

NGSS Unit Planning with UbD

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School Site: _____

Unit: Numbers at Work- 1st Grade: Module 1- Illustration

• **NGSS Covered:**

ENGINEERING DESIGN

Engineering Design - Students who demonstrate understanding can:

(K-2-ETS1-1.) Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.

(K-2-ETS1-2.) Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.

Science and Engineering Practices

(K-2-ETS1.SEP.1.) Asking Questions and Defining Problems - Asking questions and defining problems in K - 2 builds on prior experiences and progresses to simple descriptive questions.

(K-2-ETS1.SEP.1.2.) Define a simple problem that can be solved through the development of a new or improved object or tool. (K-2-ETS1-1)

Developing and Using Models - Modeling in K - 2 builds on prior experiences and progresses to include using and developing models (i.e., diagram, drawing, physical replica, diorama, dramatization, or storyboard) that represent concrete events or design solutions.

(K-2-ETS1.SEP.2.1.) Develop a simple model based on evidence to represent a proposed object or tool. (K-2-ETS1-2)

CCSS ELA Covered:

Reading Standards for Informational Text

• Key Ideas and Details

(RI.1.1.) Ask and answer questions about key details in a text.

(RI.1.2.) Identify the main topic and retell key details of a text.

(RI.1.3.) Describe the connection between two individuals, events, ideas, or pieces of information in a text.

◦ Craft and Structure

- (RI.1.6.) Distinguish between information provided by pictures or other illustrations and information provided by the words in a text.

◦ Integration of Knowledge and Ideas

- (RI.1.7.) Use the illustrations and details in a text to describe its key ideas.
- (RI.1.8.) Identify the reasons an author gives to support points in a text.

Writing Standards

- Research to Build and Present Knowledge

(W.1.8.) With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question.

CCSS Mathematics Covered:

Measurement and Data

- Measure lengths indirectly and by iterating length units.

(1.MD.1.) Order three objects by length; compare the lengths of two objects indirectly by using a third object.

(1.MD.2.) Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps. Limit to contexts where the object being measured is spanned by a whole number of length units with no gaps or overlaps.

Note: This Module is on illustration. It should take about 3 to 4 days.

Understanding by Design NGSS Unit Plan

Stage 1: Desired Results

Understand <ul style="list-style-type: none"> What is a greenhouse What is environment Why are greenhouses important <p>Vocabulary; Environment, greenhouse, label</p>	Essential Question(s) <ul style="list-style-type: none"> How can a greenhouse help our environment?
Stage 2: Evidence/Assess	
Know: Students will gain an understanding of the importance of greenhouses for our environment and that creating greenhouses also creates a unique environment.	Do: Students will draw an illustration of a greenhouse. They will label the parts and give it a title.
Stage 3: Learning Plan	
How Engage: Watch the video about the illustration from Defined STEM and also read about greenhouses. Show pictures of greenhouses. Students will write the essential question in their notebooks and discuss in their teams the essential question. Explore: Students will go on Discovery Ed and relook at the videos about Greenhouses. They will start a board titled Greenhouse. Explain: Students will then draw their illustration of a greenhouse. They will do this individually but work in their teams for guidance. They will label the parts of the greenhouse and title their illustration. Elaborate: Students will swap their illustration with another member of their team. The other member will give feedback by using stickies and discussing with their partner ways to improve their illustration. Evaluate: Students will then revise their illustrations. Illustrations will be put out on tables and whole class will do a walking tour of illustrations and then share out thoughts about the different illustrations.	

Stage 4: Transfer
Knowledge Transfer: Students can apply the knowledge of environment and recognize different ways to help keep our environment clean and how important that is to our daily lives.