City of Durham Tiny Homes

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Grades: 3-5

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Introduction

RATIONALE

The lessons within this unit assists students in identifying that there is a housing problem within the city of Durham. The students will take a closer look at ways to solve the problem by devising a plan of action and create affordable housing within Durham for its residents. The goal is for students to seek alternative ways of solving the housing dilemma to eliminate the issues of homelessness, provide affordable living, and ways to reduce the carbon foot prints that will be left behind.

During the lessons, students will work collaboratively with their peers to solve the identified problem of housing in Durham and use measurement in helping to solve the problem, along with their creativity. Housing within Durham is of importance to the students because it is a problem that exists within their community, it impacts them and their families, and the housing issues need to be resolved. Students must be able to work collaboratively with their peers because it is a lifelong skill needed as they continue their educational career and as they enter into the workforce. Measurement is a concept that is used in various life situations, so being able to determine how to use it within a real world situation is extremely beneficial. Creativity is a skill where they can truly show self-expression within the solution they create within their tiny home.

The content of the unit is of extreme importance to the students because they reside in the city of Durham. The goal is for the students to acknowledge that there are housing issues in their city, address the issues, and problems that exist in their own community. Most importantly, the students will learn how to problem solve real world situations that are directly connected to them and impacts them now and in the future.

DIFFERENTIATION FOR GIFTED LEARNERS

The unit challenges all learners as well as gifted learners. The unit consists of problem solving, critical thinking, real world connections, and real world application. The unit allows for gifted learners to engage in exploratory learning and application, focuses on solving the housing issues within the city of Durham in which they reside, along with the incorporation of measurement and its use, and the expression of their creativity. This unit is of importance because the goal is to identify and solve a problem within their community.

This unit encourages students to collaboratively work with their peers on a task that can have a positive impact on their community when completed. Students will become aware of a real world problem within their community, therefore they will become aware of what is taking place in their “real world”. Students will visit areas within the city of Durham, determine the housing problem and why it exists, come up with a solution, and manipulate measurements to determine what homes could be built in those locations. Students will critically think of ways to problem solve the housing issue that exists within their city. Based on their planning, students

can progress as quickly or as slowly as they need based on the city of Durham's specifications, their academic abilities, and creativity. The product allows students to work at their own pace.

DIMENSIONS OF DIFFERENTIATION

This unit provides the students with an opportunity to explore the concept of how their community has changed over time. This unit is full of curiosity, exploration, problem solving, critical thinking, and a performance task resulting in a product of a tiny home. Students will begin the unit with the goal of understanding that measurement can be used to solve problems, develop analytical skills within measurements, and that measurements challenge creativity.

The dimension of depth used within the unit is big ideas. The essential understanding is "Measurement Challenges Creativity", while the topic of the unit is "Tiny Homes". The umbrella is the focus and final product is the creation of a tiny home. The underlying areas of interest within the unit are: measurement/dimensions of the tiny home, problem solving what tiny home could fit onto various properties of land, gaining an understanding of why people are migrating towards the idea of living in a tiny home while exploring the pros and cons, understanding that housing affordability is their city of Durham is steadily on the rise, and self-expression through being allowed the opportunity to be as creative as they desire.

The dimension of complexity displayed in the unit is over time and across disciplines. Over time, Durham demographics, housing, and cost of living has changed dramatically. The city of Durham is attempting to figure out ways and strategies to eliminate homelessness, provide affordable housing for the residents, and to decrease the carbon footprints created and left behind. Over time, the city of Durham has experienced gentrification which has forced some citizens out of their homes to other affordable areas. Over time, the cost of living has sky rocketed affording the opportunity to live in certain areas in the city of Durham unattainable. The content areas within the unit consists of mathematics and art. Throughout the unit, the students are problem solving ways to incorporate a tiny home community into the area. The use of measurement focused on area, perimeter, and dimensions set are of high importance in order to make the tiny home community fit and exist within the city of Durham and desired locations. The measurement specifications provided by the city of Durham must be followed to ensure the tiny home final product matches the planning commissions' requirements. Art is also an important discipline because the goal is to create a home that does not look like any other that exists. The students will be tasked to create designs interiorly and exteriorly which expresses their creativity. The students have to take into account that their creativity can be challenged or limited based on the measurements specifications provided.

Unit Goals and Outcomes

Unit Topic:	Tiny Homes
Unit Concept:	Measurement
Essential Understanding:	Measurement Challenges Creativity
CONTENT Goal and Objective:	**GOAL:** To develop an understanding that measurement can be used to solve problems. **OBJECTIVES:** *The students will know that…* • There are measurement units within one system of units such as inches, feet, years, centimeters, meters, etc. • Specific units of measurements are used depending upon the size of the object being measured. • Metric units have values. • Conversion tables can be used to convert one metric unit to another.
PROCESS Goal and Objectives:	**GOAL:** To develop analytical skills within mathematical measurements. **OBJECTIVES:** *The students will be able to…* • Formulate units of measurements needed to construct appropriately scaled tiny homes. • Analyze the importance of exact measurement conversions and the impact miscalculations have on building tiny homes. • Create tiny homes using units of measurement.
CONCEPT Goal and Objectives:	**GOAL:** To understand creativity can be challenged by measurement. **OBJECTIVES:** *The students will understand that…* • Measurement challenges creativity. • Construction represents and requires measurement

ASSESSMENT PLAN

Students will be assessed formally and informally throughout the unit. Students will be assessed based on discussions, group work, and the final performance task where students apply all of the knowledge they learned during the unit.

Lesson 1 - Discussion

Teacher and students will engage in a discussion based on the images shown. Teacher and students will talk about measurement and how it challenges their creativity. Teacher will pose the following question: "How does measurement challenge creativity?"

Lesson 3 – Public Service Announcement

Students are instructed to create a PSA about limiting the carbon footprint they are making on tiny homes. The PSA can take any form students choose (brochure, commercial, power point, poster, flyer, etc.) The goal of the PSA:

- Inform others about tiny homes (identify and define).
- Inform others about the effects of tiny homes on our environment.
- Provide the pros and cons of tiny homes.
- Inform others about how measurement challenges creativity.

Each group presents its product to the class. Student audience completes a graphic organizer for each group presentation.

	Group A	Group B	Group C	Group D
What is a tiny home? How can a tiny home be identified?				
How have tiny homes effected the environment?				
How does measurement challenge creativity?				

Lesson 4 - Tiny Homes Performance Task

The City of Durham has announced that they will build a tiny home community for the Durham residents and potential homebuyers seeking affordable housing in the area. The city's strategic plan is to eliminate the high rates of homelessness, provide affordable housing, and reduce carbon footprints. You have been tasked as a contractor for the possible bid to build this community. You will create a blue print for a tiny home with strict measurement specifications. You will also add your creativity to differentiate the homes so they are not cookie cutter and are more attractive to buyers. (The City of Durham's planning commission will provide exterior dimensions of the home while you are to use your creativity for the interior.)

Using graph paper, rulers, and pencils, you will create the initial blue print of the tiny home. Be sure to show your calculations as far as measurement specifications to ensure that your home matches the city's requirements.

After you finish your blue print, you will now create an actual 3D model of the tiny home using your blue print you created earlier. Your model should exhibit the city's measurement specifications along with your creativity such as: multifunctioning living spaces, colors to make the space appear larger, ways of making the homes within the community look different and not cookie cutter, and how to maximize the outside living space.

Performance Task Rubric				
Criteria	**Above Expectation (4)**	**Meets Expectation (3)**	**Near Expectation (2)**	**Below Expectation (1)**
Blueprint Difficulty	Blueprint includes rooms, many details, windows, doors, outdoor living space, etc.	Blueprint follows some of the measurement specifications from the city of Durham and is complete with some details.	Blueprint is partially complete with few details.	Blueprint is not complete.
Measurement Specifications	Followed 100% of the city of Durham's measurement specifications.	Followed 80% of the city of Durham's measurement specifications.	Followed 60% the city of Durham's measurement specifications.	Did not follow the city of Durham's measurement specifications.
Creativity	House includes multifunctional living spaces, appealing colors, unique, and great use of outside living space.	House includes SOME multifunctional living spaces, appealing colors, unique, and great use of outside living space.	House PARTIALLY includes multifunctional living spaces, appealing colors, unique, and great use of outside living space.	House includes NO multifunctional living spaces, appealing colors, unique, and great use of outside living space.
Structural Proportions	House has excellent structural proportion.	House has good structural proportion.	House has little structural proportion.	House has no structural proportion.

Lesson Plan #1 – Visual Thinking Strategies

TEACHER NAME		Lesson #
Lakisha Perkins		1
MODEL	**CONTENT AREA**	**GRADE LEVEL**
Visual Thinking Strategies	Math/Art	4
CONCEPTUAL LENS	**LESSON TOPIC**	
Measurement	Tiny Homes	

LEARNING OBJECTIVES *(from State/Local Curriculum)*

NC.4.MD.1 Know relative sizes of measurement units. Solve problems involving metric measurement.

- Measure to solve problems involving metric units: centimeter, meter, gram, kilogram, Liter, milliliter.
- Add, subtract, multiply, and divide to solve one-step word problems involving whole-number measurements of length, mass, and capacity that are given in metric units.

NC.4.MD.2 Use multiplicative reasoning to convert metric measurements from a larger unit to a smaller unit using place value understanding, two-column tables, and length models.

NC.4.MD.3 Solve problems with area and perimeter.

- Find areas of rectilinear figures with known side lengths.
- Solve problems involving a fixed area and varying perimeters and a fixed perimeter and varying areas.
- Apply the area and perimeter formulas for rectangles in real world and mathematical problems.

4.E.2 Understand the economic factors when making personal choices.

4.E.2.1 Explain how personal financial decisions such as spending, saving, and paying taxes, can positively and/or negatively affect everyday life.

4.E.2.2 Explain how limited personal financial resources affect the choices people make based on their wants and needs.

4.CX.2.2 Apply skills and concepts learned in other disciplines, such as math, science, language arts, social studies, and other arts, in the visual arts.

4.V.2.1 Identify different successful solutions to artistic problems.

4.V.3.3 Create art using the processes of drawing, painting, weaving, printing, stitchery, collage, mixed media, sculpture, ceramics, and current technology.

THE ESSENTIAL UNDERSTANDING ***(What is the overarching idea students will understand as a result of this lesson?***	**THE ESSENTIAL QUESTION** ***(What question will be asked to lead students to "uncover" the Essential Understanding)***
Measurement Challenges Creativity	How does measurement challenge creativity?
CONTENT KNOWLEDGE **(What factual information will students learn in this lesson?)**	**PROCESS SKILLS** **(What will students be able to do as a result of this lesson?)**
Students will know that: • Specific units of measurements are used depending upon the object being measured such as: inches, feet, yards centimeters, meters, etc. • Metric units have values. • Estimation can be used when measuring. • Larger measurements can be expressed in smaller units within the metric system. • Conversion tables can be used to convert one metric unit to another. • Relationships exist among measurement units. • Interdisciplinary connections and life applications exist within visual arts. • Create art using a variety of tools, media, and processes, safely and appropriately. • Applied creativity and critical thinking skills are used in artistic expression.	Students will be able to: • Create • Apply • Think Critically • Collaborate • Explain • Evaluate • Analyze • Problem Solve

GUIDING QUESTIONS ***What questions will be asked to support instruction?*** ***Include both "lesson plan level" questions as well as questions designed to guide students to the essential understanding***		
Pre-Lesson Questions:	**During Lesson Questions:**	**Post Lesson Questions:**

• What is a tiny home? • What do you think about when you hear the word, creativity? • How might you express what you think creativity means? • How would you describe some forms of measurement? • How might you tell a story of how you could make a connection between measurement and tiny homes? • How might you make meaning of how you could make a connection between creativity and tiny homes? • How might you justify what measurement is? • How might you tell a story of the situations in which measurements are needed? • How would you describe how tiny homes might connect with measurement? • How would you evaluate what makes you connect tiny homes and measurement in that way?	• What do you see? • What else do you see? • How might you express how these images represent measurement? • How would you explain what made you think that? • What do you see? • What else do you see? • How would you explain how these images represent creativity? • What else do you notice? • What made you think that? • How might you hypothesize how these different homes influence creativity? • What else to you see? • How would you translate how these different homes influence measurement? • What do you see in these images? • What do you see that makes you think that? • What else do you notice?	• What do you see? • What do you see that makes you say that? • How might you describe what else you see? • What do you see that represents measurement? • What do you see that makes you say that? • What do you see that represents creativity? • What do you see that makes you say that? • How might you construct meaning of the images that you see? • What do you see that makes you say that? • How might you express how measurement is represented in the images? • What do you see that makes you say that? • How might you express how creativity is represented in the images? • Why do you think this represents an example of measurement? • Why do you think this represents an example of creativity? • What else do you notice? • How would you justify the examples of measurement you see? • How would you justify the examples of creativity do you see?

