	8l Fluids	Brownian Motion	An erratic movement of small specks of matter caused by being hit by the moving particles that make up liquids or	Mixtures Changing State	Occurs over a range of temperatures as it contains substances with different melting/boiling points.	Upthrust Weight	 4. Floating and S The force of wate upwards. The amount of fo 	r pushing rce with which
1 States of	. The Particle Model The three forms that a	Expanding	gases. Materials expand when heated because the particles vibrate more, taking up more space.	Water	Contracts as it is cooled up until 4°c and then it expands slightly. Ice takes up more space than water and is less	Water Floating	gravity pulls on a The density of wa If something has than water it will	mass. Iter is 1 g/cm ³ a density less float in water.
Matter Solid	or gas. Do not flow, fixed shape, fixed	Contract	Materials contract when cooled because the particles vibrate	dense 3. Pressure in Fluids		Sinking	If something has a than water it will	a density greater sink in water.
Properties Liquid	volume, cannot be compressed Can flow, no fixed shape, fixed	Density	The mass of a certain volume of a material. $density = \frac{mass}{volume}$	Fluids	Liquids and Gases The force of particles hitting	Air	The density of air around 0.001 g/c	at sea level is m ³
Properties Gas	volume, cannot be compressed Can flow, no fixed shape, no fixed volume, can be			Pressure	things- comes from all directions in gases and liquids.	Hot Air Balloons	Iy because the overall density of the balloon is less than the air around it.	
Properties Particle Theory	compressed Used to explain the different properties and observations of	Changes of	2. Changing State Changing from one state of matter to another. Physical	Pressure Units	Pascals (Pa) One pascal is the a force of one newton on every square	Drag	5. Drag A resistance fo object to slow	orce acting on ar
Solid Particle Properties	solids, liquids and gases. Fixed arrangement of particles held closely together that	iquids and gases. State rrangement of particles osely together that	changes because no new chemicals are made. Turning from a solid to a	Atmospheric Pressure	metre. The pressure of the air- 100,000 Pa	Water Resistand	Type of drag to water.	hat occurs in
	cannot move over each other but vibrate.	Freezing	liquid- occurs at melting point Turning from a liquid to a solid- occurs at freezing point	Tyres	Contain air under high pressure because they are pumped with extra air	Resistand Friction	Partly causes t	the drag on a
		Condensing Turning from a gas into a liquid.			causing more particles to hit the inside walls.	Streamlined Smooth shape to reduce air / water resistance.		
Liquid Particle Properties Gas Particle Properties	Held closely together but not in a fixed arrangement and can move over each other.	Sublimatio Evaporatio	 n Turning from a solid to a gas. Turning from a liquid into a gas. Can occur at the surface of a liquid at any temperature. 	Temperature	Pressure in fluids increases as you increase temperature because particles move faster and hit the walls of the container harder. If you compress a gas into a smaller volume the pressure increases because the particles hit the walls more. As you go down the ocean	Speed Balanced Forces	The faster an object is moving the greater the drag. Equal forces acting in opposite directions.	
	Far apart from each other and from to move about in all	Boiling	vithin a liquid- occurs at the poiling point Volu	Volume		Engine	Forward force of an engine needs to balance the drag.	
	The movement of particles spreading out and mixing with each other without anything moving them.	Pure	A substance made up of a single type of atom or compound. Occurs at a set temperature. The temperature stays constant when changing state as bonds are broken or made.			1. The I	Particle Model	Wemorised?
		Pure Substances Changing		Pressure From Above	there is more water above you so pressure increases. As you go up a mountain there	2. Changing State3. Pressure in Fluids		
		State			is less air above you so pressure decreases.	4. Float 5. Drag	ing & Sinking	