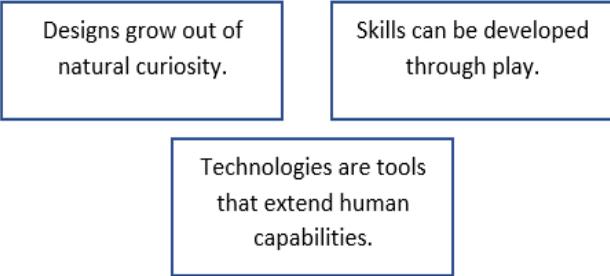


**ADST Scope & Sequence**

**Grades K - 3 Big Ideas & Learning Standards**

**Available District Resources**

**Grades K - 3 Content & Computational Thinking**



**Grades K to 3**

**Curricular Competencies**

*Students are expected to be able to do the following:*

**Applied Design**

**Ideating**

- Identify needs and opportunities for designing, through exploration
- Generate ideas from their experiences and interests
- Add to others’ ideas
- Choose an idea to pursue

**Making**

- Choose tools and materials
- Make a **product** using known procedures or through modelling of others
- Use trial and error to make changes, solve problems, or incorporate new ideas from self or others

**Sharing**

- Decide on how and with whom to **share** their product
- Demonstrate their product, tell the story of designing and making their product, and explain how their product contributes to the individual, family, community, and/or environment
- Use personal preferences to evaluate the success of their design solutions
- Reflect on their ability to work effectively both as individuals and collaboratively in a group

**Applied Skills**

- Use materials, tools, and technologies in a safe manner in both physical and digital environments
- Develop their skills and add new ones through play and collaborative work

**Applied Technologies**

- **Explore the use of simple, available tools and technologies to extend their capabilities**

**Curricular Competencies -- Elaborations**

- **Ideating:** forming ideas or concepts
- **product:** for example, a physical product, a process, a system, a service, or a designed environment
- **share:** may include showing to others, use by others, giving away, or marketing and selling
- **technologies:** things that extend human capabilities (e.g., scissors)

**Available Grades K – 3 Resources**

- Blue bot robot
- Bee-bot robot
- OSMO (iPad)
- Kibo (unplugged)
- Littlecodr Card Game (unplugged)
- Robot Turtles Board game (unplugged)
- Think Fun Code Master Game (unplugged)

**CONTENT**

***Students are expected to use the learning standards for Curricular Competencies from Applied Design, Skills, and Technologies K–3 in combination with grade-level content from other areas of learning in cross-curricular activities to develop foundational mindsets and skills in design thinking and making.***

**Data**

- Use symbols to represent data and data sets (ex. cards, dice, thumbs up, colors, arrows)
- Types of data (strings, integers, sets)

**Patterns**

- Identify and describe elements in a pattern (ex. A daily routine)
- Define a sequence with restraints (ex. Blue bot actions to navigate a maze).
- Predict the outcome of an action sequence (ex. Blue bot actions).

**Algorithms**

- Decompose a task into smaller elements.
- Variables, conditions (if/then/else), loops, functions.
- Identify and describe an error/bug in “logic” (ex. Blue bot navigation) and fix it.

**Digital Citizenship**

- Explore proper uses of technology in today’s world.