Questions Matter

Engage kids by asking open-ended questions that will encourage them to explain and elaborate their thinking. Help them along by asking questions, such as: What will happen next? Why did that happen? What would be the likely result if we changed one of the variables? Formulating their answers helps kids to order their thoughts and allows them to begin to see how the world works.

Questions provide an opportunity to get kids to expand their thinking and elaborate on their ideas. Parents can help facilitate these skills by the questions they ask. Try to avoid questions that require a simple “yes” or “no” answer. Instead, pose questions that elicit an explanation and provide an opportunity for students to “unpack their thinking.” For example, you and your kids can engage in explorations of sound and forces by clicking Small Steps to Giant Leaps. These activities (Senses of Sound, Sound Effects, Shape Your Flight, Fan-tastic Forces) are all easy to do activities at home and ALL come with a demo video to support the activities, making them extremely user friendly for kids to do at home. As a guide on the side, you can ask open-ended questions to guide kids to test their projects, record performance, and alter their designs to find out how to improve performance. After making and testing their projects ask open-ended questions like, “How can you . . . ? What might happen if . . . ? What would happen if you . . . ? What other changes might . . . ?” Repeat steps for every test, recording each design change and performance in a data log. Make only one change at a time, so you will know which design changes result in changes in performance. These steps engage kids in the Engineering Design Process used by real-world engineers and scientists.
Activity Links:

Senses of Sound Activity: https://www.nasa.gov/stem-ed-resources/senses-of-sound.html
Sound Effects Activity: https://www.nasa.gov/stem-ed-resources/sound-effects.html
Shape Your Flight Activity: https://www.nasa.gov/stem-ed-resources/shape-your-flight.html
Fan-tastic Forces Activity: https://www.nasa.gov/stem-ed-resources/fan-tastic-forces.html

NASA has activities & learning resources to support you!

NASA STEM @ Home for Students:
  K to 4th: https://www.nasa.gov/stem-at-home-for-students-k-4.html
  5th to 8th: https://www.nasa.gov/stem-at-home-for-students-5-8.html
  9th to 12th: https://www.nasa.gov/stem-at-home-for-students-9-12.html

Story Time From Space:
http://www.spacestationexplorers.org/educational_programs/storytimefromspace/

NASA Express:
nasa.gov/stem/express

NASA STEM EPDC Webinars:
https://www.txstate-epdc.net/event-post/

NASA STEM EPDC Digital Badges:
https://www.txstate-epdc.net/digital-badging/

NASA STEM Quick Bits:
https://www.txstate-epdc.net/quick-bits/