



Park Hill School District

Building Successful Futures • Each Student • Every Day

Second Grade Library Media Curriculum

Course Description: The Park Hill School District is committed to an educational program which supports the development of reading for personal and academic competency and integrating information technologies appropriately and equitably. Our Library Media program is committed to developing competencies in students to inquire, include, collaborate, curate, explore and engage with information. The goal of the program is to provide students with learning experiences that engage students with reading and information so that they development a love of reading and learn to explore the application of information in real life situations.

The 2nd grade library media course is designed to provide students the skills to be a good library community member and digital citizen, extend design and research skills and present information in a way that demonstrates their learning and supports other learners. Students are provided with learning experiences which continue to allow students to practice their research and design skills through the application of reading for enjoyment and information. Experiences include computer coding, academic research, and developing presentation materials to share with others.

Scope and Sequence:

Timeframe	Unit	Topics/Bends
Quarter 1	Library Community	Topic 1: Library Procedures and Resources Topic 2: Digital Citizenship
Quarter 2	Literature Appreciation	Topic 1: Finding the “Just Right Book” Topic 2: Book Genres
Quarter 3	Research (Robotics)	Topic 1: Pose Real Questions Topic 2: Find Resources Topic 3: Interpret Information Topic 4: Report Findings
Quarter 4	Design Thinking (Inventions)	Topic 1: Think Topic 2: Create Topic 3: Share Topic 4: Grow

Unit 1: Library Community

Subject: Library Media

Grade: 2nd Grade

Name of Unit: Library Community

Length of Unit: 1st Quarter

Overview of Unit: Students will become familiar with resources and procedures in the library. Students will engage in safe and responsible behaviors online and in the library.

Priority Standards:

- VI. Engage- Demonstrate safe, legal, and ethical creating and sharing of knowledge products independently while engaging in a community of practice and an interconnected world.
- II. Include- Demonstrate an understanding of and commitment to inclusiveness and respect for diversity in the learning community.

Supporting Standards:

- Engage A.1 Responsibly applying information, technology, and media to learning.
- Engage A.2 Understanding the ethical use of information, technology and media.
- Engage D.3 Inspiring others to engage in safe, responsible, ethical and legal information behaviors.
- Include D.1 Seeking interactions with a range of learners
- Include D.3 Reflecting on their own place within the global learning community
- Engage A.3 Evaluating information for accuracy and validity.
- Engage B.2 Acknowledging authorship and demonstrating respect for the intellectual property of others.
- Engage D.2 Reflecting on the process of ethical generation of knowledge.

Standard (code)	Unwrapped Concepts (Students need to know)	Unwrapped Skills (Students need to be able to do)	Bloom's Taxonomy Levels	Webb's DOK
VI. Engage	Demonstrate safe, legal, and ethical creating and sharing of knowledge products independently while engaging in a community of practice and an interconnected world.	Create and share products online	1- Knowledge	1
II. Include	Demonstrate an understanding of and commitment to inclusiveness and respect for diversity in the learning community.	Demonstrate respect	3- Application	2

Essential Questions:

1. What is a library?
2. How can I use the library?
3. How can we be a safe digital citizen?

Enduring Understandings/Big Ideas:

1. A school library is a place where students can explore, create, and share ideas.
2. It is important that there is a balance in the way that technology is used. Digital citizens must be able to know when to use their devices and when to step away.
3. To be able to use technology we have to be able to use it safely and appropriately.

Unit Vocabulary:

Academic Cross-Curricular Words	Content/Domain Specific
Library Digital Citizen	

Getting Ready for the Unit:

- Make a list of resources that students need to explore
- Familiarize yourself with the Digital Citizenship resources

Unit Resources:

- Neptune Navigate
- <https://www.netsmartzkids.org/>
- [Common Sense Media](#)

Topic 1: Library Procedures and Resources

Engaging Experience 1:

Teaching Point: Today I want to teach you what a library is.

Suggested Length of Time: Ongoing

Standards Addressed

Priority:

- II. Include- Demonstrate an understanding of and commitment to inclusiveness and respect for diversity in the learning community.

Supporting:

- Include A.1 Articulating an awareness of the contributions of a range of learners.

Detailed Description/Instructions:

- Play Back To School Scavenger Hunt of items/locations around the Library. An editable document can be found [here](#).
- Play “Beat the Timer” for cleaning up materials.

Bloom’s Levels: 3

Webb’s DOK: 2

Engaging Experience 2:

Teaching Point: Today I want to teach you how we can use the library.

