Insert Subject	*Science week*
Insert NCL/KSL	

Date:

By the end of these activities:	Most Pupils Will… Understand that changes in the weather can be recreated using simple experiments
	Some Pupils Will…Understand that many of the observable weather changes we see link to Physics
	A Few Pupils Will…Understand that a liquid can change to a gas if heated, and that this process can be reversed if the gas is cooled

Cross- Curricular Links

English
Discuss and make predictions, summarize findings, record results.

Maths
Measurement.

Science
Physics, seasonal changes, states of matter.

Geography
Weather/ Water Cycle.

Art
Safely use and explore a variety of media and materials, tools and techniques.

PSHE
Turn taking, sharing ideas and expressing emotions/feelings to others

PE
Gross and fine motor skill development

Activity	Step by Step	Resources	Sensory Input	✓ Achieved	✓ Revisit	✓ Redo
Activity 1- How is rain formed? *To discover what happens during the water cycle.* *I can understand that liquids can change to gas* *Physics*	In this simple experiment, children will discover what evaporation is and how rain is formed. Can you recreate the water cycle? -Place water and salt in a jar and mix together. -Pour contents into a shallow tray/bowl. -Place tray on a flat surface and monitor over a few days. As the temperature of the water increases, the water will evaporate, leaving only the salt behind. This process can be sped up by using direct heat or by being placed in direct sunlight. **Key learning points**- Liquid can change to Gas. This handy video from BBC Bitesize provides an insight into what happens during the water cycle. https://www.bbc.co.uk/bitesize/topics/z6p6qp3/articles/z3wpp39 Measurements can be observed using photographs or recorded using a ruler/measuring stick.	-Water -Salt -A shallow tray/bowl	✓ Auditory ✓ Visual ✓ Proprioception ✓ Vestibular ✓ Tactile ✓ Smell			
Activity 2- How are clouds made? To discover what physical changes take place during cloud formation	In this experiment, children will learn how clouds are formed. Can you make a cloud in a jar? -Pour 1 cup of boiling water into the jar (roughly half full).	-Glass jar with lid -Access to boiling water	✓ Auditory ✓ Visual ✓ Proprioception ✓ Vestibular			

I can understand that liquids can change to gas. Physics	Adding blue food colouring is optional as this helps to distinguish between the water and the cloud. -Quickly spray hair spray into the open jar (this acts as dust particles in the atmosphere) -Immediately put the lid onto the jar -Place ice onto the lid of the jar (this represents the colder air in the atmosphere) -Watch the top of the jar carefully and you will see the cloud begin to form as water droplets rise (evaporate), and are then cooled by the ice (condensation). -After observing the cloud, remove the lid to watch the cloud escape out of the jar (dissipate). **Key learning points**- Water droplets rise and become a gas when heated (evaporation). When warm air is cooled (by the ice), the gas returns to a liquid state (condensation). Watch the following video to see how clouds are formed, before crating your own 'cloud in a jar'. https://www.geographypods.com/3-clouds.html	-Blue food colouring (optional) - a few cubes of Ice -Hairspray	✓ Tactile ✓ Smell			

Activity 3- How Are Rainbows formed *To discover what happens to the direction of a wave (light) as it passes from one medium, to another (droplets of water)* I can understand that light waves can change direction in water Physics	Children will discover how light can be refracted through water, When light hits the surface of a water droplet, it changes speed, causing the light to bend (refraction). The light is then refracted again as it leaves each water droplet. The outcome is light being reflected in varying angles. **Can you make a Rainbow?** Half fill a glass with water. Position the mirror in the glass at an angle. Shine the torch onto the mirror from the side of the glass and watch in awe and wonder as a rainbow is created. Play about with the darkness of the room, does this change the effect. **Key Learning Points-** Refraction, in physics, the change in direction of a wave passing from one medium to another caused by its change in speed.	-Glass of water -Small mirror -Torch	✓ Auditory ✓ Visual ✓ Proprioception ✓ Vestibular ✓ Tactile ✓ Smell			

Activity 4- How can we predict the weather? *To develop an understanding of changes in the atmosphere* *I can predict the weather using nature.* *Physics*	In this experiment, children will learn how to use nature to make predictions about the weather. **Can you predict the weather?** Firstly, pine cones are needed for this experiment, (these can be found in wooded areas with pine trees). Once you have gathered a few pine cones, place them onto a window sill that can be seen from inside the house (the blue tack or modelling clay can be used to secure them in case of wind). Observe the pine cones over time. **Key Learning Points**- Pine cones have lots of very light seeds within, the aim of the pine cone is to have these feathery light seeds dispersed away from the original tree by carrying winds. If there is a lot of humidity in the air (it's likely to rain), the pine cones will close to protect the seeds. If there is little to no humidity in the air, the pine cones will open as this is optimal seed spreading weather (not likely to rain). This is how we can predict if it is going to rain or not. Closed- Due to rain (high humidity detected) Open- Not due to rain (low humidity detected)	-Pine cones -Blue tack/modelling clay -A place to observe pine cones	✓ Auditory ✓ Visual ✓ Proprioception ✓ Vestibular ✓ Tactile ✓ Taste ✓ Smell			
Activity 5- Record findings	Can you record what you have discovered whilst carrying out the previous experiments? Options, Use and IPAD to record your findings, you could maybe even become a weather person! Paint or draw an image to represent the water cycle Write down everything you have learnt in the style of an explanation text, newspaper report or fact file	Key vocabulary Water cycle Evaporation Condensation Precipitation Refraction Humidity	✓ Auditory ✓ Visual ✓ Proprioception ✓ Vestibular ✓ Tactile ✓ Taste ✓ Smell			