# DESIGN TECHNOLOGY SCOPE AND SEQUENCE
# AY 26-27

| CLUSTER | GRADE 1 | GRADE 2 | GRADE 3 | GRADE 4 |
|---|---|---|---|---|
| **EMPOWERED LEARNER** | | | | |
| EMPOWERED LEARNER | **EXPLORE TECHNOLOGY**<br>**EL1.1.4**<br>*Explore a variety of technologies that support learning and begin to transfer knowledge between tools.*<br>***Supporting learning***<br>*Students use age-appropriate coding tools and apply what they learn across digital tasks.* | **LEARNING GOALS**<br>**EL1.5.1**<br>*Develop learning goals with an educator, select technology tools to achieve them, and reflect on and revise the learning process.*<br>***Supporting learning***<br>*Students set project goals, choose suitable tools, and revise their work through the design process.*<br>**FEEDBACK AND SHARING**<br>**EL1.5.3**<br>*Seek feedback from people and features embedded in digital tools, and use age-appropriate technology to share learning.*<br>***Supporting learning***<br>*Students use feedback to improve and share their interactive biography.* | **FEEDBACK AND SHARING**<br>**EL1.5.3**<br>*Seek feedback from people and features embedded in digital tools, and use age-appropriate technology to share learning.*<br>***Supporting learning***<br>*Students use feedback and digital tools to improve and present their system.*<br>**TRANSFER LEARNING**<br>**EL1.5.4**<br>*Explore age-appropriate technologies and begin to transfer learning to different tools or learning environments.*<br>***Supporting learning***<br>*Students apply technology skills to design and explain an AI-supported system.*<br>*Students transfer design skills to build, test, and improve a moving product.* | **FEEDBACK AND SHARING**<br>**EL1.5.3**<br>*Seek feedback from people and features embedded in digital tools, and use age-appropriate technology to share learning.*<br>***Supporting learning***<br>*Students use feedback to revise and share documents and presentations.* |
| **GLOBAL COMMUNICATOR AND COLLABORATOR** | | | | |
| GLOBAL COMMUNICATOR AND COLLABORATOR | | **CREATION AND COMMUNICATION TOOLS**<br>**GC1.5.1**<br>*Recognize and use the features and functions of a variety of creation or* | **CREATION AND COMMUNICATION TOOLS**<br>**GC1.5.1**<br>*Recognize and use the features and functions of a variety of creation or* | **AUDIENCE AND PURPOSE**<br>**GC1.5.4**<br>*Learn about audience and consider the expected audience when creating digital artifacts and presentations.* |

| CLUSTER | GRADE 1 | GRADE 2 | GRADE 3 | GRADE 4 |
|---|---|---|---|---|
| | | *communication tools.*<br>***Supporting learning***<br>*Students use ScratchJr features to communicate personal information interactively.*<br>**ORIGINAL WORK AND REMIXING**<br>**GC1.5.2**<br>*Create original works and learn strategies for remixing or repurposing resources into new artifacts.*<br>***Supporting learning***<br>*Students adapt cultural research and visual ideas into an original pottery design.* | *communication tools.*<br>***Supporting learning***<br>*Students choose digital tools to communicate how their system works.*<br>*Students use creation tools to document and present their product.*<br>**ORIGINAL WORK AND REMIXING**<br>**GC1.5.2**<br>*Create original works and learn strategies for remixing or repurposing resources into new artifacts.*<br>***Supporting learning***<br>*Students create an original system that responds to a community need.*<br>*Students repurpose materials to create an original sustainable product.* | ***Supporting learning***<br>*Students tailor multimedia documents and presentations to a specific audience.*<br>*Students present a technology solution clearly for its intended audience.*<br>**COLLABORATIVE TECHNOLOGIES**<br>**GC2.5.4**<br>*Work with others using collaborative technologies to explore local and global issues.*<br>***Supporting learning***<br>*Students collaborate in shared documents while exploring and communicating ideas.* |
| **KNOWLEDGE CONSTRUCTOR** | | | | |
| **KNOWLEDGE CONSTRUCTOR** | **FIND INFORMATION**<br>**KC1.1.1**<br>*Use teacher-provided digital tools and resources to find information on topics of interest.*<br>***Supporting learning***<br>*Students use teacher-selected resources to investigate how light supports community needs.*<br>*Students use provided digital resources to learn coding concepts and solve simple problems.*<br>**ORGANIZE INFORMATION** | **DIGITAL RESEARCH**<br>**KC1.5.1**<br>*Collaborate with a teacher to use appropriate research techniques to locate useful digital resources.*<br>***Supporting learning***<br>*Students conduct guided research on Silk Road cultures to inform their design.*<br>**REAL WORLD PROBLEMS**<br>**KC1.5.4**<br>*Explore real-world problems and issues and collaborate with others to find answers or solutions.* | **DIGITAL RESEARCH**<br>**KC1.5.1**<br>*Collaborate with a teacher to use appropriate research techniques to locate useful digital resources.*<br>***Supporting learning***<br>*Students research community needs and technologies that could address them.*<br>*Students research sustainability and motion to guide their product design.*<br>**REAL WORLD PROBLEMS**<br>**KC1.5.4**<br>*Explore real-world problems and issues* | **DIGITAL RESEARCH**<br>**KC1.5.1**<br>*Collaborate with a teacher to use appropriate research techniques to locate useful digital resources.*<br>***Supporting learning***<br>*Students research technologies that solve real-world community problems.*<br>**REAL WORLD PROBLEMS**<br>**KC1.5.4**<br>*Explore real-world problems and issues and collaborate with others to find answers or solutions.* |