Suggested Length of Time: Ongoing

Standards Addressed

Priority:

- II. Include- Demonstrate an understanding of and commitment to inclusiveness and respect for diversity in the learning community.

Supporting:

- Include A.1 Articulating an awareness of the contributions of a range of learners.

Detailed Description/Instructions:

One way to do this:

- Create a stop motion video using StopMotion Studio App of alphabetizing authors’ last names.

Bloom’s Levels: 3

Webb’s DOK: 2

Topic 2: Digital Citizenship

Engaging Experience 3:

Teaching Point: Today I want to teach you how we follow expectations to balance using our iPad as a learning device.

Suggested Length of Time: Ongoing

Standards Addressed

Priority:

- VI. Engage- Demonstrate safe, legal, and ethical creating and sharing of knowledge products independently while engaging in a community of practice and an interconnected world.

Supporting:

- Engage A.1 Responsibly applying information, technology, and media to learning
- Engage A.2 Understanding the ethical use of information, technology and media
- Engage D.3 Inspiring others to engage in safe, responsible, ethical and legal information behaviors

Detailed Description/Instructions:

- One way to do this is to use lessons from Neptune Navigate
- Another way to do this is to Netsmartz, Common Sense Media, and BrainPop

Bloom's Levels: 1

Webb's DOK: 1

Engaging Experience 4:

Teaching Point: Today I want to teach you how we will practice being safe online.

Suggested Length of Time: 1 session (ongoing)

Standards Addressed

Priority:

- VI. Engage- Demonstrate safe, legal, and ethical creating and sharing of knowledge products independently while engaging in a community of practice and an interconnected world.

Supporting:

- Engage A.1 Responsibly applying information, technology, and media to learning
- Engage A.2 Understanding the ethical use of information, technology and media
- Engage D.3 Inspiring others to engage in safe, responsible, ethical and legal information behaviors

Detailed Description/Instructions:

- One way to do this is to use lessons from Neptune Navigate
- Another way to do this is to use lessons from Netsmartz, Common Sense Media, and BrainPop

Bloom's Levels: 1

Webb's DOK: 1

Engaging Experience 5:

Teaching Point: Today I want to teach you how to use a keyboarding program to become fluent in keyboarding

Suggested Length of Time: 1 session (ongoing)

Standards Addressed

Priority:

- VI. Engage- Demonstrate safe, legal, and ethical creating and sharing of knowledge products independently while engaging in a community of practice and an interconnected world.

Supporting:

- Engage A.1 Responsibly applying information, technology, and media to learning
- Engage A.2 Understanding the ethical use of information, technology and media
- Engage D.3 Inspiring others to engage in safe, responsible, ethical and legal information behaviors

Detailed Description/Instructions:

- One way to do this using Typesy
- Share information with classroom teachers and parents so that students may practice at home or in their homeroom

Bloom's Levels: 1

Webb's DOK: 1

Engaging Scenario

Throughout the year students will continue building their Library Community and Digital Citizenship skills through everyday lessons and activities.

Summary of Engaging Learning Experiences for Topics

Topic	Engaging Experience Title	Description	Suggested Length of Time
Library Procedures and Resources	Today I want to teach you what a library is.	Play Back To School Scavenger Hunt of items/locations around the Library. An editable document can be found here. Play “Beat the Timer” for cleaning up materials.	Ongoing
Library Procedures and Resources	Today I want to teach you how we can use the library.	Create a stop motion video using StopMotion Studio App of alphabetizing authors’ last names.	Ongoing
Digital Citizenship	Today I want to teach you how we follow expectations to balance using our iPad as a learning device.	One way to do this is to use lessons from Neptune Navigate Another way to do this is to Netsmartz, Common Sense Media, and BrainPop	Ongoing
Digital Citizenship	Today I want to teach you how we will practice being safe online.	One way to do this is to use lessons from Neptune Navigate Another way to do this is to Netsmartz, Common Sense Media, and BrainPop	Ongoing
Digital Citizenship	Today I want to teach you how to use a keyboarding program to become fluent in keyboarding	One way to do this using Typesy Share information with classroom teachers and parents so that students may practice at home or in their homeroom	Ongoing

Unit 2: Literature Appreciation

Subject: Library

Grade: 2nd Grade

Name of Unit: Literature Appreciation

Length of Unit: Quarter Two

Overview of Unit: Students will learn how to locate books in the library and determine if they are a just right book. Students will

Priority Standards:

- II. Include- Demonstrate an understanding of and commitment to inclusiveness and respect for diversity in the learning community.

