Prediction Progression

	Year group		What this should look like
Observed variables	Reception	I suggest what might be the best or worst	I think the ball will float the best (compared to the sponge and the pencil)". "I think the dry sand will be worst (compared to the wet sand when making a sand castle)". Teacher asks what will be the best or worst (supports children to begin to order; supports decisions based upon ideas). Pupils will play and observe – supports the prediction for an unknown item.
	1	I suggest what might happen with help. This should be a prediction requiring significant support to describe cause and effect.	The teacher supports, "I know we are changing the type of leaf … I think big leaves will be best (at floating in the wind when they are dropped; go furthest)". The teacher supports, "If we change the ramp… I think the smooth ramp will be best (to make the car travel further/ faster)". The pupil is aware of what is being changed (cause). Pupil is often focused upon best or worst and needs support to describe what they think will happen (effect). Cause and effect is often insecure.
	2	I suggest what might happen in my investigation This should be a prediction where cause and effect are not fully described	"I know we are changing the type of material used as a missile in the catapult (create balls that are harder) … I think rolled-up silver-foil will be best at knocking down the wall" The pupil can identify and describe what is being changed (cause) securely. Often variables are described in discrete terms (e.g. silver-foil rather than harder or heavier ball; best or worst rather than knocking down more blocks). Some language support by the teacher is often needed to make this a scientific prediction.
Transition	3	I predict cause and effect. This should be a scientific (causal) prediction).	"The thickest material will make the darkest shadow". Gives both the cause and subsequent effect (highlighted). It may be in the form of a relationship prediction but often lacks sufficient data prediction. Simplest form often only describes an extreme (above) or gives both extremes at either end of the range.
	4	I predict a trend This should be a scientific relationship (correlation) prediction based upon numerical data	"The longer the grass, the more beetles we will catch. We know grass length of 3cm catches 8 ground beetles in our area. I think that grass length of 10cm will catch 20 beetles and 20cm will catch 30 beetles in our area". Gives both the cause and subsequent effect (highlighted) as a trend. It must increasingly include a data prediction, often from a given value, to match the use of measured variables.
Measured Variables	5	I use K & U to explain my prediction This should be relationship prediction followed by an explanation.	"The bigger the push force (balloon circumference), the further the rocket will travel along the string. A circumference of 20cm (straw length 10cm) pushes the balloon to 1.24m. I think that if we increase the circumference of the balloon by 10cm each time then the distance will be increased by 1m each time. This is because the size of the push force will get bigger each time. The opposite friction force will stay the same so the difference will be bigger each time (diagram included)". The use of both trend and data prediction should be secure. Focus now is on the explanation mostly using a science model. This should be equivalent to year 5 expectation.
	6	reason K&U to make a hypothesis This should be a reasoned relationship prediction.	As we increase the number of batteries, the amount of energy transferred (voltage) into the circuit increases. This will then mean that more energy is available to be lost across the bulb as light and heat energy. So, I predict that as the number of batteries increases from 1, 2 and then 3, the light intensity of the bulb will increase from 500 Lux, 1000 Lux and then 1500 Lux". The pupil could describe the proportionality in this data prediction. The relationship prediction is reasoned from a clear understanding of the underlying concept (model). A secure use of measured data is evident. The pupil should explain the cause, then explain the effect and then predict.