DPSM/ESERO
Framework for Inquiry

THEME	Falling Things; Gravity and Air Resistance	
CURRICULUM	**Strand:**	Energy & Forces
	Strand Unit:	Forces
	Curriculum Objectives:	· Explore how objects may be moved · Explore how some moving objects be slowed down · Investigate falling objects · Come to appreciate that gravity is a force
	Skills Development:	Working Scientifically – in particular Investigating and Experimenting – realise that an experiment is unfair if relevant variables are not controlled. Designing and making skills.

ENGAGE

THE TRIGGER	WONDERING	EXPLORING
· Video of Felix Baumgartner's Skydive from Space	· Why Felix didn't float off into space? · What made him fall down to Earth? · Would it have made any difference if he was wearing something lighter? · Would a child have floated away? · Why did Felix fall but the astronauts in the ISS float?	• **DPSM Gravity Activity** · Identify children's ideas about gravity, Push/Pull/Direction using dinky cars. · Do heavy and light things fall in the same way? · Does shape make a difference to how a piece of paper falls? · Does having air around what is falling make a difference? What about if there was no air? Dropping things on Earth vs dropping things on the Moon. · What makes a difference to air resistance? Shape, type of material, speed. · What makes the best parachute? · What design will give the slowest fall to a Lego Man?

INVESTIGATE

STARTER QUESTION	PREDICTING	CONDUCTING THE INVESTIGATION	SHARING: INTERPRETING THE DATA / RESULTS
· What makes the best parachute? · Agree what is meant by best – what design of parachute will give the slowest fall to a Lego Man? **Questions to investigate** · Which shaped of parachute gives the slowest fall to a Lego Man? Round? Square? Rectangular? Big? Small? Hole? No hole? · What material makes a parachute that gives the slowest fall to a Lego man?	· Children record predictions and provide reasons for their predictions. · We think THIS SHAPE parachute will be the best because…. · We think this material will be best for a parachute because…	· In groups the children design, plan and conduct investigations to find out which (A) shape, or (B) type material gives the best parachute. · Fair test with same weight of marla or Lego men. · Change one thing each time · Keep everything else the same · Measure and observe which hits the ground last · Collect and organise data on which parachute fall the slowest.	· Children interpret and discuss their results · Present their findings: Propose explanations and solutions based on the data · Drawing conclusions

TAKE THE NEXT STEP

APPLYING LEARNING	MAKING CONNECTIONS	THOUGHTFUL ACTIONS

· Discuss implications of findings – what kind of parachute would you choose and why?
· Apply learning – can we make a parachute to allow an egg to land without breaking?
· New situation – what would happen to a parachute in space? (situation with no air resistance)
· Making Connections – When were parachutes invented and why? Who used them first? Who uses parachutes today? Are parachutes just for people?

REFLECTION	
	· Did I meet my learning objectives? · What went well, what would I change? · Are there cross curriculum opportunities here? · Are the children moving on with their science skills? · What questions worked very well? · What questions didn't work well? · Ask the children would they change anything or do anything differently.