

Can you move it? Prek - 1st physics activities

Young learners engage in motions and forces naturally, organically, and through play every day in their environment. Movement activities and using key vocabulary such as “push,” “pull,” or “force” provides opportunities for children to gain The Three C’s of 21st Century Learning: Communication, Collaboration, and Creativity. Children are learning about math concepts such as mapping, area, negative space, seriation, patterns, order and space. Movement activities provide wonderful opportunities for young minds to gain science skills such as spatial visualization, cause and effect, gravity, and forces. Motion activities provide a chance for a young mind to test ideas and observe the causes and effects of those ideas.

How do adults and teachers talk about and provide opportunities for children to learn and experience physics? Children experience physics by acting on objects, materially and mentally. Children observe and analyze their experience. What are they thinking? Providing children with materials to explore, manipulate and build fosters critical thinking patterns, problem solving, tool usage, and ways to observe the effects of force and motion.

Try these at home or in the classroom!

1. Have the children find a toy or bring a toy from home that has wheels. Without throwing and hands staying on their toy, children can experiment with their wheeled toy. Have them find their own spot on the floor with their toy to work. Use phrases like “Push the toy away from you.” and “Pull the toy towards you.” to allow children to experience pushing and pulling.
2. Work as a group to create definitions of push and pull. Then, read a story related to push and pull, such as *Motion: Push and Pull, Fast and Slow* by Darlene R. Stille. Then, have the children practice push with push-ups. Then, go out to the playground or a park and let the children practice pull with pull-ups. Finally, have the children find other ways to pull and push put on the playground.
3. Walk around the school or your home looking for different items that require a push or pull. Doors, toys, etc. Asking questions like “Do you need to push or pull to move that object?” or “Can you find anything else that requires a push or pull?”

Books to go with activities on Force/Motion

And Everyone Shouted, "Pull!": A First Look at Forces and Motion by Claire Llewellyn (Preschool-K)
Move It!: Motion Forces and You by Adrienne Mason (Preschool-2nd)
Experiments in Forces and Motion with Toys and Everyday Stuff by Emily Sohn (1st-3rd)
Forces Make Things Move by Kimberly Brubaker Bradley (1st-3rd)
Motion: Push and Pull, Fast and Slow by Darlene R. Stille (K-4th)
Forces and Motion: From High-speed Jets to Wind-up Toys - Teacher's Guide by Tom DeRosa (3rd-older)
Awesome Experiments in Force and Motion by Michael A. Dispezio (4th-6th)