Supporting Standards:

- Include B.3 Representing diverse perspectives during learning activities
- Include B.1. Interacting with learners who reflect a range of perspectives.
- Include B.2 Evaluating a variety of perspectives during learning activities.

Standard (code)	Unwrapped Concepts (Students need to know)	Unwrapped Skills (Students need to be able to do)	Bloom's Taxonomy Levels	Webb's DOK
II. Include	Demonstrate an understanding of and commitment to inclusiveness and respect for diversity in the learning community.	Demonstrate respect for others	3- Application	2

Essential Questions:

1. How do I locate books that interest me within the library?
2. How do I determine if a book is Just Right?
3. What are the different genres featured within our school library?

Enduring Understandings/Big Ideas:

1. Destiny Discover is a tool we can use to help us find books in our school library.
2. Readers evaluate books to determine if they are just right books.
3. Understanding and knowing about book genres help us make decisions about what we want to read.

Unit Vocabulary:

Academic Cross-Curricular Words	Content/Domain Specific
Just Right Book Destiny Call Numbers Genre	

Getting Ready for the Unit:

- Familiarize yourself with the genres listed in the current second grade ELA curriculum guide.

Unit Resources:

- Destiny Discover
- <https://shelver.mrs-lodges-library.com/>
- [MASL Reader Showme Lessons](#)
- [MASL Show Me Award Nominee Books](#)

Topic 1: Finding the “Just Right Book.”

Engaging Experience 1:

Teaching Point: Today I want to teach you how to find just right books within the library by first learning about call numbers.

Suggested Length of Time: 1- 2 lessons, review as needed

Standards Addressed

Priority:

- II. Include- Demonstrate an understanding of and commitment to inclusiveness and respect for diversity in the learning community.

Supporting:

- Include B.3 Representing diverse perspectives during learning activities
- Include B.1. Interacting with learners who reflect a range of perspectives.
- Include B.2 Evaluating a variety of perspectives during learning activities.

Detailed Description/Instructions:

- One way to do this is to write call numbers on cards or plates and have students place the call number in alphabetical order.
- Another way to do this is to play an online call number game such as <https://shelver.mrs-lodges-library.com/>.
- Another way to do this is to provide students with a call number of a book located in the library. Have students locate the book and bring it to you.

Bloom’s Level: 2

Webb’s DOK: 2

Engaging Experience 2:

Teaching Point: Today I want to teach you how to find just right books within the library.

Suggested Length of Time: 1- 2 lessons, review as needed

Standards Addressed

Priority:

- II. Include- Demonstrate an understanding of and commitment to inclusiveness and respect for diversity in the learning community.

Supporting:

- Include B.3 Representing diverse perspectives during learning activities
- Include B.1. Interacting with learners who reflect a range of perspectives.
- Include B.2 Evaluating a variety of perspectives during learning activities.

Detailed Description/Instructions:

- One way to do this is to teach students how to use Destiny to locate books in the library that interest them. Model for students how to search for specific titles or keywords and locate the book within the library.
- Another way to do this is to have students create book buddies. Using Destiny, students will locate fiction and nonfiction books using a similar topic or keyword.

For example, if the keyword was dog, the student would locate a nonfiction book about dogs and a fiction book with a dog as character. Those books could then be placed on display for other students to check out.

Bloom's Levels: 2

Webb's DOK: 3

Engaging Experience 3:

Teaching Point: Today I want to teach you how to determine if a book is just right for you.

Suggested Length of Time: 1 session

Standards Addressed

Priority:

- II. Include- Demonstrate an understanding of and commitment to inclusiveness and respect for diversity in the learning community.

Supporting:

- Include B.3 Representing diverse perspectives during learning activities
- Include B.2 Evaluating a variety of perspectives during learning activities.

Detailed Description/Instructions:

- One way to do this is to model using the [five finger strategy](#) to choose just the right books. Choose a book. Hold up five fingers and put down one finger for each word you do not know on the page.
- Another way to do this is to use the [shoe analogy](#) to explain how to find a good fit book. Using different sizes or styles of shoes, explain that finding the right book is a lot like finding the right shoe. You have to think about what is best for you.

Bloom's Levels: 2

Webb's DOK: 3

Topic 2: Genres

Engaging Experience 4:

Teaching Point: Today I want to teach you that books belong to different genres.

Suggested Length of Time: 1-2 lessons

Standards Addressed

Priority:

- II. Include- Demonstrate an understanding of and commitment to inclusiveness and respect for diversity in the learning community.

