

Dear teacher,

Thank you for bringing your students to see *The Scientific Mime, or, What's Up With Gravity?* It is an original show, written and performed by me, Sheila Kerrigan. It is based primarily on the NC Essential Standards in Science, about Forces and Motion. It also connects directly to English Language Arts: CCR Anchor Standard RL.1. In this case, the text is the action of the mime that communicates who, what, where, why, and how. The audience use details they observe in the mime's action to make inferences about the story being shown.

This show is unique in a number of ways.

First of all, I'm The Mime Who Talks! At the beginning of the show I give a lecture-demonstration about mime and how it connects to English Language Arts. I will ask the audience questions, and I hope they respond out loud.

Secondly, although I invite the audience to watch the mime portion silently, it is OK for them to share, inquire, and infer out loud. As long as their talk is relating to the performance, they are engaged.

Thirdly, I will ask the audience to participate by reading aloud and repeating sound and movement for key vocabulary. The sounds and movements are quite silly.

In other words, the audience sees, hears, infers, speaks, and moves during the show. They engage visual, aural, oral, and kinesthetic, pathways to learning. And they are laughing and having a good time. Research shows that when emotion is connected to learning, the memory is more deeply ingrained.

In short, there is a method to my madness. I hope you enjoy it!



Science Standards Addressed in *The Scientific Mime, or, What's Up With Gravity?*

Forces and Motion

- 1.P.1 Understand how forces (pushes or pulls) affect the motion of an object.
 - 1.P.1.1 Explain the importance of a push or pull to changing the motion of an object.
 - 1.P.1.3 Predict the effect of a given force on the motion of an object, including balanced forces.
- 2.P.1 Understand the relationship between sound and vibrating objects.
 - 2.P.1.2 Summarize the relationship between sound and objects of the body that vibrate – eardrum and vocal cords.
- 3.P.1 Understand motion and factors that affect motion.
 - 3.P.1.1 Infer changes in speed or direction resulting from forces acting on an object.
 - 3.P.1.3 Explain the effect of earth's gravity on the motion of any object on or near the earth.
 - 3.P.2.1 Recognize that air is a substance that surrounds us, takes up space and has mass.
- 4.P.1 Explain how various forces affect the motion of an object.
 - 4.P.3.1 Recognize the basic forms of energy (...sound, heat, electrical, ...) as the ability to cause motion or create change.
- 5.P.1 Understand force, motion and the relationship between them.
 - 5.P.1.1 Explain how factors such as gravity, friction, and change in mass affect the motion of objects.
 - 5.P.1.2 Infer the motion of objects in terms of how far they travel in a certain amount of time and the direction in which they travel.

Newton's 1st Law

An object at rest stays at rest and an object in motion stays in motion with the same speed and in the same direction unless acted upon by an unbalanced force.

Sound and Motion for Key Vocabulary, for Your Future Reference

Vocabulary	Motion	Sound
Push	two hands, palms out, push away from body	K
Pull	two hands, palms up, grab & pull to body	whistle
Force	punch	Pow!
Sound waves	the wave with arms & shoulders	Whoosh
Vibrate	jazz hands to sides of ears, palms forward, wiggle	bbbbbbbbb
Balanced Forces	two fists push against each other	grrrrr
Friction	clap hands together & rub vigorously	sound of hands
Screw	index finger points down & spirals downward	whistle
Inclined Plane	hand, palm down describes downward diagonal	wheeee
Inertia	complete stillness with a blank stare	no sound
Air & moving air	blow air through lips	who
Energy	fists rotate around each other	gagagagaga
Work	fists pound on each other	bambambam
Sound	hands over ears	Aaaaaaaa