		• How might you prove how measurement effects creativity? • How might you make meaning of the part of measurement that is represented in your image? • How might you make sense of how measurement is represented in your image? • How might you translate the part of creativity that is represented in your image? • How would you justify that creativity is represented in your image? • How does measurement challenge creativity?

DIFFERENTIATION ***(Describe how the planned learning experience has been modified to meet the needs of gifted learners. Note: Modifications may be in one or more of the areas below. Only provide details for the area(s) that have been differentiated for this lesson.***			
Content	**Process**	**Product**	**Learning Environment**
The images and concepts in this lesson are familiar to the students.	VTS is an open-ended thinking and inquiry strategy, which allows students to share unique perspectives and make inferences. Students articulate meaning they make from visual images.		This is a student led lesson.
PLANNED LEARNING EXPERIENCES ***(What will the teacher input? What will the students be asked to do? For clarity, please provide detailed instructions)***			

Engage and Connect - *This phase focuses on piquing students' interest and helping them access prior knowledge. This is the introduction to the lesson that motivates or hooks the students.*

As students enter the room, an image of Tern Island Tiny House will be projected for the students. The teacher starts the lesson by asking the following questions:

- What is a tiny home?
- What do you think about when you hear the word, creativity?
- How might you make sense of what you think is included in being creative?
- How would you explain what you think creativity means?
- How might you make meaning of what it is like to be creative?
- How would you show some forms of measurement?
- How would you show how a connection could be made between measurement and tiny homes?
- How might you show how you could make a connection between creativity and tiny homes?
- How might you describe what measurement is?
- How might you show the situations in which measurement is needed?
- How would you describe how tiny homes might connect with measurement?
- How would you justify what makes you connect tiny homes and measurement in that way?

On notebook paper, students will write what they see and what the images represent. Students are asked what the images are and how they all come together.

Once the students are finished, they will come back together as a group. The teacher will facilitate the whole group discussion. The teacher will ask students to share their thoughts about the images. As they are sharing, the teacher will ask the following questions:

- What do you see?
- What do you see that makes you say that?
- What else do you see?
- How might you evaluate how you feel about this floor plan?
- How might you evaluate how you feel about the underlying structure of the tiny home?
- How might you critique how you feel about the final product of the tiny home?
- How might you make sense of the role of measurement when it comes to the construction of the tiny home?
- How might you make sense of the role of creativity when it comes to the construction of the tiny home?
- How might you justify how you came up with this thinking?

Explore - *In this phase, the students have experiences with the concepts and ideas of the lesson. Students are encouraged to work together without direct instruction from the teacher. The teacher acts as a facilitator. Students observe, question, and investigate the concepts to develop fundamental awareness of the nature of the materials and ideas.*

The teacher will direct students' attention to the next images: Ava Tiny House, Isla Wood Cabin, and Mila Small Bungalow. Students will take about three minutes to look at the pictures. After they have been looking at the pictures for a few minutes, the teacher will ask:

- What do you see in these images?
- What do you see that makes you think that?
- What else do you notice?

These questions will be asked of the students individually for multiple rounds. Allow students that volunteer to answer the questions. The teacher will give no opinion on the student's answers. The teacher will allow students to come to the board to point out what they are referring to. After a few rounds of questioning, the teacher will ask some more questions:

- What else do you see in the images?
- What else do you notice?
- What do you see that makes you think that?
- What else can you find?
- What do you see that makes you think that?

The teacher will bring the students' attention again to more image projected. They are to take a few minutes to look at the images. After they have been looking at the images for a few minutes, the teacher will ask:

- What do you see in the images?
- What do you see that makes you say that?
- What else do you see?
- How might you justify what you see that makes you think that?

These questions will be asked to students individually for multiple rounds. Allow each student who volunteers to answer questions. The teacher will give no opinions on the students' answers. The teacher will allow the students to come to the board to point out what they are referring to. After a few rounds of questioning, the teacher will ask some more questions:

- What else do you see?
- How might you translate what you see that makes you think that?
- What else do you see?
- How would you make meaning of what you see that makes you think that?

Now that we have done different pictures and multiple rounds of questioning, all pictures will be shared on the white board and the students will be asked questions such as:

- How would you describe how these images represent measurement?
- How might you prove what made you think that?
- How would you justify whether you agree or disagree with this observation?

- How would you express how these images represent creativity?
- How would you describe what made you think that?
- How might you justify whether you agree and disagree with this observation?
- How might you synthesize how these different homes influence creativity?
- How might you synthesize how these different homes influence measurement?

Explain - *Students communicate what they have learned so far and figure out what it means. This phase also provides an opportunity for teachers to directly introduce a concept, process, or skill to guide students toward a deeper understanding.*

After students have responded to the questions, the teacher will refer to the presentation #3 images and will ask the following questions.

- How would you describe what you see that represents measurement?
- How would you describe what you see that represents creativity?
- How might you justify what you see in the images?
- How would you express how measurement is represented in the images?
- How would you express how creativity is represented in the images?
- How would you make sense of what you see that makes you feel this is an example of measurement?
- How would you make sense of what you see that makes you feel this is an example of creativity?
- How might you prove examples of measurement you see in the images?
- How might you make meaning of examples of creativity you see in the images?
- How might you justify how measurement effects creativity?

Students will be divided into small groups for the next learning experience.

Elaborate *—Allow students to use their new knowledge and continue to explore its implications. At this stage students expand on the concepts they have learned, make connections to other related concepts, and apply their understandings to the world around them in new ways*

Each small group of students will select an image for analysis. Images will be numbered, students draw numbers to see which image they will use for this learning experience. Students are to work in small groups. VTS strategies will be used by each small group.

Questions:

- What do you see?
- What do you see that makes you say that?
- What else do you see?

After several rounds, questions include:

- What do you see that represents measurement?
- What makes you say that?
- What do you see that represents creativity?

- What makes you say that?
- What do you see that indicates that measurement is related to creativity?
- What do you see that makes you say that?

Each group based on their discussion answers the following questions:

- How might you justify what part of measurement is represented in your image?
- How would you evaluate how measurement is represented in your image?
- How might you make sense of what part of creativity is represented in your image?
- How would you critique how creativity is represented in your image?

Evaluate: *This phase assesses both learning and teaching and can use a wide variety of informal and formal assessment strategies.*

Each group presents their image and the following information. The students will name their image and provide some identification for their image.

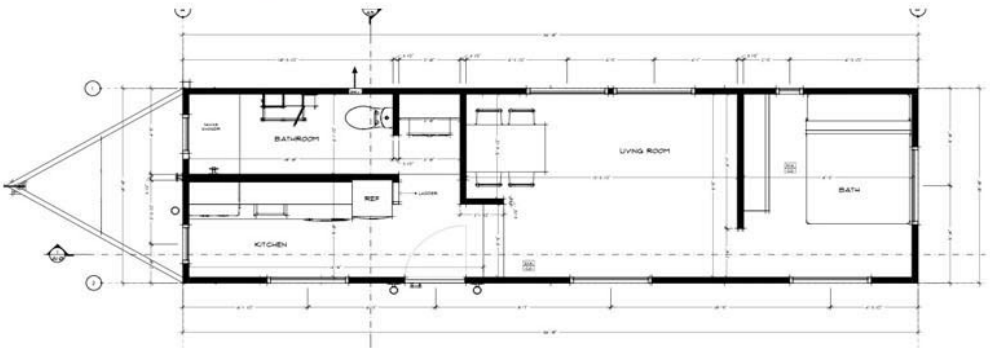
- How might you justify what part of measurement is represented in your image?
- How would you evaluate how measurement is represented in your image?
- How would you make sense of what part of creativity is represented in your image?
- How might you critique how creativity is represented in your image?

Final Assessment:

Based on the images we have seen today, how would you respond to the following question:

How does measurement challenge creativity?

First Presentation



Second Presentation

Third Presentation (shed, conex, bus)

Shed

Shed

Conex

Conex

School Bus

School Bus

Lesson Plan #2 - Questioning

TEACHER NAME			Lesson #
Lakisha Perkins			2
MODEL	**CONTENT AREA**	**GRADE LEVEL**	
Questioning	Math	4	
CONCEPTUAL LENS		**LESSON TOPIC**	
Measurement		Tiny Homes	

LEARNING OBJECTIVES *(from State/Local Curriculum)*

NC.4.MD.1 Know relative sizes of measurement units. Solve problems involving metric measurement.

- Measure to solve problems involving metric units: centimeter, meter, gram, kilogram, Liter, milliliter.
- Add, subtract, multiply, and divide to solve one-step word problems involving whole-number measurements of length, mass, and capacity that are given in metric units.

NC.4.MD.2 Use multiplicative reasoning to convert metric measurements from a larger unit to a smaller unit using place value understanding, two-column tables, and length models.

NC.4.MD.3 Solve problems with area and perimeter.

- Find areas of rectilinear figures with known side lengths.
- Solve problems involving a fixed area and varying perimeters and a fixed perimeter and varying areas.
- Apply the area and perimeter formulas for rectangles in real world and mathematical problems.

4.E.2 Understand the economic factors when making personal choices.

4.E.2.1 Explain how personal financial decisions such as spending, saving, and paying taxes, can positively and/or negatively affect everyday life.

4.E.2.2 Explain how limited personal financial resources affect the choices people make based on their wants and needs.

4.CX.2.2 Apply skills and concepts learned in other disciplines, such as math, science, language arts, social studies, and other arts, in the visual arts.

4.V.2.1 Identify different successful solutions to artistic problems.

4.V.3.3 Create art using the processes of drawing, painting, weaving, printing, stitchery, collage, mixed media, sculpture, ceramics, and current technology.