Supporting:

- Include C.2. Contributing to discussions in which multiple viewpoints on a topic are expressed.
- Include D.2. Demonstrating interest in other perspectives during learning activities

Detailed Description/Instructions:

- One way to do this is to host a [book tasting](#) event. Gather various books based on specific genres. Students spend time exploring the covers, illustrations, and skim/read part of each book.
- Another way to teach genres is to have students sort books by their genre.

Bloom's Levels: 2**Webb's DOK:** 3

Engaging Scenario

Students will use Destiny as a tool to help them locate just right books within the library as they check out books throughout the year.

Summary of Engaging Learning Experiences for Topics

Topic	Engaging Experience Title	Description	Suggested Length of Time
Finding the “Just Right Book”	Today I want to teach you how to find just right books within the library by first learning about call numbers.	One way to do this is to write call numbers on cards or plates and have students place the call number in alphabetical order. Another way to do this is to play an online call number game such as https://shelver.mrs-lodges-library.com/. Another way to do this is to provide students with a call number of a book located in the library. Have students locate the book and bring it to you.	1-2 sessions
Finding the “Just Right Book”	Today I want to teach you how to find just right books within the library.	One way to do this is to teach students how to use Destiny to locate books in the library that interest them. Model for students how to search for specific titles or keywords and locate the book within the library. Another way to do this is to have students create book buddies. Using Destiny, students will locate fiction and nonfiction books using a similar topic or keyword. For example, if the keyword was dog, the student would locate a nonfiction book about dogs and a fiction book with a dog as character. Those books could then be placed on display for other students to check out.	1-2 sessions
Finding the “Just Right Book”	Today I want to teach you how to determine if a book is just right for you.	One way to do this is to model using the five finger strategy to choose just the right books. Choose a book. Hold up five fingers and put down one finger for each word you do not know on the page. Another way to do this is to use the shoe analogy to explain how to find a good fit book. Using	1 session

		different sizes or styles of shoes, explain that finding the right book is a lot like finding the right shoe. You have to think about what is best for you.	
Genres	Today I want to teach you that books belong to different genres.	One way to do this is to host a book tasting event. Gather various books based on specific genres. Students spend time exploring the covers, illustrations, and skim/read part of each book. Another way to teach genres is to have students sort books by their genre.	1-2 sessions

Unit 3: Research

Subject: Library

Grade: 2nd Grade

Name of Unit: Research

Length of Unit: Quarter Three

Overview of Unit: Students will engage in research that helps them to ask questions, learn about a topic and share their understanding.

Priority Standards:

- I. Inquire- Build new knowledge by inquiring, thinking critically, identifying problems, and developing strategies for solving problems.
- IV. Curate- Make meaning for oneself and others by collecting, organizing, and sharing resources of personal relevance.

Supporting Standards:

- Inquire A.1. Formulating questions about a personal or a curricular topic
- Inquire A.2. Recalling prior and background knowledge as context for new meaning
- Inquire B.3. Generating products that illustrate learning
- Inquire B.1 Using evidence to investigate questions
- Curate B.4. Organizing information by priority, topic, or other systematic scheme
- Curate A.1 Determine the need to gather information
- Curate B.1 Seeking a variety of sources

Standard (code)	Unwrapped Concepts (Students need to know)	Unwrapped Skills (Students need to be able to do)	Bloom's Taxonomy Levels	Webb's DOK
I. Inquire	Build new knowledge by inquiring, thinking critically, identifying problems, and developing strategies for solving problems.	Think critically	3- Application	2
IV. Curate	Make meaning for oneself and others by collecting, organizing, and sharing resources of personal relevance.	Collecting, organizing, and sharing	3- Application	2

Essential Questions:

1. How can we learn by asking questions?
2. How can I use resources to learn about a topic?
3. How can information be shared with others?

Enduring Understandings/Big Ideas:

1. Asking questions helps us to understand information.
2. Learning from experts and resources help us to better understand the world around us.
3. Communicating information allows others to learn with us.

Topic Vocabulary:

Academic Cross-Curricular Words	Content/Domain Specific
Research Question Resource Comment	Sensor Robot

Getting Ready for the Unit:

- Choose a **topic** to guide this unit. This can be based on a text or on a concept. 2nd grade curriculum provides several possibilities.
- This would be a great time to introduce robotics. You could begin with researching robots and how they work.
- Gather grade appropriate resources (PebbleGo, Epic, print books).
- Begin thinking about your outcome (stop motion video, Chatterpix, cardboard displays, Canva app etc.)

