

Lesson 5: Think like a Creator

Powerful Ideas of Computer Science	Algorithms, Design Process
Powerful Ideas of Literacy	Writing Process, Sequencing, Phonological Awareness
PTD	Creativity, Content Creation
Palette of Virtues	Curiosity, Patience, Forgiveness, Perseverance, Open-mindedness, Optimism
Children will be able to...	<ul style="list-style-type: none"> ● Identify steps of the Design Process. ● Apply the steps of the Design Process to an engineering challenge. ● Identify the beginning, middle, and end of a story.
Vocabulary	<ul style="list-style-type: none"> ● Design Process: <ul style="list-style-type: none"> ○ Ask: to use a question ○ Imagine: to make an idea in your mind ○ Plan: to decide what to do and how to do it ○ Create: to make something ○ Test: to see if and how your idea works ○ Improve: to make something better ○ Share: to show others what you made
Teacher Preparation	<ul style="list-style-type: none"> ● Read lesson plan. ● Have a tab open for the Design Process Anchor Chart slideshow ready to be projected. ● Craft supplies, recycled materials, or building blocks.

Warm Up

- **Design Process Song** (*Suggested Time: 5 minutes*)
 - Introduce that today, children will be learning about the Design Process, but first, they'll learn the *Design Process Song*. Display the [Design Process Anchor Chart](#) while playing the song for the children to listen to. Play the *Design Process Song* a second time and invite the children to sing along!

(to the tune of "Twinkle, Twinkle")
Ask and imagine, plan and create.
Test and improve and share what we make.
(Repeat)

Opening Tech Circle

- **The Design Process** (*Suggested Time: 10 minutes*)
 - Explain the Design Process using the [Design Process Anchor Chart](#).

Design Process

When making projects, engineers follow a series of steps called the **Design Process**. It has 6 steps: ASK, IMAGINE, PLAN, CREATE, TEST & IMPROVE, and SHARE. The Design Process is a **cycle** – there's no official starting or ending point. You can begin at any step, move back and forth between steps, or repeat the cycle over and over!

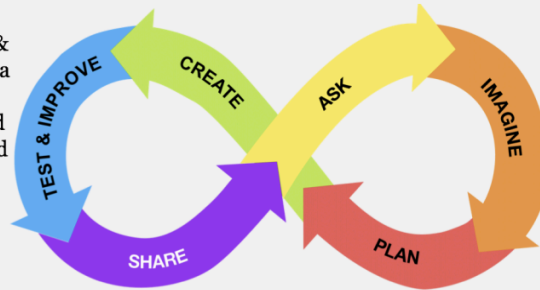
Design Process song

(to the tune of "Twinkle, Twinkle")

Ask and imagine, plan and create,

Test and improve and share what we make.

(Repeat)



- Walk through the **Design Process** for any project they've done recently in class from the project last class (adapt prompts below to be more specific to your class context).
 - **Ask:** How are we going to do this project?
 - **Imagine:** Brainstormed ideas.
 - **Plan:** Decided what to do and how to do it.
 - **Create:** Made the project.
 - **Test and Improve:** Tried to use their project and found problems with it that they had to fix.
 - **Share:** We shared at the end of class!

Unplugged Time

- **Your Own Design Process** (*Suggested Time: 25 minutes*)
 - Explain that the Design Process isn't just for ScratchJr, it's for making anything! Today they will get to choose what they design using the Design Process!
 - **Ask:** Ask the children a question to serve as a prompt for their creation. For example, how strong can we make a tower out of building blocks, or what kind of butterfly house would be good for our playground? These creations can be done with recycled materials, craft supplies, building blocks, or other materials of your choosing, so select a prompt that aligns with the building materials you choose.
 - **Imagine:** Break into small groups to brainstorm ideas for their projects.
 - **Plan:** Ask the children to decide what they want to do for their projects and how they will do it.

- **Create:** Give children time to use craft supplies, recycled materials, or building blocks to make their creations!
- **Test and Improve:** Pause and ask children if their creations follow their plan. Are there any changes they want to make now that they've started actually doing their project?
- **Share:** Go around and share creations as a class.

Closing Tech Circle

- **It's a Cycle!** (*Suggested Time: 5 minutes*)
 - Ask the children if they felt inspired by seeing their classmates' projects. Did it give them any ideas for a new creation they want to make?
 - Refer back to the anchor chart and remind children that the Design Process is a loop – it doesn't have a start or end. Sharing just leads to more asking and more creating and then more sharing!