THE ESSENTIAL UNDERSTANDING ***(What is the overarching idea students will understand as a result of this lesson?***	**THE ESSENTIAL QUESTION** ***(What question will be asked to lead students to "uncover" the Essential Understanding)***
Measurement Challenges Creativity	How does measurement challenge creativity?
CONTENT KNOWLEDGE **(What factual information will students learn in this lesson?)**	**PROCESS SKILLS** **(What will students be able to do as a result of this lesson?)**
Students will know that: • Specific units of measurements are used depending upon the object being measured such as: inches, feet, yards centimeters, meters, etc. • Metric units have values. • Estimation can be used when measuring. • Larger measurements can be expressed in smaller units within the metric system. • Conversion tables can be used to convert one metric unit to another. • Relationships exist among measurement units. • Interdisciplinary connections and life applications exist within visual arts. • Art can be created with a variety of tools, media, and processes, safely and appropriately. • Applied creativity and critical thinking skills are used in artistic expression.	Students will be able to: • Create • Apply • Think Critically • Collaborate • Explain • Evaluate

GUIDING QUESTIONS ***What questions will be asked to support instruction?*** ***Include both "lesson plan level" questions as well as questions designed to guide students to the essential understanding***		
Pre-Lesson Questions:	**During Lesson Questions:**	**Post Lesson Questions:**

• What do you know about tiny homes? • Why might people choose to live in tiny homes? • How might you analyze why someone would live in a tiny home? • How would you demonstrate what you know about measurement? • How might you argue the purpose of measurement? • How might you justify why you used measurement? • How might you describe what you think of when you think of measurement? • How can you express what you know about creativity? • How can you compare and contrast what the relationship is between creativity and building tiny homes? • How might you make meaning of what the potential connection is between measurement and tiny homes?	• How would you argue the reasons why people are moving towards living in tiny homes rather than a standard home? • How would you describe how building tiny homes might become a challenge when considering measurement? • How would you describe how building tiny homes might become a challenge when considering creativity? • How might you consider why builders should be interested in the creativity that goes into creating the tiny homes? • How would you express why being creative is important when building a tiny home? • How might you consider some factors that may determine whether tiny homes may be for you or not? • How would you justify the pros and cons of being the owner of a tiny home? • How might you make sense of why measurement is important when it comes to creating the interior and exterior of a tiny home? • How would you	• How might tiny homes benefit us as a society? • How would you describe how the housing market has changed because of tiny homes and granny flats? • How could you compare and contrast the purchase of a tiny home, the purchase of a granny flat, and the purchase of a standard home? • How would you argue why building cheaper and quicker tiny homes are better than building a regular sized home? • If you were to assume the role of the citizens, how would you justify some reasons those living in the coastal areas would be against having tiny homes in their communities? • How might you argue how an elite group of people can decide whether or not tiny homes can be a part of their community? • How does measurement challenge creativity?

	express why measurement and creativity are important when considering movement of the tiny homes? • How would you justify how "less is more" is true when it comes to creativity? • How would you justify why tiny homes are important to make environmentally sustainable houses that don't leave any footprint? • How might owning a tiny home provide a house that gives its owner a flexibility?	

DIFFERENTIATION

(Describe how the planned learning experience has been modified to meet the needs of gifted learners. Note: Modifications may be in one or more of the areas below. Only provide details for the area(s) that have been differentiated for this lesson.

Content	Process	Product	Learning Environment
Reading represents above level reading and vocabulary.	Students engage in high levels of inquiry and critical thinking by discussing open ended questions and concept based learning experiences.		Students will work in virtual environments, small groups and in whole groups.

PLANNED LEARNING EXPERIENCES

(What will the teacher input? What will the students be asked to do? For clarity, please provide detailed instructions)

Engage and Connect - This phase focuses on piquing students' interest and helping them access prior knowledge. This is the introduction to the lesson that motivates or hooks the students.

Images of tiny homes will be projected on the board: Tiny Homes
The teacher instructs students to view the images and think about what the relationship is between the images.

The teacher asks:

- How might you describe what the relationship is between the various images you see?

- How might you express how the various images help you understand how measurement challenges creativity?

The teacher asks the following questions:

- How might you express what you know about measurement?
- How can you justify the purpose of measurement?
- How might you express why you used measurement?
- How would you describe what you think of when you think of measurement?
- How might you express what you know about creativity?
- How would you justify the relationship between creativity and artistry?
- How would you argue the potential connection between measurement and artistry?

The teacher transitions to the explore (during lesson) portion of the lesson by saying: Today we are going to explore how measurement challenges creativity of tiny houses.

Explore *- In this phase, the students have experiences with the concepts and ideas of the lesson. Students are encouraged to work together without direct instruction from the teacher. The teacher acts as a facilitator. Students observe, question, and investigate the concepts to develop fundamental awareness of the nature of the materials and ideas.*

The teacher distributes the following reading: These Norwegian Tiny Homes Offer Low-Impact Living On Wheels (See Attached). The teacher will divide the students into break out groups of 4 to read the article. Half of the class will respond to the first five questions. The other half of the class will respond the last five questions.

- How might you describe reasons why people are moving towards living in tiny homes rather than a standard home?
- How would you analyze how building tiny homes might become a challenge when considering measurement and creativity?
- How might you make sense of why builders should be interested in the creativity that goes into creating the tiny homes?
- How would you argue why being creative is important when building a tiny home?
- How might you analyze some factors that may determine whether tiny homes may be for you or not?
- How might you argue the pros and cons of being the owner of a tiny home?
- How would you justify why measurement is important when it comes to creating the interior and exterior of a tiny home?
- How might you make sense of why measurement and creativity is important when considering movement of the tiny home?
- How would you argue how “less is more” is true when it comes to creativity?
- How would you justify the importance of making environmentally sustainable houses that don't leave any footprint and provide a house that gives its owner a flexibility?

Explain - *Students communicate what they have learned so far and figure out what it means. This phase also provides an opportunity for teachers to directly introduce a concept, process, or skill to guide students toward a deeper understanding.*

After groups have responded to the questions assigned to their group, the teacher reconvenes the whole group to discuss and debrief responses. Teacher will share her screen with students which consists of Google documents. Each slide will consist of one of the questions discussed in the break out session. The students will record their responses to the ten questions. The teacher uses the ten questions from the Elaborate portion of the lesson (during lesson questions) to ask students to level each question based on Ford's Revised Bloom-Banks Matrix. (See attachment) (The accuracy of the responses is not as important as the discussion. Students should think deeply about the value/benefit of asking high level questions.)

Elaborate *—Allow students to use their new knowledge and continue to explore its implications. At this stage students expand on the concepts they have learned, make connections to other related concepts, and apply their understandings to the world around them in new ways*

The teacher provides the following reading: San Diego Moving Froward With Tiny Houses Law to Help Solve Local Housing Crisis (See Attachment)

The teacher will instruct students to return back to their break out groups. Teacher will send them back. Students will read the article thoroughly and create ten questions based on the content of the reading. Costa's Levels of Inquiry should be used to inform creation of their questions. The following expectations are provided:

- Questions should consist of no more than three level one questions.
- Questions should consist of no more than five level two questions.
- The remainder of the questions (to equal 10) should represent level three questions.

Each group records their questions on a Google document. Groups will share their document with the class. (Group A will swap Google documents with Group B. Group B swaps with Group D.) Each group responds to the questions on the Google document they received in the swap. The receiving group suggests the level they believe the authors of the questions intended. Documents are then swapped back to the original authors of the document. Groups meet (A and B; C and D) to a break out room to discuss the results. The original authors of the documents will assign a score for the questions on the chart based on Google document.

- **One point** for each acceptable answer (the teacher settles all disagreements, but encourages students to come to consensus using readings (cite evidence) to mitigate disagreements)
- **One point** for number of level one questions (based on match to intended level)
- **Two points** for number of level two questions (based on match to intended level)
- **Three points** for number of level three questions (based on match to intended level)

All Google documents will be submitted to the teacher when groups have scored charts. The teacher may use the documents as a formative assessment.

Evaluate: *This phase assesses both learning and teaching and can use a wide variety of informal and formal assessment strategies.*

The teacher instructs students to return from break-out sessions. The teacher poses post lesson questions to the whole class. Multiple responses are welcome. Students may add to the classmates' answers or may question classmates' responses if they can provide evidence for a challenge. (cite evidence in the text)

Post-lesson questions:

- How might you tell a story of how tiny homes benefit us as a society?
- How would you describe how the housing market has changed because of tiny homes and granny flats?
- How could you compare and contrast the purchase of a tiny home, the purchase of a granny flat and the purchase of a standard home?
- How would you argue why building cheaper and quicker tiny homes are better than building a regular sized home?
- If you were to assume the role of the citizens, can you justify some reasons those living in the coastal areas would be against having tiny homes in their communities?
- How might you argue how an elite group of people can decide whether or not tiny homes can be a part of their community?
- How does measurement challenge creativity?

These Norwegian Tiny Homes Offer Low-Impact Living on Wheels

https://www.dwell.com/article/norske-mikrohus-tiny-homes-bdb2bbed

With models starting at $96,250, Oslo-based Norske Mikrohus offers sustainable tiny homes with Scandinavian design.

"Our primary focus is to offer quality tiny homes at an affordable price," says David Reiss-Andersen, who cofounded the Oslo, Norway–based tiny home company Norske Mikrohus with his wife Jeanette, who's also the firm's lead designer. "There's growing awareness of compact living, minimalism, and sustainability," David says. "We want to help provide people with the freedom that comes with living with fewer things, lower costs, lower energy use, and less waste."

Vilde is a 237-square-foot tiny home designed by Norske Mikrohus, an Oslo, Norway–based design-build firm.

Aksel Jermstad

Photo Categories: exterior, wood siding material, metal roof material, gable roofline, house building type

The Reiss-Andersens established Norske Mikrohus in 2018; since then, they've developed two tiny home models. Ada, their first design, is 205 square feet, and the second model, Vilde, measures 237 square feet—both designs are on wheels. The couple are currently developing two additional models that will be available in May. One is larger in size, measuring almost 28 feet; the fourth is another 24-foot model with a new interior layout.

Ada, a second design by Norske Mikrohus, measures 205 square feet and is set on wheels.

Aksel Jermstad
Photo Categories: exterior, house building type, wood siding material, gable roofline, metal roof material

"Our models are complete homes with compact solutions for high functionality," Jeanette says. "Our first two models come with a loft, a full-size kitchen, and a well-sized bathroom. The windows are spaced out as to flood the house with natural light regardless of the its position."

The designer employed glass front doors in both of the existing models to help harness more sunlight and connect the interiors to the outdoors. "There are high ceilings and light-colored finishes that give a spacious feeling," she continues. "It's very important to us that the spaces feel open and light; we wanted to give people the feeling of living in nature. Whatever the weather conditions are outside, that light and mood are reflected on the inside."

Vilde features plenty of windows so as to flood the interior with sunlight and connect the home to the natural landscape.

Aksel Jermstad
Photo Categories: kitchen, wood counters, range, white cabinets, wood backsplashes, drop in sinks, ceiling lighting, light hardwood floors

White-painted walls and cabinetry are offset by pale wood kitchen counters, stair treads, and flooring to maintain Scandinavian design aesthetics as well as a light and airy feeling for the interior.

The Reiss Andersens included all the practical elements a home requires but took a less-is-more approach in terms of design. "We didn't want to pack the houses with stuff," David says. "Ada, our more compact model, can be transported more easily, while Vilde is larger, providing more floor space in the living room, more storage, and space for a washing machine in the bathroom."

Norske Mikrohus offers customizable baths, letting customers choose flooring and wall finishes.

Spruce wraps around the exterior of both models. "Spruce is abundant all over Norway and is lightweight and affordable," Jeanette says. Over time, spruce patinas and becomes a silvery-gray tone that blends into the natural landscape and ties to the mountain cabin vernacular of Norway. "We also offer cedar cladding, which has a red glow to it," says Jeannette, who selected aluminum for the roof because it's lightweight and durable. The tiny homes are insulated with mineral wool, a high-performing material that protects against the Norwegian winters.

The spruce cladding that wraps around the Vilde tiny house model patinas and eventually turns a silvery-gray tone that blends into the Scandinavian landscape.

The interior walls, ceiling, and cabinetry are made from poplar veneer. "Poplar is light but strong, so that it won't crack from the movement the house experiences during transport," David says. "All of our wood is FSC-certified and guaranteed to be aldehyde-free."

The built-in furniture is also made with poplar veneer, and the sofa, stairs, and kitchen counter feature oak detailing. "We can provide a variety of finishes, depending on the wishes of our customers," Jeanette says. "A few houses have European ash detailing for a lighter look. Our carpenters build the furniture on-site using these materials. We have variety of parquets to choose from when it comes to flooring. Vinyl is our standard for the bathroom floor; however, most people choose the small hexagonal ceramic tile that we offer."

Norske Mikrohus built cabinetry and drawers below the kitchen counters, omitting upper cabinetry in an effort to create spaciousness for the interior.

The kitchen features a two-burner electric stovetop.