Unit Resources:

- PebbleGo
- Epic
- Chatterpix
- Canva (app)
- Stop Motion
- Padlet
- Seesaw
- Osobots
- Dash Robots

Topic Vocabulary:

Topic 1: Pose Real Questions

Engaging Experience 1:

Teaching Point: Today I want to teach you that asking questions helps us to better understand information.

Suggested Length of Time: 1-2 sessions

Standards Addressed

Priority:

- I. Inquire- Build new knowledge by inquiring, thinking critically, identifying problems, and developing strategies for solving problems.

Supporting:

- Inquire A.1. Formulating questions about a personal or a curricular topic

Detailed Description/Instructions:

- **One way to do this** is to play a game with the students where they get to ask you questions about yourself. You could have them write the questions on paper or just have a discussion. Discuss with the class the difference between a question and a comment. You could also start the discussion by reading a picture book that allows students to hear many questions (i.e. [*Avocado Asks, If...*](#))
- **Another way to do this** is once you choose a topic, gather images of items from the topic. Use the images to guide the students to make questions. Add the questions to an anchor chart or a padlet. You could also create a KWL chart.
 - Topic ideas:
 - Continents and Oceans
 - Robots- You may want to use this topic to prepare kids for using robots

Bloom's Levels: 3

Webb's DOK: 2

Topic 2: Find Resources

Engaging Experience 2:

Teaching Point: Today I want to teach you that when we are curious we can learn more about a topic from resources. These resources can be books, magazines, websites, videos and even people.

Suggested Length of Time: 1-2 sessions

Standards Addressed

Priority:

- IV. Curate- Make meaning for oneself and others by collecting, organizing, and sharing resources of personal relevance

Supporting:

- Curate A.1 Determine the need to gather information
- Curate B.1 Seeking a variety of sources

Detailed Description/Instructions:

- **One way to do this** is to gather resources before the lesson. Some ideas for resources are: Pebble Go, Epic Books, library books, [MCPL resources](#) (TrueFlix, Culture Grams, etc.). Have the students explore these resources. For a note taking strategy, they could use two- column notes. You could provide the topics for one column for the students. They can respond with pictures or words.
- **Another way to do this** is to gather your robots in the library (i.e. Osobots and Dash). Explore the different parts of the robots (sensor, frame, body, motor, battery).

Bloom's Levels: 3

Webb's DOK: 2

Topic 3: Interpret Information

Engaging Experience 3:

Teaching Point: Today I want to teach you that learning new things, also means thinking about what we know now, what doesn't make sense, and what questions we still have.

Suggested Length of Time: 1-2 sessions

Standards Addressed

Priority:

- Inquire- Build new knowledge by inquiring, thinking critically, identifying problems, and developing strategies for solving problems.

Supporting:

- Inquire A.2. Recalling prior and background knowledge as context for new meaning

Detailed Description/Instructions:

- **One way to do this** is to revisit the padlet or anchor chart of questions that you created from EE 1. Review the questions we had and see if we now have answers.
- **Another way to do this** is to talk to the students about asking deeper questions. For example, how and why questions. You could add to the padlet and anchor chart or create new.
- **Another way to do this** is to interpret what they have learned about robots and try coding and using the robots

Bloom's Levels: 3

Webb's DOK: 2

Topic 4: Report Findings

Engaging Experience 4:

Teaching Point: Today I want to teach you that when you have learned new information it is nice to share that information with others.

Suggested Length of Time: 1-2 sessions

Standards Addressed

Priority:

- Inquire- Build new knowledge by inquiring, thinking critically, identifying problems, and developing strategies for solving problems.

Supporting:

- Inquire B.3. Generating products that illustrate learning

Detailed Description/Instructions:

- **One way to do this** is to complete one of the engaging scenario options below that will allow students to share their information with others. Be sure to share these products with the class, or via Seesaw.
- **Another way to do this** is to create a drawing on Seesaw demonstrating what they learned from their research. Then, using the microphone tool to record their voice over the drawing.

