

Playground Physics: Watch for Falling Objects!



We can't see gravity, but it affects us every day. Preschool children can find out how gravity works through simple playground activities. (See Illinois Early Learning and Development Benchmarks 11.A.ECa, 11.A.ECc, 11.A.ECd, 11.A.ECg, 12.C.ECa, and 12.D.ECb.)

Let children play with gravity.

- Provide a basket of sturdy objects that children can drop from playground structures at different heights. Include foam toys, blocks, marbles, keys, plastic toys, rocks, and beanbags. Let children take turns dropping things onto pavement, dirt, sand, or water.
- Ask children some questions: “Did you notice what happened when you let that marble fall?” “Did you see what happened to the sand when the block hit it? What did you notice when the block hit the water?” Record their observations.

Extend the play experience.

- Invite children to observe what happens when classmates drop things from a playground structure. Let them predict where an object will land when a classmate drops it.
- Ask children to predict whether two objects dropped from the same height at the same time will hit the ground together or at different times. Then let them try it. What do they think will happen if they drop the things from different heights?
- On a day with no breeze, let children drop inflated balloons along with the sturdy objects. Ask what they notice about how the balloons behave when dropped. Deflate a balloon so they can observe what happens when someone drops it. What do they think makes it fall differently when inflated? Help them decide where to look for an explanation. (Note: An adult should inflate the balloons. Uninflated or broken balloons are choking hazards for children under the age of 8. Be sure the children do not put balloons or balloon fragments in their mouths. Safely discard all balloon fragments when the activity is finished.)

Talk about gravity.

- Introduce words such as *drop, fall, force, surface, collide, impact, bounce*. (Note: Some physics terms such as *mass, resistance*, and so forth are probably not useful to preschoolers.)
- Introduce the idea that gravity is an invisible “natural force.” It has the power to pull objects down, so they don’t hang in the air or go up into the sky. Gravity pulls hard! That’s why it takes work to keep something in the air and why falling objects sometimes leave impact marks.
- Don’t expect preschoolers to fully understand gravity. Let them know that scientists are still learning about it. Nobody sees gravity, but anybody can study what it does.

For related Web resources, see “Playground Physics: Watch for Falling Objects!” at <https://illinoisearlylearning.org/tipsheets/>

Any opinions, findings, conclusions, or recommendations expressed in this tip sheet are those of the author(s) and do not necessarily reflect the views of the Illinois State Board of Education.



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