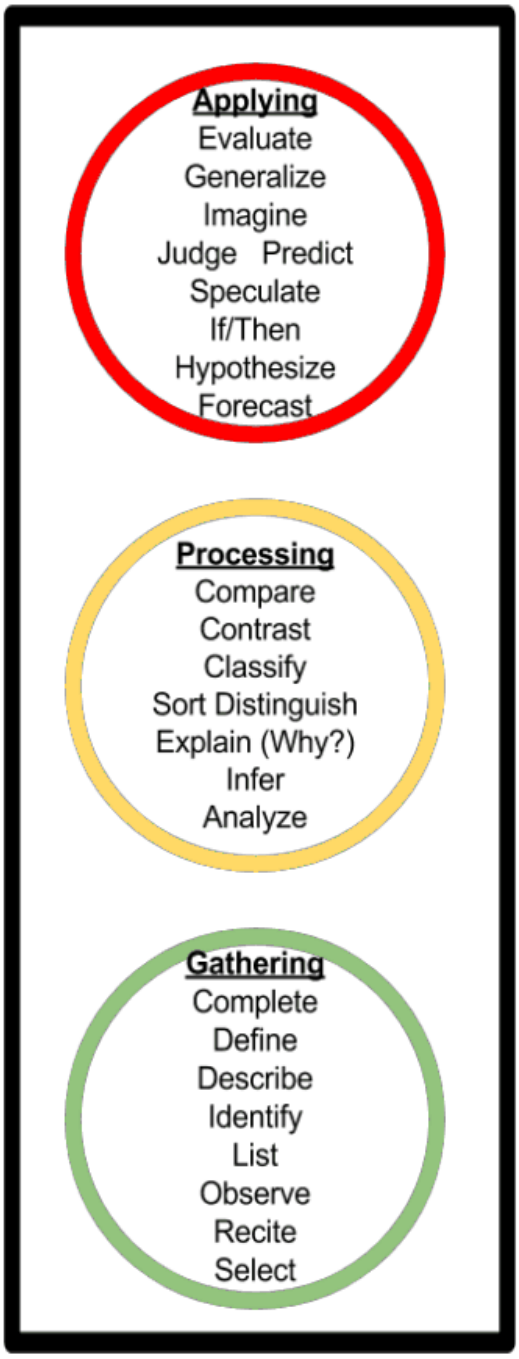
A tiny home by Norske Mikrohus begins at $96,250 and for now, the company can build on-site or ship anywhere in Scandinavia. "All our designs are built on wheels so you can move them yourself," David says. "We aim to make environmentally sustainable houses that don't leave any footprint. We also want to provide a house that gives its owner a flexibility."

The Reiss-Andersens are also invested in environmental responsibility. "Global warming and waste management have become huge problems," David says. "We see that tiny houses can be a sustainable way of life. This is the main reason we created our company. We want to offer a new way of thinking about modern life."

The interior of Ada, Norske Mikrohus's smaller model, is customizable and can be appointed with a wood-burning stove.

A rope ladder accesses the loft-style bedroom in the Ada model.

Costa's Level of Thinking and Questioning



San Diego moving forward with ‘tiny houses’ law to help solve local housing crisis

https://www.sandiegouniontribune.com/news/politics/story/2020-04-20/san-diego-moving-forward-with-tiny-houses-law-to-help-solve-local-housing-crisis

A tiny house in Graton, Calif.
(Ben Margot/Ben Margot/AP)

Smaller than granny flats, tiny houses are also cheaper, faster to add

By DAVID GARRICK
APRIL 20, 2020
5 AM

SAN DIEGO —

Homeowners across San Diego would be able to install movable “tiny houses” in their back yards under a proposal the city’s Planning Commission unanimously approved last week.

Tiny houses can help solve the housing crisis by creating an affordable option for low-income residents that doesn't require a taxpayer subsidy, city officials said. Rent from tiny houses can also help homeowners with their mortgage payments, they said.

"It really is a win, win, win for the taxpayers, the homeowners and the renters," said Barret Tetlow, chief of staff for Councilman Scott Sherman.

Tiny houses are similar to granny flats, but smaller.

Adding them is quicker and cheaper, primarily because they are built in factories and placed on a chassis, while granny flats are built on-site and attached to a concrete foundation.

Planning commissioners said Thursday that legislation allowing tiny houses could help the city make up for years of previous laws and regulations that created a local housing crisis by sharply limiting supply.

"The last 30 years of wrong-minded policies have gotten us into this housing crisis, and I think it's innovation that's going to get us back out of it," Commissioner Doug Austin said. "We can't subsidize our way out of this."

Austin was referring to a variety of housing solutions that have relied on government subsidies to artificially lower rents.

Some neighborhood leaders urged the Planning Commission to delay approval of the tiny houses ordinance, complaining that community planning groups haven't had a chance to evaluate the proposal because of the COVID-19 pandemic.

"The communities deserve and need to be heard before you act," said James Fitzgerald of La Jolla in an email to the city. He added that the law would have "direct and potentially substantial impacts throughout the city."

Other neighborhood leaders said the tiny houses would likely work better in some parts of the city than other parts, making input from individual neighborhoods crucial.

Commissioner Vicki Granowitz noted that most of those complaints came from residents in coastal areas, who will get a chance to voice any concerns they have to the Coastal Commission.

If the City Council agrees with the Planning Commission and approves the new law this spring, it wouldn't take effect in coastal areas until the commission also gives its assent.

Commission chairman Bill Hofman said not having neighborhood feedback is a concern, but the new law is similar to regulations approved in 2017 for granny flats. Neighborhood leaders gave extensive input on those, he said.

“I think the need for more alternatives for affordable housing outweighs the need for community input on something that really has been vetted,” he said.

Nationally the tiny house movement began as an attempt to downsize and live more simply, often with a smaller environmental impact. Its growth was supported by TV shows like “Tiny House Nation.”

More recently, cities and nonprofits have started looking to tiny houses as a solution for homelessness and the lack of affordable housing.

Fresno, San Luis Obispo, Los Angeles and San Jose have all passed laws allowing tiny houses. Laws also are under consideration in many other parts of the state.

Tiny houses range in size from 150 square feet to 400 square feet and cost between $40,000 and $100,000.

Granny flats, which are between 500 square feet and 1,000 square feet, usually cost between $100,000 and $150,000.

Under the proposed city law, a homeowner could not have both a granny flat and a tiny house. They would be limited to one or the other, which complies with state law.

City officials said a key advantage to tiny houses is how quickly they can be added. While a granny flat typically takes six to 18 months, a tiny house can be added in 30 to 45 days.

Tetlow said that once a homeowner orders a tiny house, a company begins manufacturing it while some if its employees visit the property to prepare utility connections and make other preparations.

While movable tiny houses have wheels, city officials said, they aren’t like a conventional trailer or recreational vehicle. Instead, they are built like a traditional home, with interior space geared for daily living.

The city’s law would require the house’s wheels to be shielded from view. In addition, it would require pitched roofs and other design details that would prevent people from parking traditional recreational vehicles in their yards.

“We feel we’ve been able to eliminate 95 percent of conventional RVs and trailers,” Tetlow told the Planning Commission.

Because of wildfire concerns, tiny houses wouldn’t be allowed on properties located in the city’s urban/wildland interface — neighborhoods that abut canyons or wilderness.

A tiny house couldn’t be rented out for fewer than 30 days at a time, so they wouldn’t be used as short-term vacation rentals.

Property owners would not be required to provide an on-site parking spot for the tiny house. And a tiny house wouldn’t have to comply with the federal Americans with Disabilities Act.

They would have to be registered with the Department of Motor Vehicles, but they couldn’t move under their own power. And the wheels couldn’t be removed because they’re needed to support the structure.

Despite the tiny houses being potential competition, the local development community supports the effort.

“A variety of housing options are essential if we are to address our chronic housing shortage, and tiny homes deserve a place in our long-term strategy,” Matt Adams, vice president of the local chapter of the Building Industry Association, told the Planning Commission.

Lesson Plan #3 – Team Based Learning

TEACHER NAME			Lesson #
Lakisha Perkins			3
MODEL	**CONTENT AREA**	**GRADE LEVEL**	
Team Based Learning	**Math/Art**	**4**	
CONCEPTUAL LENS		**LESSON TOPIC**	
Measurement		**Tiny Homes**	

LEARNING OBJECTIVES *(from State/Local Curriculum)*

NC.4.MD.1 Know relative sizes of measurement units. Solve problems involving metric measurement.

- Measure to solve problems involving metric units: centimeter, meter, gram, kilogram, Liter, milliliter.
- Add, subtract, multiply, and divide to solve one-step word problems involving whole-number measurements of length, mass, and capacity that are given in metric units.

NC.4.MD.2 Use multiplicative reasoning to convert metric measurements from a larger unit to a smaller unit using place value understanding, two-column tables, and length models.

NC.4.MD.3 Solve problems with area and perimeter.

- Find areas of rectilinear figures with known side lengths.
- Solve problems involving a fixed area and varying perimeters and a fixed perimeter and varying areas.
- Apply the area and perimeter formulas for rectangles in real world and mathematical problems.

4.E.2 Understand the economic factors when making personal choices.

4.E.2.1 Explain how personal financial decisions such as spending, saving, and paying taxes, can positively and/or negatively affect everyday life.

4.E.2.2 Explain how limited personal financial resources affect the choices people make based on their wants and needs.

4.CX.2.2 Apply skills and concepts learned in other disciplines, such as math, science, language arts, social studies, and other arts, in the visual arts.

4.V.2.1 Identify different successful solutions to artistic problems.

4.V.3.3 Create art using the processes of drawing, painting, weaving, printing, stitchery, collage, mixed media, sculpture, ceramics, and current technology.

THE ESSENTIAL UNDERSTANDING ***(What is the overarching idea students will understand as a result of this lesson?***	**THE ESSENTIAL QUESTION** ***(What question will be asked to lead students to "uncover" the Essential Understanding)***
Measurement Challenges Creativity	How does measurement challenge creativity?
CONTENT KNOWLEDGE **(What factual information will students learn in this lesson?)**	**PROCESS SKILLS** **(What will students be able to do as a result of this lesson?)**
Students will know that: • Specific units of measurements are used depending upon the object being measured such as: inches, feet, yards centimeters, meters, etc. • Metric units have values. • Estimation can be used when measuring. • Larger measurements can be expressed in smaller units within the metric system. • Conversion tables can be used to convert one metric unit to another. • Relationships exist among measurement units. • Interdisciplinary connections and life applications exist within visual arts. • Art can be created with a variety of tools, media, and processes, safely and appropriately. • Applied creativity and critical thinking skills are used in artistic expression.	Students will be able to: • Create • Apply • Think Critically • Collaborate • Explain Evaluate

GUIDING QUESTIONS ***What questions will be asked to support instruction?*** ***Include both "lesson plan level" questions as well as questions designed to guide students to the essential understanding***		
Pre-Lesson Questions:	**During Lesson Questions:**	**Post Lesson Questions:**

• What do you know about tiny homes? • Why might people choose to live in tiny homes? • How might you analyze why someone would live in a tiny home? • How would you demonstrate what you know about measurement? • How might you argue the purpose of measurement? • How might you justify why you used measurement? • How might you describe what you think of when you think of measurement? • How can you express what you know about creativity? • How can you compare and contrast what the relationship is between creativity and building tiny homes? • How might you make meaning of what the potential connection is between measurement and tiny homes?	• How would you argue the reasons why people are moving towards living in tiny homes rather than a standard home? • How would you describe how building tiny homes might become a challenge when considering measurement? • How would you describe how building tiny homes might become a challenge when considering creativity? • How might you consider why builders should be interested in the creativity that goes into creating the tiny homes? • How would you express why being creative is important when building a tiny home? • How might you consider some factors that may determine whether tiny homes may be for you or not? • How would you justify the pros and cons of being the owner of a tiny home? • How might you make sense of why measurement is important when it comes to creating the interior and exterior of a tiny home? • How would you	• How might tiny homes benefit us as a society? • How would you describe how the housing market has changed because of tiny homes and granny flats? • How could you compare and contrast the purchase of a tiny home, the purchase of a granny flat and the purchase of a standard home? • How would you argue that building cheaper and quicker tiny homes are better than building a regular sized home? • If you were to assume the role of the citizens, how would you justify some reasons those living in the coastal areas would be against having tiny homes in their communities? • How might you argue how an elite group of people can decide whether or not tiny homes can be a part of their community? • How does measurement challenge creativity?

	express why measurement and creativity are important when considering movement of the tiny homes? • How would you justify how "less is more" is true when it comes to creativity? • How would you justify why tiny homes are important to make environmentally sustainable houses that don't leave any footprint? • How might owning a tiny home provide a house that gives its owner a flexibility?	

