Arguing the Causes of Faults and Folds with Foam Faults Demo

Students model how stress (compression, tension, shear) leads to faults and folds in Earth's crust. Students first use Silly Putty to explore stress, then apply that understanding to interpret real geologic structures using images and sponge models. They use their observations to construct evidence-based explanations linking stress forces to geological structures.

Learning Objective:

- Students will explain the stress forces that cause different types of fault motions to occur.

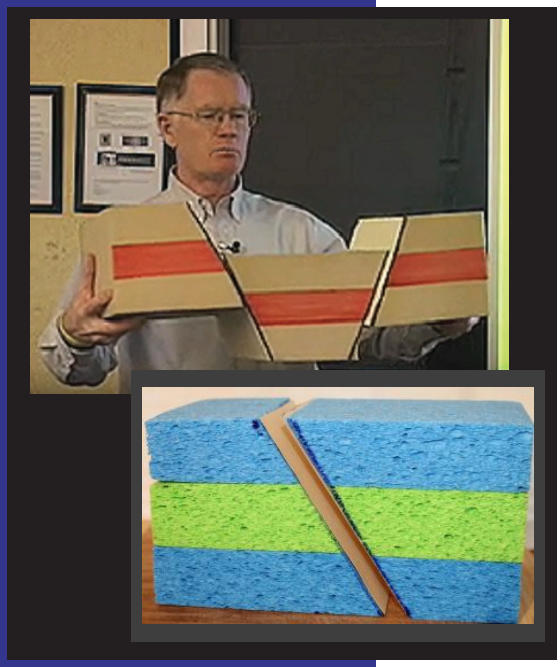
Steps

Step 1: **Explore Stress with Silly Putty:** Use Silly Putty to observe how different stresses produce different types of deformation (strain).

Step 2: **Connect Stress to Rock Structures:** Introduce images or diagrams of faults and folds so students can make claims about what type of stress is shown.

Step 3: **Model each fault type:** Now show each fault forming using the forces. Pause after each example for students to modify their claim.

Step 4: **Synthesize:** Students write evidence-based arguments that connect structure, stress, and the formation process.



- Have students use the Claim-Evidence-Reasoning format which aligns well with NGSS science practices.
- When making the sponge/foam models, glue manila folder pieces so pieces can slide. Spray adhesive works best.
- NGSS: MS-ESS2-2, HS-ESS2-1, Developing and Using Models, Stability and Change