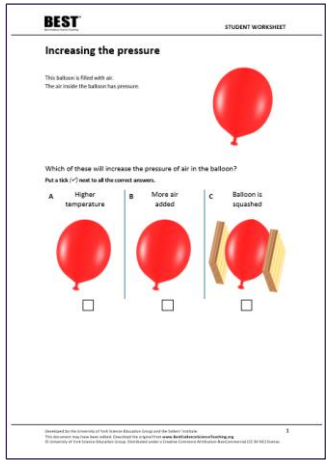
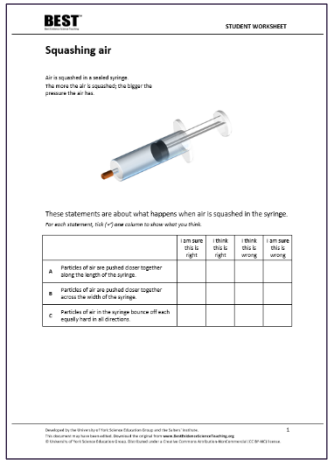
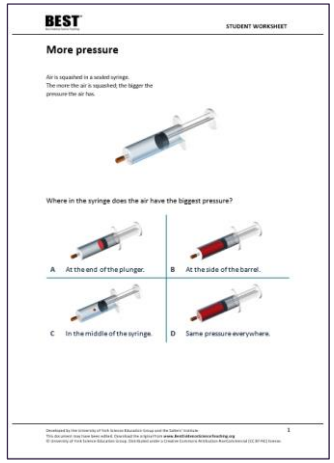
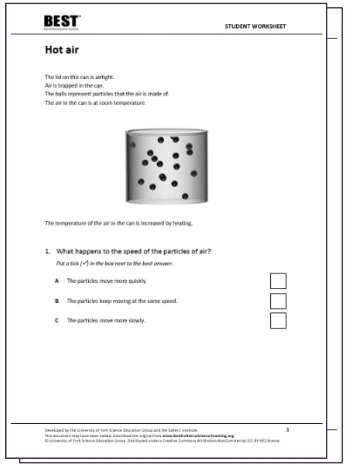
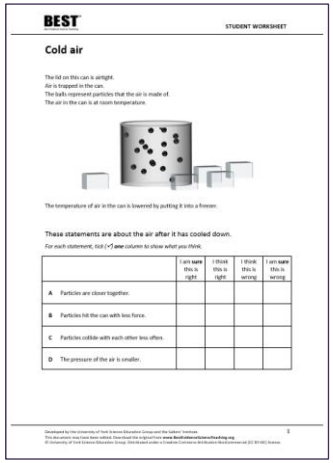
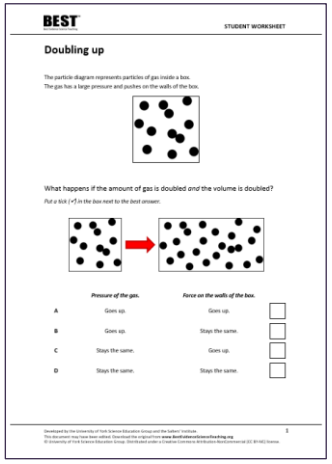
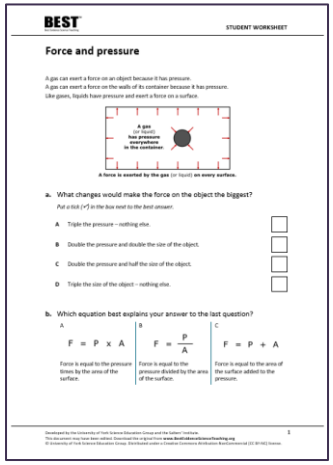
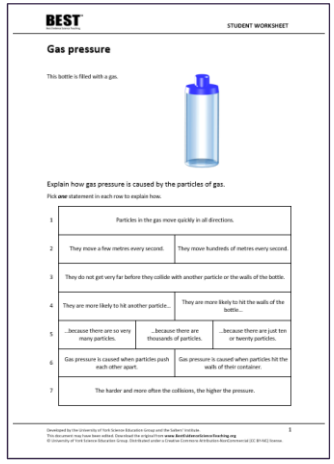
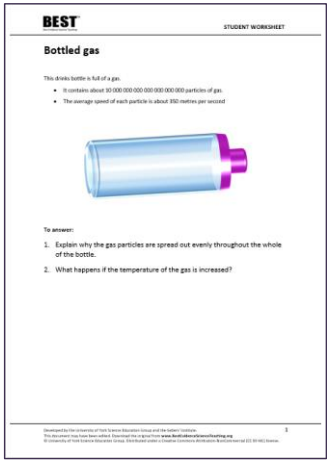
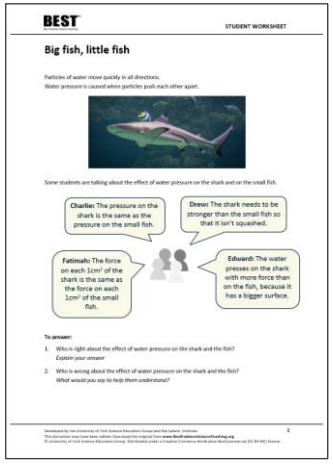
Physics > Big idea PMA: Matter > Topic PMA4: Particle explanations

Key concept (age 14-16)
PMA4.2: Pressure

Learning focus	The pressure of a fluid is a measure of how hard its particles are pushing each other apart, and it is proportional to the size of the force exerted by the fluid on a surface.				
As students' conceptual understanding progresses they can:	CONCEPTUAL PROGRESSION				
	Identify factors that can increase the pressure of a fluid. **P**	Explain why the pressure of a fluid is a scalar quantity that is equal in all directions.	Explain the effect of temperature change on the pressure of a fixed volume of fluid.	Distinguish between pressure and force.	Interpret the equation F = P x A.
Diagnostic questions	Increasing the pressure	Squashing air More pressure	Hot air Cold air	Doubling up	Force and pressure
Response activities		Gas pressure Bottled gas		Big fish, little fish	

Key:

P Prior understanding from earlier stages of learning

Increasing the pressure	Squashing air	More pressure	Hot air	Cold air
				
Simple multiple choice	Confidence grid	Simple multiple choice	Simple multiple choice	Confidence grid
Doubling up	**Force and pressure**	**Gas pressure**	**Bottled gas**	**Big fish, little fish**
				
Simple multiple choice	Two-tier multiple choice	Explanation story	Application and practice	Talking heads