DIFFERENTIATION

(Describe how the planned learning experience has been modified to meet the needs of gifted learners. Note: Modifications may be in one or more of the areas below. Only provide details for the area(s) that have been differentiated for this lesson.

Content	Process	Product	Learning Environment
Students will engage in unique content.	Students will work with open ended, high level questions. Students will need to come to an agreement on responses and defend those responses. Compacting may be a process utilized in this lesson.	Products will vary based on student interest and choice.	This is student led learning.

PLANNED LEARNING EXPERIENCES *(What will the teacher input? What will the students be asked to do? For clarity, please provide detailed instructions)*

Engage and Connect - *This phase focuses on piquing students' interest and helping them access prior knowledge. This is the introduction to the lesson that motivates or hooks the students.*

Teacher will show students the following Youtube video: Tiny Home Nation.

People all over the world have discovered the benefits of living in "tiny homes." Some of the benefits are that tiny homes are better for the environment, takes up less space than a standard home which leaves a smaller footprint on Earth, it helps with financial stability, and reduces much of the clutter that people typically collect in larger living spaces. Most tiny homes have less than 400 heated and cooled square feet. Students have read the article: "What Is The Tiny Home Movement?" found at the website below: https://thetinylife.com/what-is-the-tiny-house-movement/ Teacher will show the embedded videos in the article. The teacher will ask pre-lesson questions.

- What do you know or think you know about tiny homes?
- Why might people choose to live in tiny homes?
- How might you analyze why someone would live in a tiny home?
- What do you think about when you hear the word, creativity?
- How might you translate what you think is included in being creative?
- How might you express what you think creativity means?
- How might you describe what you think of when you think of measurement?
- How might you tell a story of how you could make a connection between measurement and tiny homes?
- How might you make meaning of how you could make a connection between creativity and tiny homes?

Explore - *In this phase, the students have experiences with the concepts and ideas of the lesson. Students are encouraged to work together without direct instruction from the teacher. The teacher acts as a facilitator. Students observe, question, and investigate the concepts to develop fundamental awareness of the nature of the materials and ideas.*

The teacher will provide a 10 question multiple choice quiz to each student. (Sample quiz for this reading is attached at the end of the article.) Students are instructed to complete the quiz independently. Students are instructed to choose the BEST answer.

(Teacher may check for perfect individual scores prior to students going into break out groups if she feels she has students who would benefit from compacting. Students who score perfect score (10) are compacted out at this point. See Compacting in Next Steps.)

The teacher groups students in their team based learning teams. (These teams have previously been assigned and remain static throughout the predetermined period of time. For older learners, the time for a team to be static may be longer than for younger learners.) The teacher directs students to come to consensus on their responses to their quiz questions. If student response does not agree with the consensus, the team must revisit the question and come to a revised response. This continues until the team has found the correct response for each question.

Explain - *Students communicate what they have learned so far and figure out what it means. This phase also provides an opportunity for teachers to directly introduce a concept, process, or skill to guide students toward a deeper understanding.*

The teacher facilitates a discussion by going through each of the ten questions with the whole class. (Could be on a power point so the whole class can see the questions.) The teacher will verify misconceptions or misinformation students have through this discussion. Teacher may provide clarification, input factual or conceptual knowledge at this point. Students may challenge a "right response" to a questions by making a formal appeal. The formal appeal is a written rebuttal to the question by providing evidence cited from the text. Each team will receive points based on the number of tries needed to identify the correct response. (High score is not the best score.) The teacher makes note of misconceptions/misinformation/confusion by group and by individual. He/She may teacher mini lessons based on the data.

Teacher asks during lesson questions:

- How would you argue the reasons why people are moving towards living in tiny homes rather than a standard home?
- How would you describe how building tiny homes might become a challenge when considering measurement?
- How would you describe how building tiny homes might become a challenge when considering creativity?
- How might you consider why builders should be interested in the creativity that goes into creating the tiny homes?
- How would you express why being creative is important when building a tiny home?
- How might you consider some factors that may determine whether tiny homes may be for you or not?
- How would you justify the pros and cons of being the owner of a tiny home?
- How might you make sense of why measurement is important when it comes to creating the interior and exterior of a tiny home?
- How would you express why measurement and creativity are important when considering movement of the tiny homes?
- How would you justify how "less is more" is true when it comes to creativity?
- How would you justify why tiny homes are important to make environmentally sustainable houses that don't leave any footprint?
- How might owning a tiny home provide a house that gives its owner a flexibility?

Elaborate —*Allow students to use their new knowledge and continue to explore its implications. At this stage students expand on the concepts they have learned, make connections to other related concepts, and apply their understandings to the world around them in new ways*

Teacher creates folders for review or folders for next steps. Allow students 20 minutes to make choices and work as a team. Each team chooses one folder based on their scores for the quiz. Teams scoring 13 or more should choose to review while teams who scored 10-12 should choose next steps folder. Students who score an individual perfect score are part of next steps and may compact out. Alternate lesson plan attached at the end of the lesson plan.

Folder for Review:

1. Reading A-Z Tiny Homes Close Read Passage (See below.)
2. This Tiny House Community Will Turn Homeless People Into Homeowners
3. 7 Awesome Benefits To Small Space Living

Folder for Next Steps:

1. NewsELA-No Small Problem: L.A. Takes Tiny Homes From the Homeless (See below.)
2. What We Would Change About Our Tiny Home
3. What Is the Tiny House Movement – Plans, Resources, Pros & Cons

Students who need to be compacted out of this material could be part of the Next Steps. See plan below for compacting.

Students will work in their teams:

Students are instructed to create a PSA about limiting the carbon footprint they are making on tiny homes. The PSA can take any form students choose (brochure, commercial, power point, poster, flyer, etc.) The goal of the PSA:

- Inform others about tiny homes (identify and define).
- Inform others about the effects of tiny homes on our environment.
- Provide the pros and cons of tiny homes.
- Inform others about how measurement challenges creativity.

Evaluate: *This phase assesses both learning and teaching and can use a wide variety of informal and formal assessment strategies.*

Each group presents its product to the class. Student audience completes a graphic organizer for each group presentation. Teacher closes the lesson with post lesson questions.

- How might tiny homes benefit us as a society?
- How would you describe how the housing market has changed because of tiny homes and granny flats?
- How could you compare and contrast the purchase of a tiny home, the purchase of a granny flat, and the purchase of a standard home?
- If you were to assume the role of the citizens, how would you justify some reasons those living in the coastal areas would be against having tiny homes in their communities?
- How might you argue how an elite group of people can decide whether or not tiny homes can be a part of their community?
- How does measurement challenge creativity?

	Group A	Group B	Group C	Group D
What is a tiny home? How can a tiny home be identified?				
How have tiny home effected the environment?				
How does measurement challenge creativity?				

What Is The Tiny House Movement?

What are tiny houses? What is the tiny house movement? Why do people choose tiny homes and what does tiny living mean?

Simply put, the trend toward tiny houses has become a social movement. People are choosing to downsize the space they live in, simplify, and live with less. People are embracing the tiny life philosophy and the freedom that accompanies the tiny house lifestyle. The tiny house movement is about more than simply living in a small space (although, a small house is certainly part of it).

How Big is the Average Tiny House?

What is a tiny house? How big (or small, rather) is a tiny house anyway? Well, the typical American home is around 2,600 square feet, whereas the typical small or tiny house definition is a home with square footage is between 100 and 400 square feet. While of course there aren't any rules to joining the tiny house movement, when people refer to "the tiny life," their tiny house generally falls under the 400 square foot level.

Tiny homes may be rented or owned. You may choose a mini home on wheels or your small home may set on a foundation. Most tiny houses are independent structures—some are parked on land with other buildings or a larger home. Other tiny houses are parked on their own lot. Some tiny houses are designed and built by the owner themselves, while others are purchased, adapted from trailers, or built from a tiny house kit. Tiny houses come in all shapes, sizes, and forms, but they all enable simpler living in a smaller, more efficient space.

Why Join the Tiny House Movement?

To those who haven't tried tiny house living, it may seem daunting. Why would someone choose to live in a small space? But "bigger is better," right?

It turns out there are many merits to the tiny home movement and the tiny life philosophy. Of course, people may join the movement for any number of reasons, but the most popular reasons include environmental concerns, financial concerns, and the desire for more time and freedom.

The tiny life provides huge financial advantages and the ability to live a lifestyle filled with adventure. For most Americans, 1/3 to 1/2 of their income is dedicated to the roof over their heads! That means many people will spend a lot of time figuring out how to afford their homes. Buying a house often translates to at least 15 years of working over your lifetime to pay for it. Because of the high cost of owning a "typical-sized" home, as well as the associated expenses (and culture of "buy now, pay later"), 76% of Americans are living paycheck to paycheck.

We work hard to afford bigger houses than we need. We continue to work, so we can fill our houses with more stuff…items we may not need but buy anyway. Many Americans are overwhelmed by their packed schedules and obligations. They're tired of running in the rat race.

So, what's the alternative to this high cost of living? One solution is to live smaller—and it's that realization that brings many people into the tiny house movement. While small homes aren't for everyone, tiny house costs are much lower than a full-size building.

In my own journey, I started out in an apartment that cost me $1000 per month once you added in utilities, insurance, etc. Once I moved into my tiny house, my bills virtually disappeared, it now costs me $15 (yes you read that right, fifteen dollars!) per month. The cost of building my own tiny house was recouped in under 2 years' time, allowing me to bank a lot of savings. Even if you're not ready to take the plunge, there are lessons to learn and apply to escape the cycle of debt in which almost 70% of Americans are trapped.

The cost of buying an average-sized house over 30 years can be much higher than you think. The initial cost of a $290,000 home includes the purchase price, of course, but also includes the interest, taxes, insurance, maintenance, repairs and improvements. All of this can add up to a total cost of over a million dollars during the lifetime of your home. This is the "true cost" of a home.

THE COST OF BUYING A HOUSE OVER 30 YEARS	
Purchase Price (Typical Single Family Home)	$290,000
Down Payment	$58,000
Principal	$232,000
Interest @6.41%; total = $291,000 (after tax, 33% tax bracket)	$195,000
Taxes and Insurance ($6,000/year)	$180,000
Maintenance ($300/month)	$108,000
Major Repairs and Improvements	$300,000
Total Cost	$1,073,000

Why is the tiny home trend becoming so popular? Because the average cost of a tiny home is much lower than that of an average house. Once you've purchased your tiny home (current tiny house market trends show tiny houses cost between $10,000 and $40,000), the cost of upkeep is relatively low. Depending on where you park your tiny house, you may need to pay for land rental and insurance, but in the long run, the savings on a tiny house is huge.

The Small Living Movement and The Joy of Living with Less

As you see, it's no wonder many people are overwhelmed by the cost of their homes.

The tiny life is a growing movement, for sure! With international attention on CNN, AP, Guardian, Huffington Post, NBC, Oprah, PBS, and so many more (find links at the end of this

page), the tiny house movement has helped people learn about another way to live their lives. Every month thousands and thousands of readers come to my site hoping to learn how they too, can simplify, downsize, and learn how to live with less. I know many other tiny house owners who blog about their experience, and they report the same trend toward the small living movement.

My website focuses on tiny house living or living *The Tiny Life*. It's where I like to share my journey. Since I began, I've been able to experience many adventures, travel to new places, and enjoy my freedom.

Tiny houses are the focal point in a broader system to address issues, concerns, and problems of the current day. They offer a path to a smaller environmental footprint, greater financial freedom, and ultimately a self-sufficient life. The tiny home movement enables you to live a life on your own terms.

