

**Anchoring phenomenon:
What causes the glass in a
cell phone screen to break?**



Phenomenon Video:

<https://www.youtube.com/watch?v=Mv48tq3j4Bc> Start video at 5:50

POGIL[®] Activities that support the anchoring phenomenon:

PSActivity 2 – How Are Particles Arranged in Solids, Liquids, and Gases?
Solid particles are arranged in an orderly pattern, close together.



PSActivity 11 – Potential Energy: Three Examples
As the distance between objects increases, the PE increases.



PSActivity 12 – When Potential Energy Is Transformed
Potential energy transforming to kinetic energy.



OPTIONAL/ENRICHMENT
CPActivity 10 – Predicting Energy Changes in Systems
Model 1 only: *Playing table tennis with different types of balls*

POGIL[®] Activity	NGSS Performance Expectation	Learning Outcomes
PSActivity 2	<p>MS-PS1-4 Develop a model that predicts and describes changes in particle motion, temperature, and state of a pure substance when thermal energy is added or removed.</p>	<p>1. I can analyze a model to describe how the spacing and orderliness of water particles change when the water is in the solid, liquid, or gas state.</p> <p>2. I can create models that accurately show how the spacing and orderliness of water particles change when the water is in the solid, liquid, or gas state.</p>
PSActivity 11	<p>MS-PS3-2 Develop a model to describe that when the arrangement of objects interacting at a distance changes, different amounts of potential energy are stored in the system.</p>	<p>Potential Energy: Three Examples</p> <p>1. I can describe how three types of potential energy change in systems of objects.</p> <p>2. I can create a model to illustrate how the potential energy of a system changes as the distances between interacting objects in the system change.</p>
PSActivity 12	<p>MS-PS3-5 Construct, use, and present arguments to support the claim that when the kinetic energy of an object changes, energy is transferred to or from the object.</p>	<p>When Potential Energy Is Transformed</p> <p>1. I can analyze a labeled energy diagram of a system and use the information to describe the changes in potential energy and kinetic energy for objects in the system.</p> <p>2. I can construct a model that illustrates how the energy of objects in a system transforms between potential energy and kinetic energy.</p>
OPTIONAL CPActivity 10	<p>HS-PS3-1 Create a computational model to calculate the change in the energy of one component in a system when the change in</p>	<p>Predicting Energy Changes in Simple Systems</p> <p>Model 2 only: How do potential energy and kinetic energy change when on glass falls to the floor</p>

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	energy of the other component(s) and energy flows in and out of the system are known.	2. I can analyze a diagram and data table of height of an object, potential energy, and kinetic energy in a system to predict the change in one variable when the other variables change.
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