





**(PCM, IV.2.E2) Prepare mixtures and separate them into their component parts**

Key concepts/Vocabulary

Mixture, solution; separation techniques

Filtration, using sieves, using magnets, floating vs. sinking; dissolving soluble substances, evaporating

Real-world contexts: Mixtures of various kinds—salts and pepper, iron filings and sand, sand and sugar, rocks and wood chips, sand and gravel, sugar or salt solutions

<b>ACTIVITIES</b>	<b>RESOURCES</b>
Exploring Water Mixtures	NSRC/Science and Technology for Children: “Chemical Tests”
Mixtures and Solutions	SAVI/SELPH Mixtures and Solutions Modules
Separating Mixtures Section	Changes in Matter-HISD M/S Outreach Gr. 3-4
Bringing Science to Life in the Classroom	American Chemical Society

- Motion of Objects: All students will describe how things around us move and explain why things move as they do; demonstrate and explain how we control the motions of objects.**  
**Scientists:** Albert Einstein, Isaac Newton  
**Real-world contexts:** See and describe the motions of things around them, and understand what makes them move

**(PMO, IV.3.E1) Describe or compare motions of common objects in terms of speed and direction**

Key concepts/Vocabulary

Direction

*east, west, north, south, right, left, up, down*

Speed

*fast, slow, faster, slower*

Real-world contexts: Motions of familiar objects in two dimensions, including rolling or thrown balls, wheeled vehicles, sliding objects

ACTIVITIES	RESOURCES
Head North, Child North	Motion of Objects-HISD M/S Outreach Gr. 1-2
Gravity	Motion of Objects-HISD M/S Outreach Gr. 1-2
Crazy Roller	Motion of Objects-HISD M/S Outreach Gr. 1-2
“It’s the Last Straw”	AIMS Book: Sky’s the Limit
“Science on the Slide”	AIMS Magazine: 10.03

(PM0, IV.3.E2) **Explain how forces (pushes or pulls) are needed to speed up, slow down, stop, or change the direction of a moving object**

Key concepts/Vocabulary

Changes in motion

*speed up, slow down, stop, turn*

Common forces

*push, pull, friction, gravity*

Size of change is related to strength of push or pull

Real-world contexts: Playing ball, moving chairs, sliding objects

ACTIVITIES	RESOURCES
Push-Me-Pull-You	Motion of Objects-HISD M/S Outreach Gr. 3-4
Air Spinners	Motion of Objects-HISD M/S Outreach Gr. 3-4
Wheel Experiment Book	Science Curriculum Support Guide K-3
“Wing On a String”	AIMS Book: Sky’s the Limit
“Puff Mobiles”	AIMS Book: Popping with Power
“Working Out the Wiggles”	AIMS Magazine: 10.04
Why Don’t I Fall Up	Video – REMC VH 902289

(PMO, IV.3.E4) **Identify and use simple machines and describe how they change effort**

Key concepts/Vocabulary

Make work easier

*Inclined plane, screw, wedge, lever, pulley, wheel and axle, gear; force, distance*

Real-world contexts: Block and tackles, ramps, screwdrivers and screws, can openers, see-saws

ACTIVITIES	RESOURCES
“Simple Machines: Levers”	Video – REMC VH 903994
“Simple Machines: Pulleys”	Video – REMC VH 903986
“Simple Machines: Wheels and Axles”	Video – REMC VH 903987
“One Good Turn Deserves Another”	AIMS Book: Machine Shop

(PMO, IV.3.E5) **Manipulate simple mechanical devices and explain how their parts work together**

Key concepts/Vocabulary

Names and uses for parts of machines

Real-world contexts: Simple mechanical devices, such as bicycles, bicycle pumps, pulleys, faucets, clothespins, can openers

ACTIVITIES	RESOURCES
Bring in examples of simple machines.	
Can Simple Machines Make Work Easier?	Science Curriculum Support Guide K-3
How Are Simple Machines Identified?	Science Curriculum Support Guide K-3
“Water Wheels”	AIMS Magazine: 10.06
“First Class Job”	AIMS Magazine: 10.08
“A First-Class Lever”	AIMS Book: Popping with Power
“Push ‘n Pull Puppets”	AIMS Book: Under Construction