Bloom's Levels: 3

Webb's DOK: 2

Engaging Scenario

After researching, students will create a product to represent their new understandings. Some examples are:

- Continents and Oceans: driving Ozobots around the world
- Robots: create a video about Robots and demonstrate how to use a robot in the video

Summary of Engaging Learning Experiences for Topics

Topic	Engaging Experience Title	Description	Suggested Length of Time
Pose Real Questions	Today I want to teach you that asking questions helps us to better understand information.	One way to do this is to play a game with the students where they get to ask you questions about yourself. You could have them write the questions on paper or just have a discussion. Discuss with the class the difference between a question and a comment. You could also start the discussion by reading a picture book that allows students to hear many questions (i.e. Avocado Asks, If...) Another way to do this is once you choose a topic, gather images of items from the topic. Use the images to guide the students to make questions. Add the questions to an anchor chart or a padlet. You could also create a KWL chart. Topic ideas: ■ Continents and Oceans ■ Robots- You may want to use this topic to prepare kids for using robots	1-2 sessions
Find Resources	Today I want to teach you that when we are curious we can learn more about a topic from resources. These resources can be books, magazines, websites, videos and even people.	One way to do this is to gather resources before the lesson. Some ideas for resources are: Pebble Go, Epic Books, library books, MCPL resources (TrueFlix, Culture Grams, etc.). Have the students explore these resources. For a note taking strategy, they could use two- column notes. You could provide the topics for one column for the students. They can respond with pictures or words. Another way to do this is to gather your robots in the library (i.e. Osobots and Dash).	1-2 sessions

		Explore the different parts of the robots (sensor, frame, body, motor, battery).	
Interpret Information	Today I want to teach you that learning new things, also means thinking about what we know now, what doesn't make sense, and what questions we still have.	One way to do this is to revisit the padlet or anchor chart of questions that you created from EE 1. Review the questions we had and see if we now have answers. Another way to do this is to talk to the students about asking deeper questions. For example, how and why questions. You could add to the padlet and anchor chart or create new. Another way to do this is to interpret what they have learned about robots and try coding and using the robots	1-2 sessions
Report Findings	Today I want to teach you that when you have learned new information it is nice to share that information with others.	One way to do this is to complete one of the engaging scenario options below that will allow students to share their information with others. Be sure to share these products with the class, or via Seesaw. Another way to do this is to create a drawing on Seesaw demonstrating what they learned from their research. Then, using the microphone tool to record their voice over the drawing.	1-2 sessions

Unit 4: Design Thinking

Subject: Library Media

Grade: 2nd grade

Name of Unit: Design Thinking

Length of Unit: Quarter Four

Overview of Unit: Students will explore the Design Thinking process

Priority Standards:

- V.Explore- Discover and innovate in a growth mindset and develop through experience and reflection.
- III.Collaborate- Work effectively with others to broaden perspectives and work towards common goals

Supporting Standards:

- Explore B.1. Problem solving through cycles of design, implementation, and reflection
- Explore C.3. Collaboratively identifying innovative solutions to a challenge or problem
- Collaborate B.2. Establishing connections with other learners to build on their own prior knowledge and create new knowledge
- Explore C.2 Co-constructing innovative means of investigation
- Explore D.1 Learners continually respond to challenges
- Collaborate A.3. Deciding to solve problems informed by group interaction.

Standard (code)	Unwrapped Concepts (Students need to know)	Unwrapped Skills (Students need to be able to do)	Bloom's Taxonomy Levels	Webb's DOK
V. Explore	Discover and innovate in a growth mindset and develop through experience and reflection	Discover and innovate	6- Evaluation	DOK3
III. Collaborate	Work effectively with others to broaden perspectives and work towards common goals.	Work effectively with others	1- Knowledge	DOK2

Essential Questions:

1. What is a model?
2. How can designing models help us to understand ideas?
3. How can you design a model to test or get feedback on your solution?

Enduring Understandings/Big Ideas:

1. 3D modeling is the representation of any object.
2. Designing 3D models helps us to visualize ideas.
3. Models allow us to test ideas and collect feedback to improve our ideas.

Unit Vocabulary:

Academic Cross-Curricular Words	Content/Domain Specific
Collaborate Feedback Solution	Prototype Model 3D Design

Getting Ready for the Unit:

- Choose a **problem** to have students solve during this unit. This can be based on a text or on a concept. First Grade curriculum provides several possibilities
 - ex.
 - Science: Properties and States of Matter, Properties of Materials, Changes from Heat, Mapping Our World
 - Social Studies: A Regional Study of Native American Tribes of Missouri, Economic Concepts of Our Community

Background Knowledge:

- [01 Libraries-Toolkit_2015_webversion.pdf](#)
- <http://www.pz.harvard.edu/projects/agency-by-design>
- [IDEO_DTEdu_v2_toolkit+workbook.pdf](#)
- [dschool_bootleg_deck_2018_final_sm+\(2\).pdf](#)

Unit Resources:

- Ozobots
- BeeBots
- Dash Robots
- Green Screen by DoInk App & Green Screens

Topic 1: Think

Engaging Experience 1:

Teaching Point: Today I want to teach you that engineers use the design thinking process to find solutions to problems. Sometimes this means building prototypes to test our solutions.

