

We are so excited to have you visit The Franklin Institute with your learners!

The following document is meant to help you guide learners in making connections between the GSK Science in the Summer™ *Be a Chemist!* activities and interactives at The Franklin Institute.

The museum exhibits will give learners opportunities to engage further with some of the *Be a Chemist!* ideas and help them broaden their understanding of these science and engineering concepts. We hope the museum continues to inspire your young learners and foster their curiosity.



Be a Chemist!

Chemistry is the “study of stuff” — what things are made of, how they behave, and how they change.

- What chemicals make up the materials in the world around us?
- How are substances alike or different?
- What happens when we mix substances together—do they stay the same or create something new?

All substances in our world are made of chemicals—and chemists help us understand and use them safely and effectively.

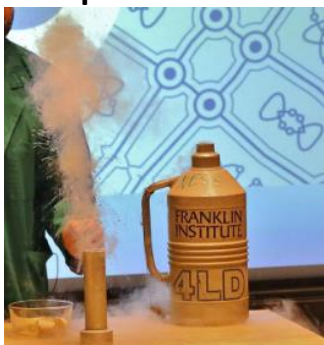
- How can we use chemistry to solve problems or invent something new?
- How can we test products to make sure they are safe for us to use?

You'll find these concepts throughout the Franklin Institute! Below is a guide to where:

Daily Live Science Demonstrations

Check the daily schedule for an up-to-date listing of today's shows and presentations.

Liquid Air Show



Watch science presenters explore the chemical Liquid Nitrogen and how it affects temperature and matter.

- **After the show ask:**
 - *What did you notice about how objects changed when they were placed in liquid nitrogen?*
 - *Where else might scientists or engineers use liquid nitrogen?*
 - *What surprised you most during the demonstration?*
 - *What do you want to test or learn more about after seeing this?*

Combustion Show



Watch science presenters break down the 3 ingredients needed for any good combustion reaction at this fiery show.

- **After the show ask:**
 - *What happens if one of the ingredients for combustion is missing?*
 - *Can you think of real-life examples where we try to prevent or control combustion?*
 - *What surprised you most during the demonstration?*
 - *What do you want to test or learn more about after seeing this?*

Hamilton Collections Gallery, 1st floor

Collection Database



The Franklin Institute holds an extensive collection of historical artifacts.

- Have learners use the digital collection database to explore and identify artifacts related to chemistry.
- **Ask:**
 - *What chemistry related artifacts did you find?*
 - *What do you think these artifacts were used for?*
 - *How are these artifacts similar to or different than items we use today?*
 - *What do these artifacts tell us about how people studied or practiced chemistry in the past?*

Body Odyssey, 2nd floor

Defend the Body from Infection



Chemists are involved in making vaccines to help our body fight infection.

- Have learners follow the prompts to defend the body from viruses.
- **Ask:**
 - *What changed when medicine or a vaccine was introduced?*
 - *How does a vaccine help your body recognize and fight a virus?*
 - *What happened to the virus without medicine?*
 - *How is creating a vaccine similar to other kinds of chemistry you've learned about?*
 - *What reactions do you think chemists study when developing vaccines?*

The Brain, 2nd floor

Send a Signal



The brain uses chemical signals to communicate with the rest of the body.

- Have learners follow the prompts to send signals to different parts of the body.
- **Ask:**
 - *What chemicals are important for sending signals?*
 - *How quickly do the signals travel?*
 - *How do the signals know where to go?*