So if you wonder who buys tiny houses? Anyone who is concerned about life simplification, environmental consciousness, self-sufficiency and sound fiscal plans. The tiny life allows for you to have more time and freedom to enjoy life adventures.

What Tiny House Living Looks Like

Because the tiny life is lived on your own terms, it looks a little different for everyone. There are definitely commonalities amongst tiny house owners, though. There are also impressive savings many members of the tiny house movement experience. Here's a great infographic to illustrate all the important tiny house statistics and tiny living by the numbers. Wondering what is a tiny home? This will help paint the picture.

TINY HOUSES

And the people who live in them

The tiny house phonomenon redefines what makes a house a home, empowers the people for a better future and leads a movement that breaks the mold every day. Tiny house people come from all walks of life. This is their story.

SIXTY-EIGHT PERCENT

of tiny house people have no mortgage, compared to 29.3% of all U.S. homeowners.[1]

YOU CAN BANK ON IT

55% of tiny house people have more savings than the average American, with a median of $10,972 in the bank.

A HOME THAT YOU OWN

78% of tiny house people own their home, compared to 65% of homeowners with traditional houses.[2]

THE REAL COST OF HOUSING

The average cost to build a tiny house is $23,000 if built by the owner.

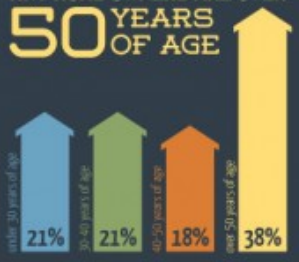
The average cost of a standard-sized house is approximately $272,000.[3]

Add $209,704 interest on a 4.25% 30-year loan and it's $481,704!

TINY HOUSE, BIG LIVING

The average tiny house is 186 sq/ft while the standard U.S. house takes up nearly 2100 sq/ft. That adds up to nearly 11.3 Tiny Houses![4]

APPROXIMATELY 2 OUT OF 5 TINY HOME OWNERS ARE OVER 50 YEARS OF AGE



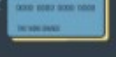
ISLAND SAVINGS TIME

32% of tiny house people have more than $10,000 saved for retirement.

62% of tiny house people have less than $5,000 saved for retirement.

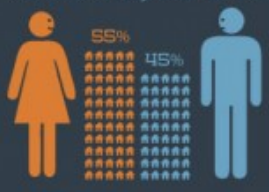
GIVE YOURSELF SOME CREDIT

89% of tiny house people have less credit card debt than the average American, with 65% of tiny house people having zero credit card debt.[5]



THE FAIRER SEX WINS

More women own tiny houses than men.



$42,038

per capita income of tiny house people.

EARNING $478 more annually than the average American.

Tiny house people are twice as likely to have a masters degree, while they are on par with the average college graduation rates.

Sources:
1- http://www.latimes.com
2,3,6 - http://www.census.gov
4 - http://www.nahb.org
5 - http://www.nerdwallet.com

THE TINY LIFE
TINY HOUSES, TINY LIVING

Some of the tiny house info above may surprise you. 68% of tiny home owners have no mortgage (compared to 29.3% of all U.S. homeowners). It's no surprise then, that more tiny home owners (78%) own their own home—plus, 55% of tiny home owners have more savings than the average American. 32% of tiny home owners have more than $10,000 tucked away for retirement.

A tiny home is easier to maintain because the average tiny home size is significantly smaller. Imagine the time you'll save keeping up with the average tiny home square footage (just 186 square feet). The average "regular-sized" home in the U.S. is over 11 times larger! That's much more time spent on upkeep.

Who buys tiny houses? More women than men (55% compared to 45%). Tiny house people are twice as likely to hold a Master's degree and are on par with the average college graduation rates. 2 out of 5 tiny house owners are over 50. The average income is $42,038, which means that on average, tiny house owners are earning $478 more annually.

Why a Tiny House? Tiny Home Owners in their Own Words

There's no better advocate for the tiny life movement than those who are living the tiny life themselves. Below I've compiled a few tiny house videos explaining exactly why so many people choose to embrace the tiny house movement. These owners of tiny homes share the benefits they've seen from making the switch to a simpler lifestyle. Even if you don't own a tiny home, per se, there are plenty of truths you can apply to start living the life of your dreams.

The Tiny Life: Tiny Houses, Simple Living

What is the tiny house movement all about? Here are many different perspectives from tiny home owners about why they chose to follow the small house trend. Simplifying, freedom, sustainability—the tiny house movement is about finding housing to fit your lifestyle. It's about not only decluttering your home and space, but decluttering your obligations, your social life, and your stress. The tiny life is about financial freedom and living a more engaged life with the luxury of time to do what YOU want.

Special thanks to Dee Williams, Lina Menard, Macy Miller, Laura LaVoie, & Chris and Malissa Tack.

How to Start Designing a Tiny House

Thinking of joining the mini house movement, but don't know where to begin? Here's how to start designing a tiny home, including the steps you should take before you decide to buy. Gather as much tiny house information as you can before you take the plunge. Before you start finding tiny homes to live in, spend time in tiny homes, talk to other tiny home owners, and even consider renting a tiny home or apartment. Once you're ready, learn how to use design and packing strategies to your advantage to make the most of your small space!

Special thanks to Lina Menard.

The Next Step in the Tiny Life

What happens after you move into a tiny house? So much is said about purchasing tiny house plans and learning how to build a tiny house. But once all the logistics are in place, what happens after you move in and start living the life you've always wanted? It brings up interesting questions to explore: with financial freedom and a simplified life, what are you going to do? Now that you have time, where will you set out for your next adventure? I made this video

explaining how I faced this question and what I discovered about life after you join the small house movement.

Quiz

1. Tiny living encompasses all of the following EXCEPT:
   a. life simplification
   b. environmental consciousness
   c. self sufficiency
   d. a mundane lifestyle

2. How big is the average tiny home?
   a. 100-400 square feet
   b. 600-1000 square feet
   c. 1600-1800 square feet
   d. 2000-2600 square feet

3. What percentage of tiny home people have less credit card debt than the average American?
   a. 65%
   b. 89%
   c. 32%
   d. 38%

4. What are some reasons why people are joining the tiny home movement?
   a. environmental concerns
   b. they are wealthy
   c. it is a current fad and trend
   d. they want to be like their friends

5. What percentage of small home owners don't have a mortgage?
   a. 78%
   b. 29.3%
   c. 68%
   d. 55%

6. All of the following steps should be taken before deciding to build or buy a tiny home EXCEPT.
   a. Gather as much information you can about tiny homes.
   b. Consider renting a tiny home or tiny apartment first.
   c. Talk to other tiny home owners first.
   d. Pick a home that you like, move in, and decide whether a tiny home is for you.

7. According to the current market trends, tiny houses cost between:
   a. $10,000-$40,000
   b. $50,000-$70,000
   c. $80,000-$100,000
   d. $110,000-$130,000

8. According to the article, which statement is NOT true?
   a. 68% of tiny home owners have no mortgage.
   b. 78% of tiny home owners actually own their home.
   c. 45% of women compared to 55% of men buy tiny homes.
   d. 55% of tiny home owners have more savings than the average American.

9. What is the tiny home movement?
   a. The tiny-house movement is an architectural and social movement that advocates living simply in small homes.
   b. The tiny house movement are homes a bit larger and ranges from 400 square feet to approximately 1,000 square feet.
   c. The tiny house movement are accessory apartments attached to standard sized homes.
   d. The tiny house movement is basically a self-contained unit and houses everything in the single room space except the bathroom.

10. According to the article, how many tiny home owners actually own their home?
    a. 65%
    b. 55%
    c. 78%
    d. 32%

Folder for Review:

In 2000, University of Iowa professor Jay Shafer wrote a newspaper article about his tiny home. It was just 96 square feet (9 sq m), about half the size of a one-car garage. Shafer said living simply at a low cost allowed more time for doing things he liked. He was not burdened by upkeep and mortgage payments.

Before the 1990s, few people lived in tiny homes. People became more interested after a book about living in small spaces came out in 1998. Then, Shafer's article started today's tiny-house movement in the United States. In 2018, a survey found that 53 percent of Americans would consider living in a home of 600 square feet (56 sq m) or less.

Tiny homes have several benefits. They are less expensive to buy and maintain than a traditional house. Traditional houses in the United States cost about $375,000 on average. Cleaning and upkeep add extra cost. The average cost of a tiny home is $20,000 to $50,000. Monthly expenses, including parking, water, electricity, and Internet, total about $700 per month.

Tiny homes do not have a lot of space inside for furniture or other objects.

Tiny-home owners enjoy life with fewer belongings in small spaces. They keep only what they need. They buy and use fewer goods. With fewer things to clean and repair, housework is done quickly. Homeowners have free time to do things they enjoy. They can spend more time outdoors and devote time to their community. They might do volunteer work or join a community garden.

Many tiny homes have a loft inside to create extra space.

Beyond these benefits, tiny homes have a smaller environmental footprint than traditional houses. Tiny-home owners produce less waste. Tiny homes use less land, water, and energy. Solar and wind energy cause little or no pollution. Tiny homes can be completely powered by solar panels, and at a much lower cost than powering a traditional house.

Do You Know?

Sizes of tiny homes range from about 65 to 1,000 square feet (6 to 93 sq m). The typical tiny house is between 100 and 400 square feet (9 and 37 sq m). Smaller homes are built on a trailer with wheels and can be towed to different places. Larger homes are built on a permanent foundation, like traditional houses.

Most cities have rules about where and how homes can be built. Tiny homes don't follow many of these rules. However, some places have communities of tiny homes and encourage people to build them. Homes on wheels can avoid some local rules. Unlike houses on foundations, they are not considered traditional houses. People can place these tiny homes on land owned by someone else and easily move the home to a new place if needed.

Tiny-home living encourages people to build strong ties to their community. It gives them an opportunity to think about the importance of their belongings. Tiny homes provide economic freedom while helping the environment. They are a good housing choice for many Americans.

House Size

Tiny home:
400 square feet (37 sq m)
Average U.S. house:
2600 square feet (241.5 sq m)

You could fit 6.5 tiny homes inside one average U.S. house!

House Cost

Tiny home:
$50,000 $$

Average U.S. house: $375,000 $$$$$$$$$$$$$$

Who Wants to Live in a Tiny Home?

In the United States, 53% of adults say they would consider buying a tiny home.

Sources: US Census Bureau; NAHB

This Tiny House Community Will Turn Homeless People Into Homeowners

The project will offer affordable housing to people in need — and could also help bring back a struggling Detroit neighborhood.

By [Kate Abbey-Lambertz]

CREDIT: KATE ABBEYLAMBERTZ/HUFFPOSTThis 300-square-foot home is the first of 25 completed for a tiny home community in Detroit, where formerly homeless and low-income individuals will rent to own the small houses.

DETROIT — Tiny homes have become popular with minimalist young professionals in big cities and homeowners who are passionate about sustainable living. But they're also a growing solution to the homelessness epidemic.

A community of small houses is being constructed in Detroit to give formerly homeless people and those with low incomes affordable homes that they will have the opportunity to own. Developers Cass Community Social Services unveiled the first completed house Thursday.

Six more will be built and and ready for their first tenants by November. They plan to have a total of 25 homes clustered on two blocks by the end of next year.

Each house, for singles or couples, will have a different design. At 250- to 400-square-feet, they're crammed with all the amenities you'd expect in a larger home, including full kitchens, washing machines and decks or porches.

"This is a program about aspirations. This isn't just a housing program," said Rev. Faith Fowler, the executive director of CCSS. "You move in, you don't even own a bicycle. In seven years, you own a house."

CCSS is a nonprofit that offers those in need a wide range of housing, employment and health programs. Their tiny home community could help a city struggling with a shrinking population and high levels of poverty.

It's a game changer for the neighborhood. Jim Vella, president of the Ford Motor Company Fund and Community Services

The organization will act as the landlord and select a varied group of residents to live in the 25 houses. At least half will be formerly homeless individuals, as well as others with low incomes like students and seniors.