Suggested Length of Time: 1-3 Sessions

Standards Addressed

Priority:

- V.Explore- Discover and innovate in a growth mindset and develop through experience and reflection.

Supporting:

- Explore B.1. Problem solving through cycles of design, implementation, and reflection
- Explore C.3. Collaboratively identifying innovative solutions to a challenge or problem
- Collaborate B.2. Establishing connections with other learners to build on their own prior knowledge and create new knowledge
- Explore D.1 Learners continually respond to challenges
- Collaborate A.3. Deciding to solve problems informed by group interaction.

Detailed Description/Instructions:

- **One way to do this** is to have students read a story. Have students tap into their prior knowledge and identify the problem in the story that is being read. Have students brainstorm possible solutions. Provide students with time to use a variety of MakerSpace resources to build a quick prototype of their solution. Have discussions about the importance of building prototypes quickly, so that students are able to show their ideas and make revisions. Encourage students to make changes and try again.
 - Possible Ideas: Tooth Fairy Traps, Bridges for Billy Goats Gruff, An Idea for an Invention
- **Another way to do this** is to have students read a book. Have students brainstorm their own twist on this story. Have students create a storyboard.

Bloom's Levels: Synthesis

Webb's DOK: 4

Topic 2: Create

Engaging Experience:

Teaching Point: Today I want to teach you that by using our prototypes we can make sure that our ideas are clear.

Suggested Length of Time: 1-3 Sessions

Standards Addressed

Priority:

- V.Explore- Discover and innovate in a growth mindset and develop through experience and reflection.

Supporting:

- Explore B.1. Problem solving through cycles of design, implementation, and reflection
- Explore C.3. Collaboratively identifying innovative solutions to a challenge or problem
- Collaborate B.2. Establishing connections with other learners to build on their own prior knowledge and create new knowledge
- Explore D.1 Learners continually respond to challenges
- Collaborate A.3. Deciding to solve problems informed by group interaction.

Detailed Description/Instructions:

- **One way to do this is** use a book like to identify problems in the story and create a solution.
- **Another way to do this is to teach** students about using stop motion & the stop motion app on iPads. Teach students about how stop motion works. Have students create their stories using Stop Motion.

Bloom's Levels: Synthesis

Webb's DOK: 4

Topic 3: Share

Engaging Experience:

Teaching Point: Today I want to teach you that we can improve our ideas when we gather feedback.

Suggested Length of Time: 1-3 sessions

Standards Addressed

Priority:

- V.Explore- Discover and innovate in a growth mindset and develop through experience and reflection.

Supporting:

- Explore B.1. Problem solving through cycles of design, implementation, and reflection
- Explore C.3. Collaboratively identifying innovative solutions to a challenge or problem
- Collaborate B.2. Establishing connections with other learners to build on their own prior knowledge and create new knowledge
- Explore D.1 Learners continually respond to challenges
- Collaborate A.3. Deciding to solve problems informed by group interaction.

Detailed Description/Instructions:

- **One way to do this** is to read a picture book and to have students create a prototype that will solve the problem in the story. Have students share their solutions with peers, looking for ways that they can use the feedback they give each other to make their ideas even better.
 - Give students Talking Stems like:
 - I like how you...
 - One thing that I'm still confused by is...
 - I wonder if you could add...
- **Another way to do this is to** have students share their stop motion videos with a classmate. Have students collect feedback and possible ideas for extension.
 - Give students these sentence starters to use:
 - Which parts of each did we like?
 - Where can we make final improvements or updates?

Bloom's Levels: Synthesis

Webb's DOK: 4

Topic 4: Grow

Engaging Experience:

Teaching Point: Today I want to teach you that once makers have gathered feedback, they can use this feedback to improve their designs.

Suggested Length of Time: 1-3 sessions

Standards Addressed

Priority:

- V.Explore- Discover and innovate in a growth mindset and develop through experience and reflection.

Supporting:

- Explore B.1. Problem solving through cycles of design, implementation, and reflection
- Explore C.3. Collaboratively identifying innovative solutions to a challenge or problem
- Collaborate B.2. Establishing connections with other learners to build on their own prior knowledge and create new knowledge
- Explore D.1 Learners continually respond to challenges
- Collaborate A.3. Deciding to solve problems informed by group interaction.

