SCIENTIST'S NOTEBOOK

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Hit Play.

museum of
science+industry
chicago

PRACTICE THE SKILLS OF A SCIENTIST.

Use this notebook as you try hands-on science experiments about physics, chemistry, life science and more.

Scientists use models to explain or predict what happens in the world.

In **Destination Respiration**, you will make a model of your body's respiratory system. Your model can help you explain how the parts of your body work together to make you breathe.

What does each part of your model represent?

Using your model as a guide, describe what happens to your body when you inhale.

Using your model as a guide, describe what happens to your body when you exhale.

Scientists analyze data to look for patterns that can explain or predict what happens in the world.

In **Weather Station**, you will build your own instruments to collect data about the weather. Take measurements with your instruments and write down your description of the weather every day for one week.What does each part of your model represent?

What patterns do you see in your measurements?

Do you notice any relationships between the measurements you make and the weather you observe?

How could you make weather predictions based on your measurements?

Scientists construct explanations based on knowledge and observation.

In the Ball Drop demonstration, you saw how the elastic potential energy in a giant rubber band transformed into kinetic energy, the energy of motion. You can use that knowledge to explain how the **Paddle Boat** and the **Balloon Racer** work. What patterns do you see in your measurements?

Where is there elastic potential energy for each vehicle?

What happens to that elastic potential energy?

How is the potential energy transformed?

Scientists plan and carry out investigations to answer questions about what happens in the world.

Try the **Create Gas** and/or the **Elephant Toothpaste** activity. You can plan an investigation that could help explain what happened to the ingredients you mixed together.

What did you observe happening to the baking soda and vinegar?

What did you observe happening to the hydrogen peroxide?

What questions would you ask to help explain what happened?

What measurements could you make to help answer those questions?