"We want it to be diversified, because we didn't want people driving by and saying, 'that's where the homeless live,'" Fowler said. "They already deal with enough stereotypes."

Tenants will need to have a small amount of income to pay the cheap monthly rent — $300 for a 300-square-foot home — and the electricity bill, which is expected to be under $35 even in winter due to the houses' small size and energy efficient construction.

CREDIT: KATE ABBEY-LAMBERTZ/HUFFPOSTRev. Faith Fowler, the executive director of Cass Community Social Services, stands in the nonprofit's first completed tiny home in Detroit, Thursday, September 8, 2016.
After three years of renting, tenants will be offered a land contract so they can "rent to own" their homes within four years.

The lengthy process is meant to help residents become disciplined about paying their bills, so they won't later lose their houses to unpaid water bills or taxes.

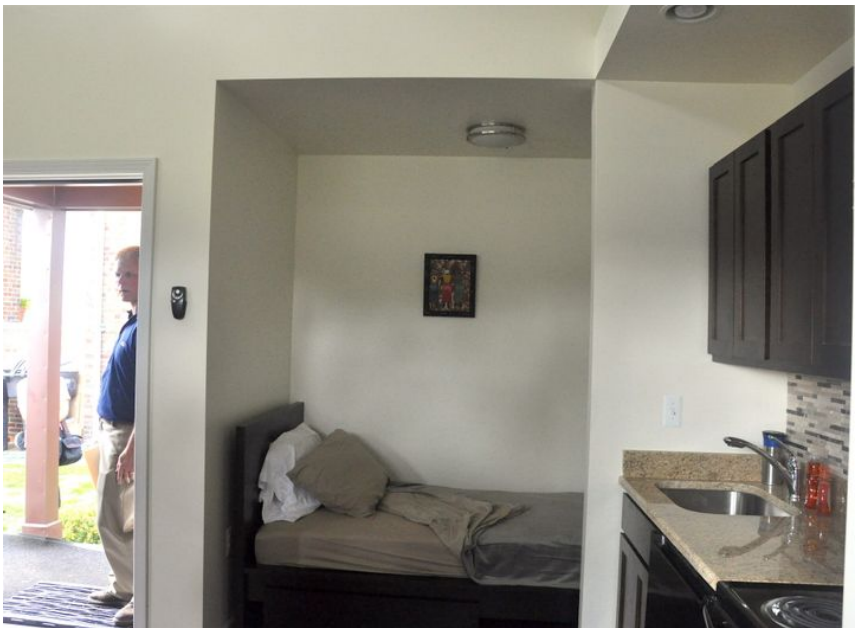
Residents of the tiny home community will be able to access a variety of programs run at the CCSS campus nearby, including a health clinic, a gym, a library, transportation for grocery shopping and classes like homeownership training.

The CCSS initiative is the first of its kind in Detroit and may be the only in the country geared toward homeownership, but other cities have seen success with tiny houses for homeless people. Community First in Austin is one of the largest efforts, with room for 250 renters. Dignity Village in Portland has about 40 rudimentary transitional homes that don't come with their own electricity or running water.

Working with local partners in Seattle, the Low Income Housing Institute has developed several sites of temporary tiny homes and tents for homeless people. In Oakland, California, no tiny home village exists yet, but students at Laney College, with funding from the city, are developing prototype structures that can be mass-produced cheaply.

The Detroit project will also help repopulate the neighborhood. There are thousands and thousands of abandoned homes and swaths of empty land in the city, one of the major hurdles to its recovery.

CCSS has done extensive work in the area surrounding the tiny home site, rehabbing several abandoned buildings for new housing. While there are plenty more abandoned structures that could be renovated, there are also about 300 vacant lots within a mile, Fowler said. This is the first new construction in the area in years.



CREDIT: KATE ABBEY-LAMBERTZ/HUFFPOSTThe interior of the first home built by Cass Community Social Services, showing the bed and kitchen in the small studio space.

"It's a game changer for the neighborhood," said Jim Vella, president of the Ford Motor Company Fund and Community Services, the automaker's philanthropic organization. "As the city looks at what it has to do to make neighborhoods viable again, this isn't the option for every neighborhood but it could work" in some.

Ford has donated $400,000 to the project, as well as construction work from their volunteers corps. CCSS has secured about $700,000 of the estimated $1.5 million they need for construction.

If the first 25 homes are a success, CCSS will consider a second development with slightly bigger homes for families. When Fowler pictures the neighborhood in a decade, she sees a vibrant community.

"I hope it's full of people, you know, kids riding bikes and playing ball, and sitting on their porches and having a cup of coffee and reading the newspaper," she said. "We've seen that some with what we've done already in this neighborhood — we have nine buildings within four blocks — but this is going to change it dramatically."

Folders for Next Steps:

newsela

No small problem: L.A. takes tiny homes from the homeless

By Los Angeles Times, adapted by Newsela staff on 03.10.16
Word Count **746**
Level **1020L**

Elvis Summers (right), with the help of Marisol Viera (left) and Angel Bonillatercero, removes one of 37 small homes he built for the homeless in Los Angeles, California, Feb. 24, 2016. Genaro Molina/Los Angeles Times/TNS

LOS ANGELES, Calif. — City officials have started to take away tiny houses for homeless people, who live and sleep on city sidewalks in South Los Angeles. They are about as big as a garden shed and the city plans to "discard" the houses.

Elvis Summers, who built and donated the structures, removed seven of the gaily painted wooden houses that come with solar-powered lights and American flags. He is saving them from the scheduled city sweep planned for later in the week.

Summers says he was once homeless. He placed them at city campsites along the 110 Freeway, for homeless people to use instead of tents.

"These people are beaten down so hard, you give them any opportunity to be normal, it lifts them up," Summers said.

Some Call Structures Safer

Councilman Curren Price, who represents the neighborhood, said the houses pose serious health and safety risks.

Price said that people complain that they must walk into the street to get around the tiny houses.

Some advocates for the homeless see the single-story structures as a cheap and safer shelter for the homeless.

Neighbors and other opponents, however, say they provide cover for lawlessness and criminal activity.

Nearby Neighbor Unhappy

June Ellen Richard, 54, has lived all her life within blocks of where the tiny houses are now placed. She says they are homes for lawlessness and criminal activity.

Authorities destroyed drugs and seized a gun from one or more of the houses and tents.

Mayor Eric Garcetti's spokeswoman, Connie Llanos, said Garcetti is working hard to get homeless people into permanent housing.

"Unfortunately, these structures can be hazardous to the individuals living in them and to the community at large," Llanos said in a statement.

"When the city took the houses, they didn't offer housing, they straight kicked them out," Summers said.

New Law Targets Tiny Houses

The tiny house crackdown came as the city continues to struggle to balance the growing homeless population with city housing rules. More than 30,000 people sleep in city streets in Los Angeles County.

The city passed a new law against "bulky items" that can be taken away by the city. The tiny houses are considered to be "bulky items."

The city also adopted a plan to end homelessness over the next 10 years. However, officials have not identified a source of money to tackle the $2 billion problem.

Summers said he has built and placed 37 tiny houses, from Van Nuys to Inglewood. He had help from volunteers and more than $100,000 in donations. The money came from people around the world who were drawn to his online video campaign.

"It's not a permanent solution, but nobody is doing anything for shelter right now," Summers said. He added that the houses should be given back to him rather than be destroyed. "They keep just saying we need permanent housing but it never happens."

"Their Plan Isn't Anything"

Price said there are alternatives that include shelters. However, he said, the tiny-house people reject them.

Kenner Jackson, who lives in a tiny house with his wife, Becky, and terrier, Cowboy, said officials were taking houses from people who need them right now. "Their plan isn't anything," he said.

Jackson said the city hauled away homeless people's possessions. They left bulky items like mattresses and chairs that residents dump next to the freeway, he said.

Johnny Horton, 60, whose heavily bandaged legs were scored with wounds from uncontrolled diabetes, wept silently Wednesday as he contemplated going back to sleeping in the street.

Ex-Marine Is Among Homeless

"Laying on that tent on the sidewalk it's impossible to keep clean," Horton said. He said the staff at the Los Angeles County-USC Medical Center, which discharged him Tuesday, said they would try to get him housing, but it would take one to three months.

"I grew up in this neighborhood," Horton said.

Several fliers were posted on Julia Briggs Cannon's tiny house next to the city impound notice. The fliers say she is seeking the whereabouts of her husband, Larry Joe Cannon.

Cannon, 58, said her husband is a Vietnam War-era Marine veteran with post-traumatic stress disorder and memory loss. He was hospitalized with a seizure Feb. 5, then disappeared.

Cannon watched as Summers drove off with her house on a flatbed trailer. She sat on a thin bedroll on the ground and pointed to the concrete.

"I'm staying right here," she said, her eyes filling with tears.

What We Would Change About Our Tiny Home

By

Tober Carton , Contributor

Blogger, artist, and tiny home dweller

12/15/2016 12:17am EST | Updated January 19, 2017

This post was published on the now-closed HuffPost Contributor platform. Contributors control their own work and posted freely to our site. If you need to flag this entry as abusive, send us an email.

Just over a year ago we made a fantastic purchase. We decided to buy a little home on wheels from a seller in Northern Ontario. The previous owner was a contractor who had designed the home for his father in law who quickly lost interest. We made the purchase knowing that the home needed a lot of work. We re-gutted the interior which was comprised of three small boxed rooms and redid the electrical and plumbing. Essentials such as ventilation, a stove, a shower, and outdoor water tank have been added. In time, we learned that our roof needed repairs and the siding was not properly sealed.

Quite often I reflect on what our tiny house would look like if we were to build from scratch. Living in our current home has taught us a lot about our preferences when it comes to tiny living.

Our home has been designed with a slope in the front. This downward angle limits square footage that could otherwise be incorporated into the design. Instead, many THOWs have lofts in this same area providing more storage space. Because of this narrow design, we have a triangular seating area in the front fitted with bench seats. These bench seats are similar to the designs often seen in campers. Beneath the seat cushions are plenty of storage. Unfortunately, these storage bins are hard to access on a daily basis.

After buying the house, we modified the table so that it can convert into a bed. We can easily switch out the table legs for smaller ones and the table drops down creating a space for guests to spend the night. I love this detail about our home. Unfortunately, our fitted table is an awkward triangular shape. Each day I think to myself, “What I wouldn’t give to have a a larger kitchen table!” Playing card games or board games on the tiny surface is quite challenging. On the bright side, we can make room for our coffee cups on one of the dangerously pointy corners.

Another detail that the original designers missed was electrical access. The total lack of electrical in the front bench area can be a little frustrating. The closest outlet is on the counter which is a long way to run a charge cord for our laptops. We have to jump the cord when sliding into the benches. The dog also needs to be untangled regularly to prevent him from snagging himself and sliding our laptops off the table. When given the chance, I will reroute some electrical to the floor level within the benches. My goal us to

mimic the electrical outlet placement commonly seen in coffee shops with access a few feet off the ground. No cords to trip over, no problem!

If building from scratch, we would replicate our current kitchen which features plenty of cupboard space. The kitchen is one of the most commonly used areas of the house so it makes sense that the space would be large and open. Another great feature is our "hardwood floor" which is water resistant rubber panels with a wood grain print. Oddly enough, our home did not come with a marine stove. Instead we are armed with a miniature wood burning cabin stove. At first we debated replacing the cast iron unit and thank goodness we didn't. Once our first winter hit, we were grateful to have a stove that would burn wood long into the night. Unfortunately, the central placement of the wood stove can make our home appear a little cramped. The chimney can block our view making the space appear smaller. If given the choice, we would have installed the stove on the far end of our house, leaving us with a clear line of sight.

All complaints aside, we would not turn back the clock if given the choice. We are proud of our decision and very confident that tiny living is for us. I am grateful that our home meets our needs and that the changes we dream about are non essential. Now that we understand our specific requirements, we can begin to incorporate this wisdom into a future build. Perhaps someday this home will be passed along to another young couple looking to embark on a new chapter of their lives.

