinforce by wrapping a rubber band around the lip of the cup.
Step 5: Pull back the balloon and let it go to force the air out of your cannon. You can also tap the balloon to fire the cannon.
Step 6: You can hang a strip of toilet paper from a door frame and test how far back you can stand and still hit the toilet paper with the air cannon.

WHY IT WORKS:

Although you can't see it, your cup is filled with air. When you apply a force to the air molecules by pulling back the balloon and letting it snapback, the air molecules are pushed toward the opening. This movement sets of a quick chain reaction of collisions with other air molecules and the sides of the cup. The only way for the air molecules to escape is through the opening at the bottom of the cup. The quick escape of these air molecules forms a stream of air that flows straight out of the cannon.

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