

**Project FOCUS
Best Lessons
KINDERGARTEN**

Title of Lesson: Learning About Gravity

Theme: Physical Science

Unit Number: 2 **Unit Title:** Motion, Movement and Gravity

Performance Standard(s) Covered (enter codes):

SKP3

Enduring Standards (objectives of activity):

Habits of Mind

- Asks questions
- Uses numbers to quantify
- Works in a group
- Uses tools to measure and view
- Looks at how parts of things are needed
- Describes and compares using physical attributes
- Observes using senses
- Draws and describes observations

Content (key terms and topics covered):

Gravity, Center of Gravity, Air Resistance

Learning Activity (Description in Steps)

Abstract (limit 100 characters): This lesson introduces students to the concepts of gravity, center of gravity, and air resistance.

Details: Began the lesson by asking the students:

"Who knows what gravity is?"

After getting their feedback, I provided them with a very simplified definition. To demonstrate the concept, I held up a shoe and let it drop to the ground. I then asked the students:

"Who can give me another example of how gravity works?"

After listening to their answers, I took out the piece of paper. I held the paper in one hand and the shoe in the other hand. I asked them:

"Which one do you think will hit the ground first?"

After letting them guess, I showed them that the shoe hits first. I then balled up the paper and asked them again:

"Which one do you think will hit the ground first, the shoe or the paper?"

After letting them guess, I showed them that they both hit at the same time. At this part of the lesson I asked them:

"Why does the balled up piece of paper fall faster than the regular piece of paper?" Some of the kids were able to see that it was because of the shape of the paper. This is when I explained to them about air resistance, and how it slows down the piece of paper that is not balled up.

For the final part of the experiment we learned about center of gravity. I gave them a simple definition , focusing on the role center of gravity plays in helping to maintain balance. Then I asked for a volunteer to do each of the following tasks:

Pick up a penny – Asked a volunteer to stand against a wall with their feet together, heels pressed against the wall. Placed a penny about one foot away on the floor in front of them. Asked them to pick up the penny without moving their feet or bending their knees.

Lift their left foot – Asked a volunteer to stand with their right side against a wall, pressing their right foot and cheek against it. Instructed them to lift their left foot off the floor.

Jump forward – Asked a volunteer to bend forward and grab their toes, keeping their knees slightly bent. Tell them to jump forward without letting go of their toes.

Be sure that the students realize that the reason they are unable to complete the tasks is because their center of gravity is being restricted.

Materials Needed (Type and Quantity):

1 Shoe (or one per child)

1 Piece of Paper (or one per child)

1 Penny

1 Chair

A wall that the children can lean against

Notes and Tips (suggested changes, alternative methods, cautions):

I worked with small groups of 5-6 kindergarten students. I thought that this worked better because I was able to allow each child to take off their shoe and I gave them all two pieces of paper so every child was able to do the demonstration with me. Also all the kids got to attempt to do all of the tasks, instead of just one or two students, which was better because that was their favorite part of the experiment.

In addition, there was one other task that was originally part of the lesson:

Stand up – Ask a volunteer to sit in a straight-backed chair. Tell them to keep their back straight, their feet flat on the floor, and their arms folded across their chest. Then ask them to stand up.

I discovered that this activity does not work with kindergarteners because their feet do not touch the ground when sitting all the way back in their seats, however this activity would probably work with an older grade.

Sources/References:

1) Suite101: Science Experiments for Kids: Learning About Gravity | Suite101.com <http://carol-wells.suite101.com/science-experiments-for-kids-learning-about-gravity-a279805#ixzz1cqSJ49XW>

2)

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