Detailed Description/Instructions:

- **One way to do this is** to provide students time to rework their prototypes. This time will allow students to add revisions, as well as make a second or third version of their original design.
- **Another way to do this is to teach** students to make revisions to their original idea. Encourage students to add to their stop motion creations. Have students share changes they would make to their stop motion.

Bloom's Levels: Synthesis

Webb's DOK: 4

Engaging Scenario

- Novel Engineering with Inventors
- Rube Goldberg/Simple Machines
- Hour of Code
- Stop Motion: Snack Attack, What Do Dinosaurs Do At Night?

Summary of Engaging Learning Experiences for Topics

Topic	Engaging Experience Title	Description	Suggested Length of Time
Think	Today I want to teach you that engineers use the design thinking process to find solutions to problems. Sometimes this means building prototypes to test our solutions.	One way to do this is to have students read a story. Have students tap into their prior knowledge and identify the problem in the story that is being read. Have students brainstorm possible solutions. Provide students with time to use a variety of MakerSpace resources to build a quick prototype of their solution. Have discussions about the importance of building prototypes quickly, so that students are able to show their ideas and make revisions. Encourage students to make changes and try again. Possible Ideas: Tooth Fairy Traps, Bridges for Billy Goats Gruff, An Idea for an Invention Another way to do this is to have students read a book. Have students brainstorm their own twist on this story. Have students create a storyboard.	1-3 sessions
Create	Today I want to teach you that by using our prototypes we can make sure that our ideas are clear.	One way to do this is use a book like to identify problems in the story and create a solution. Another way to do this is to teach students about using stop motion & the stop motion app on iPads. Teach students about how stop motion works. Have students create their stories using Stop Motion.	1-3 sessions
Share	Today I want to teach you that we can improve our ideas when we	One way to do this is to read a picture book and to have students create a prototype that will solve the problem in the story. Have students share their solutions with peers,	1-3 sessions

	gather feedback.	looking for ways that they can use the feedback they give each other to make their ideas even better. Give students Talking Stems like: ■ I like how you... ■ One thing that I'm still confused by is... ■ I wonder if you could add... Another way to do this is to have students share their stop motion videos with a classmate. Have students collect feedback and possible ideas for extension. Give students these sentence starters to use: ■ Which parts of each did we like? ■ Where can we make final improvements or updates?	
Grow	Today I want to teach you that once makers have gathered feedback, they can use this feedback to improve their designs.	One way to do this is to provide students time to rework their prototypes. This time will allow students to add revisions, as well as make a second or third version of their original design. Another way to do this is to teach students to make revisions to their original idea. Encourage students to add to their stop motion creations. Have students share changes they would make to their stop motion.	1-3 sessions

Unit of Study Terminology

Appendices: All Appendices and supporting material can be found in this course's shell course in the District's Learning Management System.

Assessment Leveling Guide: A tool to use when writing assessments in order to maintain the appropriate level of rigor that matches the standard.

Big Ideas/Enduring Understandings: Foundational understandings teachers want students to be able to discover and state in their own words by the end of the unit of study. These are answers to the essential questions.

Engaging Experience: Each topic is broken into a list of engaging experiences for students. These experiences are aligned to priority and supporting standards, thus stating what students should be able to do. An example of an engaging experience is provided in the description, but a teacher has the autonomy to substitute one of their own that aligns to the level of rigor stated in the standards.

Engaging Scenario: This is a culminating activity in which students are given a role, situation, challenge, audience, and a product or performance is specified. Each unit contains an example of an engaging scenario, but a teacher has the ability to substitute with the same intent in mind.

Essential Questions: Engaging, open-ended questions that teachers can use to engage students in the learning.

Priority Standards: What every student should know and be able to do. These were chosen because of their necessity for success in the next course, the state assessment, and life.

Supporting Standards: Additional standards that support the learning within the unit.

Topic: These are the main teaching points for the unit. Units can have anywhere from one topic to many, depending on the depth of the unit.

Unit of Study: Series of learning experiences/related assessments based on designated priority standards and related supporting standards.

Unit Vocabulary: Words students will encounter within the unit that are essential to understanding. Academic Cross-Curricular words (also called Tier 2 words) are those that can be found in multiple content areas, not just this one. Content/Domain Specific vocabulary words are those found specifically within the content.

Symbols:



This symbol depicts an experience that can be used to assess a student's 21st Century Skills using the rubric provided by the district.



This symbol depicts an experience that integrates professional skills, the development of professional communication, and/or the use of professional mentorships in authentic classroom learning activities.