These activities may be done at home to help stimulate your child's exploratory and problem solving skills, as well as allowing children to choose their own play activities.

The best way to help your child is to ask lots of questions— why, what, how, when? Ask you child to tell you what they think will happen, then try it out!

Children benefit most from playtime when you are there to observe, encourage and ask lots of questions.

Even when you're not actively doing an activity, ask them what they think about things or point out things to observe, such as whether they notice the Sun rising earlier or later in the morning as the weeks and months pass by.

Social and artistic activities are also great for sharing knowledge and building confidence. The activities below help kids to explore the natural and physical world around them.

Activities to show how living things grow and change

1. Take two plant cuttings (mint works well and should be easy to find in your backyard or garden nursery). Place the cut end of one cutting in a glass half filled with water. Place the cut end of the second cutting in an empty glass. Keep checking the plant cuttings and glasses of water over one week or so. What happens to the water and the plant cuttings?
2. Keep a record of your child's height, head circumference, arm length, etc. Over time, do some measurements change more than others?
3. Place one potato on a plate on the window sill and one potato in a dark cupboard. Check each potato every several days to see if the potatoes are different to each other. How is the potato different to other plants that they know of? If you let the potatoes grow long enough, do they develop leaves and roots? What happens to the potato body?

Activities to explore the Earth and sky

1. Place an ice cube in a sealed jar and weigh the whole jar with ice cube on a set of kitchen scales. Place the jar on the window sill for one hour to one day. What happens to the ice cube? Weigh the jar again. Does the jar and water weigh the same? What happened to the ice cube? Did any water disappear? What happens if you try this with a frozen cube of lemon juice?
2. While using a hose in the garden, see if you can create rainbows in the water spray. Do you create better rainbows when the sun is in front of you or behind you?
3. Thermometers are great for seeing how temperatures change. Try and leave a thermometer in the garden away from buildings if possible. Check the temperature together when you can and write down the temperature, along with how warm or cold the air feels, whether it is a windy day, and whether there are clouds in the sky.

Activities to explore the human body

1. Brush a thin layer of water-based paint on different parts of the body (e.g. palm of the hand, thigh, upper fore arm). Then roll paper over the body part so an imprint of the skin is left on the paper. Do different parts of the body have different skin patterns?
2. Measure the length of the child's outstretched arms from fingertip to fingertip and cut a piece of string the same length. Compare the length of the string to their height from head to toe. Does the string wrap an equal number of times around their stomach or their head circumference? Try other body parts and other family members.
3. Try standing on one leg with both eyes open, then with one eye closed. Does it matter if you close the same eye or opposite eye to the lifted leg. Can you balance on one leg if you close both eyes?!

Activities to explore physical phenomena

1. Dip a strip of paper towel into a glass of water and leave it on the dry bench. Watch what happens to the water. Does it reach the end of the paper? What happens if you change the length of the strip of paper, or its thickness?
2. Collect a small, empty, clean coffee tin with its lid in place. Pour warm water from the tap into a tray and sit the tin in the water, lid facing upwards. Watch the lid closely to see if anything happens.
   If it takes a long time for the lid to pop up, how can you make it pop faster?
   Why does the lid move, or the can make noise?
   If you half fill the can with rice and repeat the process, does the lid pop sooner?

   NB — you may need to use water from a recently boiled kettle to speed up the process. Be careful of hot water and the hot metal of the tin.
3. Fill two glasses of water to the same level and mark the level with a small texta mark. Place one glass in the fridge and leave one glass on the bench at room temperature. Leave the glasses for one to two days and check which glass has lost the most water. What happened?
   How could you make the water disappear faster?