

## HOW TO CREATE TEACHABLE MOMENTS FOR KIDS

A teachable moment is an unplanned, or intentionally placed, learning opportunity. These can happen anywhere and at anytime. They provide parents, guardians, and teachers the chance to help children learn new concepts and deepen their understanding of previously acquired knowledge. This can also be very useful when considering the design process as students can be more informed as they develop future iterations.

Parents, guardians and teachers have learned to watch for these moments. They listen and pay close attention ready to pounce with questions or thoughtful discussion at any time. We can create these moments especially when kids are working on a project or doing their homework by asking open ended questions. More importantly we need to be ready to explain and discuss the 'why' behind the child's answer and encourage them to research and dig deeper. This 'why' is the key to creating the teachable moment to better decode the world they live in.

Sometimes these questions and discussions can lead to questions that adults can't answer and this is the golden opportunity to model how to learn instead of what to learn! When you don't have the answer it gives kids the chance to learn alongside you: "That's a great question! Let's look it up together!" This builds confidence because it's ok that we don't always have all the answers. More importantly, it gives kids the sense of pride to learn that we are all life-long-learners.

## NATURAL CODE TEACHABLE MOMENT QUESTIONS

Write a how-to guide for creating visual patterns in Scratch. If you record it in video form, upload it to [flipgrid.com/blabs](https://flipgrid.com/blabs)!

Research other historical mathematicians from around the world. How were their ideas accepted at the time?

If patterns are so prevalent in nature, is this also true under the microscope?  
Do some research to find out.

What is the relationship between a plant's growth and it's visible patterns?

Many edible foods like fruit have distinctive patterns. Find some examples of patterns on and inside the foods you eat at home. Are there similarities in the patterns you have found?

Create a video explaining the fibonacci sequence to someone that has never heard of it before. Upload your video to [flipgrid.com/blabs](https://flipgrid.com/blabs)

Is your pattern a growing, shrinking or repeating pattern? How could you alter it so that it is a different type of pattern?  
How could you use physical objects to represent your pattern?  
What would happen if you doubled all the values in the pattern?  
What if you doubled only one of them? How could you represent your Scratch code as an algebraic expression?

How could you use materials in your home to create art with patterns?  
Tessellations are another form of pattern art. Research examples of tessellations and create your own version with materials you have at home.

Think about your favourite games or sports. How could patterns, or doing things algorithmically, play a role in being successful?

Create patterns using Chrome Music Lab software to use patterns to create original music. Find examples or repeating patterns in popular music. Can you recreate this using an instrument or noise maker?

History is full of many great and influential mathematicians from all areas of the world. Choose a continent and research influential mathematicians and how their work influences us today.

Knowing that 617 million youth worldwide lack basic mathematics skills, how can you get involved and share what you learned in this challenge?