STEM TEACHING TIPS FOR PARENTS & CAREGIVERS

Providing STEM learning opportunities at home can be a daunting experience for parents & caregivers, but it can also be an opportunity to investigate new STEM topics and to develop new ways of learning. Here are a few tips that can help smooth the way:

Tip #1: Be a Guide on the Side

Teaching is not telling. Kids need opportunities to investigate multiple possible solutions to a problem. Hands-on learning experiences provide an excellent avenue for kids to test their theories and ideas. Select a challenge, provide materials, set a reasonable time limit, and then let kids generate their own solutions. Failed solutions and setbacks are a normal part of the learning process. Be flexible and prepared to help your kids understand that discovering what doesn’t work can be just as useful as discovering what does.

Kids are natural builders. As their projects grow more elaborate, parents are tempted to suggest solutions as kid’s projects fail to work as intended. When kids are temporarily stumped, encourage them to keep trying or give them a small hint that might change their approach or suggest additional alternatives for them to try. Allow kids to test their own solutions (even those solutions that clearly aren’t going to work) and resist the urge to do it for them. Solutions that kids discover on their own are more likely to be remembered by them and applied at a later date to future similar tasks.

NASA resources provide lots of building projects for kids that are not only fun but are also great learning experiences. For example, you and your kids can choose building activities from NASA STEM @ Home for Students grades K-4, 5-8, and 9-12. As a guide on the side, you might ask open-ended questions like, “How do you think square wheels affect how the rover moves across the floor? How can you make improvements to the wheels? How far do you think the rover will travel?” Have kids log their attempts, redesign and test again, noting their design changes and improved performance of their projects.
Activity Links:

Cardboard Rover: https://www.jpl.nasa.gov/edu/learn/project/make-a-cardboard-rover

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/