



Overview:

The size of a home varies all over the country, actually all over the world. Although there are many factors that determine the size of one's home, the recent economy has played a big part in helping folks make that decision. More and more people who want the American Dream without the monthly payments are choosing to live in tiny homes (and we mean tiny!). These tiny homes can be as small as 90 sq. ft. complete with bedrooms, kitchens, bathrooms and living quarters. In these activities today, students will use their imaginations and their math skills to help them design and determine the cost of their own tiny houses.

Grade Level: 6

Subject Matter: Math

Standards:

Students will be able to:

- use a variety of strategies to solve and explain solutions to problems involving integers and percents.
- Select appropriate units to measure and determine surface area.

Classroom Activities:

1. Activity #1 Discussion about "Tiny Houses" (10-15 minutes)

- The tiny house that you saw in the NewsDepth feature today was about 100 square feet. What are the possible dimensions of that house (length by width)?
- If you have a measuring tool, have 2 or 3 students come up to the front of the room and mark off 100 square feet using the dimensions from above. Situate a chair on each corner of the measurement.
- That is the average size of the teeny tiny houses that are a part of this new housing trend we saw featured. How many of you would be comfortable living in this size of a house? What would be the advantages? Disadvantages?
- Let's say you lived in a house this size and you could take any 2 things you owned with you when you moved in it, what would be your choice?

2. Activity #2 Tiny House Math

- The economy and how it affects us can many times be a significant factor in determining the size of a home. Saving money becomes very important. That was mentioned by Jay in the NewsDepth feature.
- Students complete Handout #1. You also could do this one problem at a time or wait until all of the problems are completed to go over.

3. Activity #3 Design your Own House

- Assign students a partner or allow them to choose their own and challenge them to design their own house. Give them each paper and pencils to complete this assignment.
 - Present this scenario to your students:
- You are going to design your own tiny house. The maximum size of the ground floor of your tiny house is 125 square feet. You need to determine what will be the design and size of your living quarters, kitchen, bedroom and bathroom (don't forget windows and door).
- This can be completed in one class period. Once they have decided on their design have the entire class brainstorm the following information and take notes on the answers.
 - You have a design for your house, but what else you need to make your house functional (lighting, plumbing, heating, appliances, etc)? What would you need to furnish your house? How much do you think the utilities would be?
- Have each student take home their house plans and involve their family in proposing the furnishing of their houses. Students and parents can go around their own homes and determine what appliances and lighting, heating, etc. and whatever else they think they need to make their tiny houses functional. Have them list those on Handout #2. Give them the option to estimate the costs as well.
- Students will return with their designs and the estimated cost of furnishing and putting lighting and appliances in their homes (building costs are not included with this estimate). You could visit Sears, Lowes or Home Depot websites to get real costs.

Resources:

<http://www.tinyhouses.net/> Pictures and ideas for students about tiny houses. There is a gallery at that site of several tiny houses.

<http://www.tumbleweedhouses.com/> A website designed by Jay Shaffer who has been living in a tiny house for over 10 years.

Handout #1



Tiny House Math – You Figure!

1. If the payments for your current house add up to \$8,932 annually, how much are your monthly payments?

2. If you could save 85% a year on payments by moving into a tiny house, how much would you pay annually? Monthly?

_____ annually _____ monthly

3. If the utilities on your new tiny house are 7% of your monthly payment, how much are you paying each month for utilities plus your house payment?

4. If you make \$375 a month, what percentage of your monthly income would be used to pay your utilities and house payment?

5. What would be the color of your house?
