

Name _____ Teacher _____ Date _____

Activity 2.2: Powers of Ten Cards

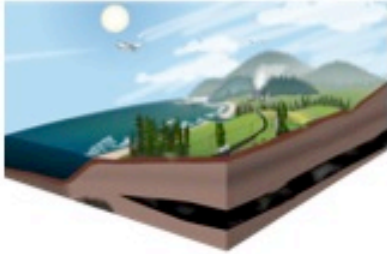





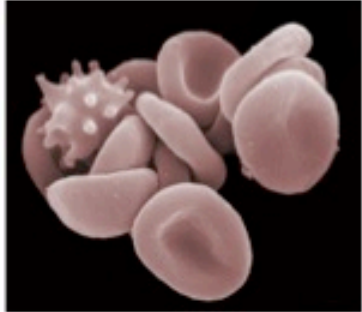
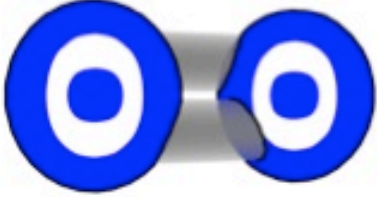



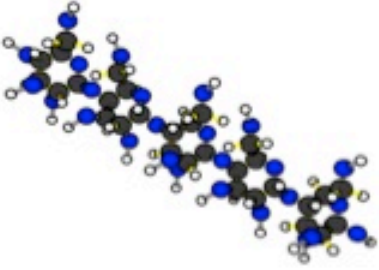
The card packets for the sorting activity are on the next two pages. They should be printed on card stock (either in color or black and white), cut up, and put into envelopes or paper clipped together—one packet per group of four students.

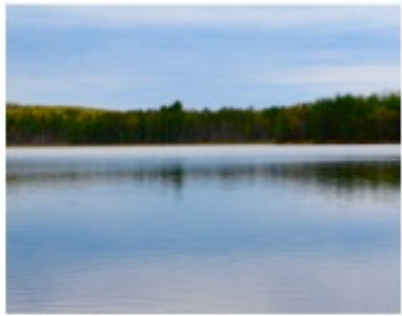

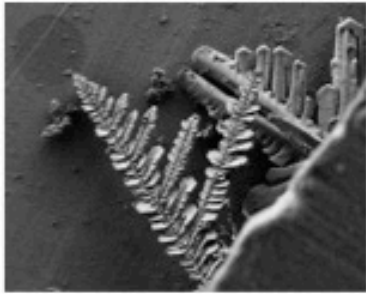



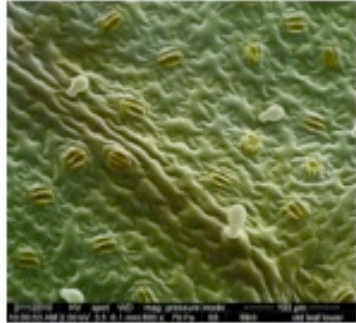
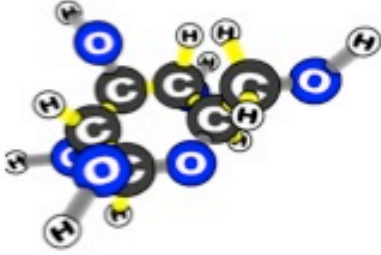


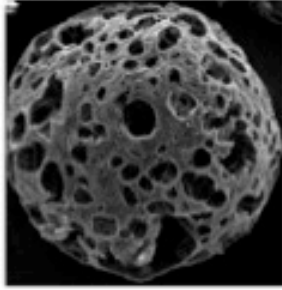

Each row of the packet shows a system at the four different scales:

1. Plant system: 1) forest, 2) pine tree, 3) stomata on a leaf, 4) glucose molecule
2. People system: 1) Lots of people, 2) person breathing, 3) red blood cell, 4) oxygen molecule
3. Water system: 1) Large lake, 2) drop of rain, 3) snowflake, 4) water molecule
4. Fuel system: 1) natural gas deposit, 2) propane gas bottle, 3) inside a flame 4) propane molecule
5. Fire system: 1) forest fire, 2) trees burning, 3) ash, 4) carbon atom
6. Pollen System: 1) atmosphere, 2) pollen on a flower, 3) pollen grains, 4) cellulose

Photo Credits:

Natural Gas Deposit, Propane Gas Tank, Inside a Flame, Propane Molecule, Oxygen Molecule, Cellulose Molecule, Water Molecule, Glucose Molecule, Carbon Atom: Craig Douglas, Michigan State University
Lots of People, Person Breathing, Atmosphere, Pollen on a Flower, Large Lake, Drop of Rain, Forest, Pine Tree, Forest Fire, Trees Burning: Hannah Miller, Michigan State University
Red Blood Cell: Courtesy of Ken Bart and FEI
Pollen Grains: Courtesy of Frans Holthuysen and FEI
Snowflake: Courtesy of Olga Kleinerman
Stomata on a Leaf: Courtesy of David McCarthy and FEI
Ash: Courtesy of Yousef Abu Salha and FEI

			
<p>Natural gas deposit</p>	<p>Propane gas tank</p>	<p>Inside a flame</p>	<p>Propane molecule</p>
			
<p>Lots of people</p>	<p>Person breathing</p>	<p>Red blood cell</p>	<p>Oxygen molecule</p>
			
<p>Atmosphere</p>	<p>Pollen on a flower</p>	<p>Pollen Grains</p>	<p>Cellulose Molecule</p>

			
Large lake	Drop of Rain	Snowflake	Water Molecule
			
Forest	Pine tree	Stomata on a leaf	Glucose molecule
			<p>Carbon atom, part of a molecule of CO₂</p> 
Forest fire	Trees burning	Ash	Carbon atom