| CLUSTER | GRADE 1 | GRADE 2 | GRADE 3 | GRADE 4 |
|---|---|---|---|---|
| | **KC1.1.3**<br>*Explore teacher-selected tools to organize information and make connections to learning.*<br>***Supporting learning***<br>*Students organize ideas about light and connect their research to an instrument design.* | ***Supporting learning***<br>*Students connect cultural research to a meaningful design solution.* | *and collaborate with others to find answers or solutions.*<br>***Supporting learning***<br>*Students design a system to address a community problem.*<br>*Students create a sustainable response to a community need.* | ***Supporting learning***<br>*Students develop a technology-based solution for a real-world need.* |
| **DIGITAL CITIZEN** | | | | |
| **DIGITAL CITIZEN** | | **DIGITAL IDENTITY**<br>**DC1.5.1**<br>*Understand the role of online identity and the permanence of decisions made when interacting online.*<br>***Supporting learning***<br>*Students consider how personal information contributes to a responsible digital identity.*<br>**SAFE AND ETHICAL USE**<br>**DC1.5.2**<br>*Practice and encourage safe, legal, and ethical behavior when using technology and interacting online.*<br>***Supporting learning***<br>*Students use digital tools and personal information safely and responsibly.* | **SAFE AND ETHICAL USE**<br>**DC1.5.2**<br>*Practice and encourage safe, legal, and ethical behavior when using technology and interacting online.*<br>***Supporting learning***<br>*Students use AI and digital tools safely and ethically.*<br>*Students follow safe and responsible practices while researching and creating.*<br>**PRIVACY AND PERSONAL DATA**<br>**DC1.5.4**<br>*Understand what personal data is, how to keep it private, and how it may be shared online.*<br>***Supporting learning***<br>*Students consider privacy and personal-data protection when using AI systems.* | **INTELLECTUAL PROPERTY**<br>**DC1.5.3**<br>*Demonstrate and encourage respect for intellectual property when using and sharing print and digital media.*<br>***Supporting learning***<br>*Students credit sources and respect intellectual property in research and presentations.* |

# ELEMENTARY

| CLUSTER | GRADE 1 | GRADE 2 | GRADE 3 | GRADE 4 |
|---|---|---|---|---|
| **INNOVATIVE DESIGNER** | | | | |
| INNOVATIVE DESIGNER | **DESIGN TOOLS AND PROCESS**<br>**ID1.1.2**<br>*Use age-appropriate digital and non-digital tools to design and follow a step-by-step design process independently.*<br>***Supporting learning***<br>*Students sketch and build a light instrument by following a simple design process.*<br>**CREATE TEST AND IMPROVE**<br>**ID1.1.3**<br>*Explore a simple design process by creating, testing, and improving an idea or product.*<br>***Supporting learning***<br>*Students create, test, and improve a block-coded game or interactive story.* | **DESIGN PROCESS**<br>**ID1.5.1**<br>*Explore how a design process generates ideas, considers solutions, plans problem-solving, and creates innovative products.*<br>***Supporting learning***<br>*Students apply the design process to create an interactive biography.*<br>*Students use the design cycle to plan and create a culturally informed bowl.*<br>**PLAN AND MANAGE DESIGN**<br>**ID1.5.2**<br>*Use digital and non-digital tools to plan and manage a design process.*<br>***Supporting learning***<br>*Students plan scenes and code before producing their biography.*<br>*Students use sketches and tools to plan and manage construction.* | **DESIGN PROCESS**<br>**ID1.5.1**<br>*Explore how a design process generates ideas, considers solutions, plans problem-solving, and creates innovative products.*<br>***Supporting learning***<br>*Students use the design process to develop a community-helping system.*<br>*Students use the design process to create a sustainable moving product.*<br>**PROTOTYPES AND ITERATION**<br>**ID1.5.3**<br>*Engage in a cyclical design process to develop prototypes and reflect on the role of trial and error.*<br>***Supporting learning***<br>*Students prototype, evaluate, and refine their system.*<br>*Students build, test, and improve a moving prototype.* | **PLAN AND MANAGE DESIGN**<br>**ID1.5.2**<br>*Use digital and non-digital tools to plan and manage a design process.*<br>***Supporting learning***<br>*Students use sketches, models, and digital tools to manage their design process.*<br>**PROTOTYPES AND ITERATION**<br>**ID1.5.3**<br>*Engage in a cyclical design process to develop prototypes and reflect on the role of trial and error.*<br>***Supporting learning***<br>*Students test and refine a prototype for a real-world technology solution.* |