Follow our journey at livingtinycanada.com

Lesson Plan #4 – Creative Problem Solving

TEACHER NAME		Lesson #
Lakisha Perkins		4
MODEL	**CONTENT AREA**	**GRADE LEVEL**
Creative Problem Solving	**Math/Art**	**4**
CONCEPTUAL LENS	**LESSON TOPIC**	
Measurement	**Tiny Homes**	

LEARNING OBJECTIVES *(from State/Local Curriculum)*

NC.4.MD.1 Know relative sizes of measurement units. Solve problems involving metric measurement.

- Measure to solve problems involving metric units: centimeter, meter, gram, kilogram, Liter, milliliter.
- Add, subtract, multiply, and divide to solve one-step word problems involving whole-number measurements of length, mass, and capacity that are given in metric units.

NC.4.MD.2 Use multiplicative reasoning to convert metric measurements from a larger unit to a smaller unit using place value understanding, two-column tables, and length models.

NC.4.MD.3 Solve problems with area and perimeter.

- Find areas of rectilinear figures with known side lengths.
- Solve problems involving a fixed area and varying perimeters and a fixed perimeter and varying areas.
- Apply the area and perimeter formulas for rectangles in real world and mathematical problems.

4.E.2 Understand the economic factors when making personal choices.

4.E.2.1 Explain how personal financial decisions such as spending, saving, and paying taxes, can positively and/or negatively affect everyday life.

4.E.2.2 Explain how limited personal financial resources affect the choices people make based on their wants and needs.

4.CX.2.2 Apply skills and concepts learned in other disciplines, such as math, science, language arts, social studies, and other arts, in the visual arts.

4.V.2.1 Identify different successful solutions to artistic problems.

4.V.3.3 Create art using the processes of drawing, painting, weaving, printing, stitchery, collage, mixed media, sculpture, ceramics, and current technology.

THE ESSENTIAL UNDERSTANDING *(What is the overarching idea students will understand as a result of this lesson?*	**THE ESSENTIAL QUESTION** *(What question will be asked to lead students to "uncover" the Essential Understanding)*
Measurement Challenges Creativity	How does measurement challenge creativity?
CONTENT KNOWLEDGE (What factual information will students learn in this lesson?)	**PROCESS SKILLS (What will students be able to do as a result of this lesson?)**
Students will know that: • Specific units of measurements are used depending upon the object being measured such as: inches, feet, yards centimeters, meters, etc. • Metric units have values. • Estimation can be used when measuring. • Larger measurements can be expressed in smaller units within the metric system. • Conversion tables can be used to convert one metric unit to another. • Relationships exist among measurement units. • Interdisciplinary connections and life applications exist within visual arts. • Art can be created with a variety of tools, media, and processes, safely and appropriately. • Applied creativity and critical thinking skills are used in artistic expression.	Students will be able to: • Create • Apply • Think Critically • Collaborate • Explain • Evaluate • Interpret • Present

GUIDING QUESTIONS

What questions will be asked to support instruction?

Include both "lesson plan level" questions as well as questions designed to guide students to the essential understanding

Pre-Lesson Questions:	**During Lesson Questions:**	**Post Lesson Questions:**
• What is the problem you observed in the video? • Why might the problem exist? • What are some solutions that can solve the housing issue in our community of Durham?	• Why did your group decide on these materials for your tiny home design? • What measurements will you use as you work on designing and building your tiny home? • What creativity will you use as you work on	• What challenges did you encounter when building your tiny home? • How did you overcome the challenges of building your tiny home?

• Who do you think could get involved to change the housing problem in Durham? • What is creativity? • What is measurement?	designing and building your tiny home? • What other materials might you choose? • What problems have your encountered as you are designing and building this tiny home? • What modifications have you made during construction? What caused the modifications?	• If you changed any part of the design of your tiny home, what would it be? Why would you make the change? • How would you change the design of your tiny home to make it better? • What designs did you see from other teams that you thought worked well? • How did you use measurement to inform your innovative design? • How did you use creativity to inform your innovative design? •

DIFFERENTIATION ***(Describe how the planned learning experience has been modified to meet the needs of gifted learners. Note: Modifications may be in one or more of the areas below. Only provide details for the area(s) that have been differentiated for this lesson.***			
Content	**Process**	**Product**	**Learning Environment**
	Students will be using creative problem solving as an instructional model. This model encourages creativity while exploring many possibilities to solve the problem. Students will engage in leadership, teamwork, creativity, persistence, and perseverance.	Students will create a tiny home for the city of Durham.	The learning experience is student-led and teacher facilitated.
PLANNED LEARNING EXPERIENCES ***(What will the teacher input? What will the students be asked to do? For clarity, please provide detailed instructions)***			

Engage and Connect - *This phase focuses on piquing students' interest and helping them access prior knowledge. This is the introduction to the lesson that motivates or hooks the students.*

As students enter the classroom and take their seats, the following video will be shown: Affordable Housing Nearly Impossible to Find in Durham. Students are asked to observe the video silently while jotting down possible solutions to the problem(s) they observed or noticed in the video. When all students have had the opportunity to jot down their solutions, the teacher asks:

- What is the problem you observed in the video?
- Why might the problem exist?
- What are some solutions that can solve the housing issue in our community of Durham?
- Who do you think could get involved to change the housing problem in Durham?
- What is creativity?
- What is measurement?

Following the discussion, the teacher presents the students with the various materials bins needed for the lesson.

Explore - *In this phase, the students have experiences with the concepts and ideas of the lesson. Students are encouraged to work together without direct instruction from the teacher. The teacher acts as a facilitator. Students observe, question, and investigate the concepts to develop fundamental awareness of the nature of the materials and ideas.*

Mess Finding: The teacher will provide the students with the following challenge: Students are to design a tiny home using the information they have learned throughout the unit and along with the City of Durham's planning commission's specifications. Teacher has placed within bins a variety of materials that students can use to create their tiny home.

Fact Finding: Students can view the materials, but cannot touch them at this time. They will begin to gather the necessary data and facts that are needed to solve the problem presented. Students are given instructions on the rules for creative teams. *(List of rules attached to the lesson plan.)* Teacher goes over rules and procedures with students. It is the expectation that students work well in groups and that everyone participates.

Explain: *Students communicate what they have learned so far and figure out what it means. This phase also provides an opportunity for teachers to directly introduce a concept, process, or skill to guide students toward a deeper understanding.*

Problem Finding:
Students will begin to brainstorm the different ways for designing a tiny home. Working as a team, they will determine their objective and what they want to accomplish.

Idea Finding:
Teams are given 25 minutes to sketch their designs only (construction does not begin until Explain phase of the lesson) based on innovation, creativity and materials provided. Prior to

going to the materials bins, students are to have their design completed and a materials list created. Each team will determine the best techniques to use for their tiny home. Students will begin by brainstorming all possibilities. The teacher circulates, acting as a facilitator.

Elaborate: Allow students to use their knowledge and continue to explore their designs. At this stage, students expand on the concepts they have learned, make connections to other related concepts, and apply their understandings to the world around them in new ways.

Solution Finding:
Students will have a discussion about the concepts they came up with and decide on the best approach for building their tiny home. All ideas are presented, evaluated, and the best idea is selected for building the tiny home.

Evaluate: This phase assesses both learning and teaching and can use a wide variety of informal and formal assessment strategies.

Acceptance Finding:
Students will create a plan for putting their idea into action – responsibilities will be assigned to each team member to ensure the tasks are completed. Students will have 50 minutes to build their tiny home (time to be adjusted if needed). One student will be given the task as the material's manager. The material's manager is the only person allowed to go to the materials bins for supplies. The teacher should constantly circulate documenting participation by all students. *(See assessment rubric)*

During lesson questions are posed at this time:
- Why did your group decide on these materials for your tiny home design?
- What measurements will you use as you work on designing and building your tiny home?
- What creativity will you use as you work on designing and building your tiny home?
- What other materials might you choose?
- What problems have your encountered as you are designing and building this tiny home?
- What modifications have you made during construction? What caused the modifications?

After 50 minutes of building time, teacher will assess for time needed to complete the task. When time is called, students remain in their teams. The teacher asks each group to display their tiny home in front of them. The students will describe their strategic use of measurements and choices of creativity used in creating their tiny home. Students will also be asked to describe their experience creating the tiny home and why they chose materials as they did.

After tiny homes have been displayed, students will circulate the room to view the tiny homes their peers created. After viewing their peers' creations, students will return to their seats. This is time for reflection using the following questions. A recorder should note responses of group members. Student responses are provided on the assessment rubric teacher passes to students. (See attached)

- What challenges did you encounter when building your tiny home?
- How did you overcome the challenges of building your tiny home?

- If you changed any part of the design of your tiny home, what would it be? Why would you make the change?
- How would you change the design of your tiny home to make it better?
- What designs did you see from other teams that you thought worked well?
- How did you use measurement to inform your innovative design?
- How did you use creativity to inform your innovative design?

Rules for Creative Teams

- Participate and complete your assigned task.
- Trust and respect your team mate.
- Respect each other's ideas.
- Communicate with your team mate in a respectful manner.
- Be open to compromise.
- Understand the common goal of your group.
- Manage your time.
- Be happy in the group you are in.
- Have FUN!!!

Group Rubric

Values 1-Strongly Agree 2-Agree 3-Disagree 4-Strongly Disagree

	Student Name	Student Name
Was dependable within the group		
Willingly accepted assigned tasks		
Contributed positively to the group discussions		
Worked well with other team member.		
Open to compromise.		
Understand the common goal of the group.		
Managed time well.		
Overall was a value to the team.		
Column Totals		

Assessment Rubric				
Criteria	**Above Expectation (4)**	**Meets Expectation (3)**	**Near Expectation (2)**	**Below Expectation (1)**
Blueprint Difficulty	Blueprint includes rooms, many details, windows, doors, outdoor living space, etc.	Blueprint follows some of the measurement specifications from the city of Durham and is complete with some details.	Blueprint is partially complete with few details.	Blueprint is not complete.
Measurement Specifications	Followed 100% of the city of Durham's measurement specifications.	Followed 80% of the city of Durham's measurement specifications.	Followed 60% the city of Durham's measurement specifications.	Did not follow the city of Durham's measurement specifications.
Creativity	Home includes multifunctional living spaces, appealing colors, unique, and great use of outside living space.	Home includes SOME multifunctional living spaces, appealing colors, unique, and great use of outside living space.	Home PARTIALLY includes multifunctional living spaces, appealing colors, unique, and great use of outside living space.	Home includes NO multifunctional living spaces, appealing colors, unique, and great use of outside living space.
Structural Proportions	Home has excellent structural proportion.	Home has good structural proportion.	Home has little structural proportion.	Home has no structural proportion.

Unit Resources/References

Lesson 1

- https://craft-mart.com/tiny-homes-and-cabins-prefab-kits-plans/
- https://www.google.com/search?q=images+of+tiny+homes&rlz=1C1DKCZ_enUS779US779&source=lnms&tbm=isch&sa=X&ved=2ahUKEwjs8sKZrp3qAhXsct8KHRutDikQ_AUoAXoECA0QAw&biw=1536&bih=754

Lesson 2

- https://www.dwell.com/article/norske-mikrohus-tiny-homes-bdb2bbed
- https://www.sandiegouniontribune.com/news/politics/story/2020-04-20/san-diego-moving-forward-with-tiny-houses-law-to-help-solve-local-housing-crisis
- Costa's Level of Thinking and Questioning pdf

Lesson 3

- https://www.youtube.com/watch?v=uj8pbtcsNns
- https://thetinylife.com/what-is-the-tiny-house-movement/
- Reading A-Z Tiny Homes Close Read Passage
- This Tiny House Community Will Turn Homeless People Into Homeowners
- 7 Awesome Benefits To Small Space Living
- NewsELA-No Small Problem: L.A. Takes Tiny Homes From the Homeless
- What We Would Change About Our Tiny Home
- What Is the Tiny House Movement – Plans, Resources, Pros & Cons