STEM

Building Tiny Houses

Compose and Decompose Shapes



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For Review Only

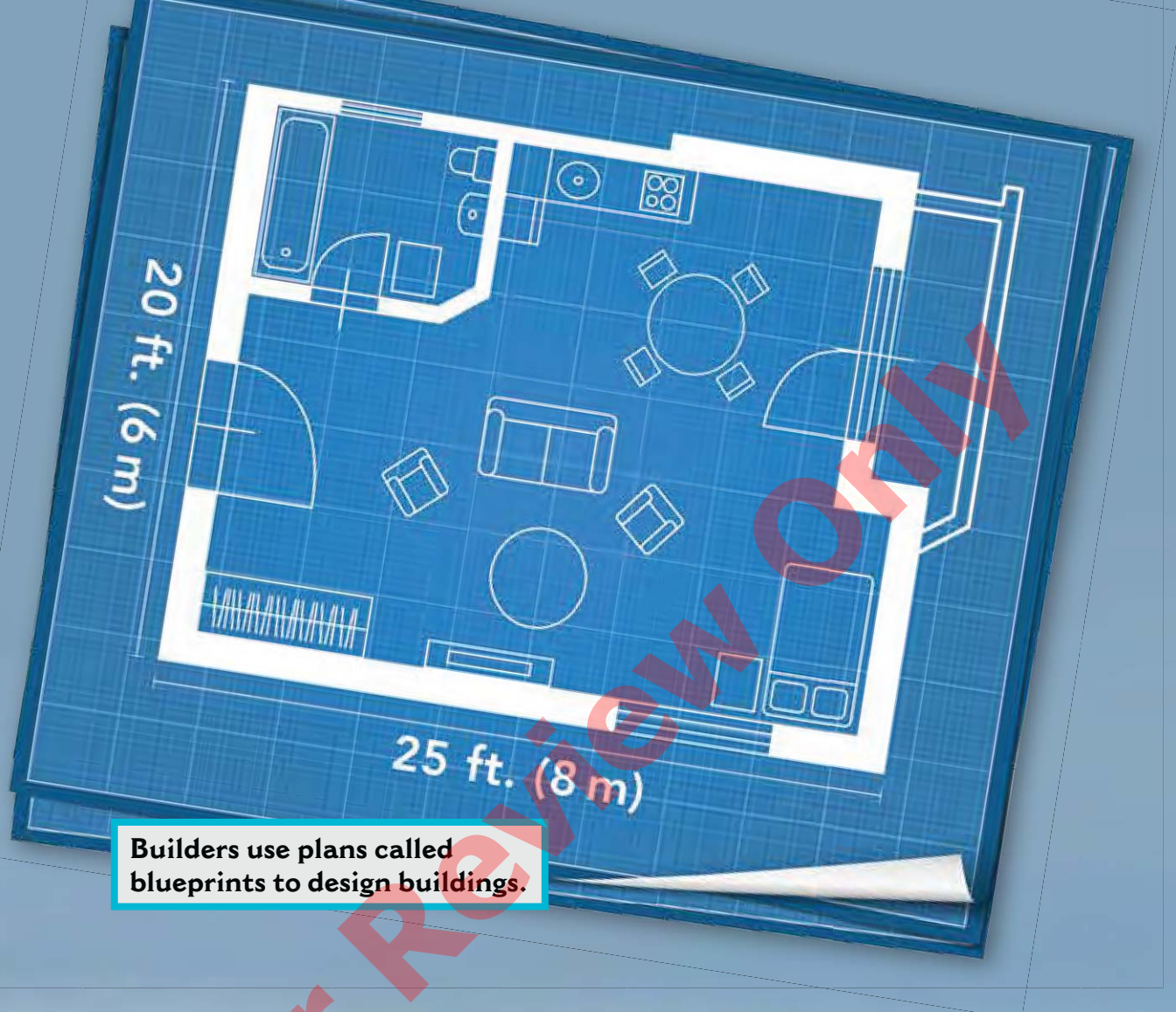
Home Sweet Home

People say that home is where the heart is. That means that they do not need a big house if they live with people they love. In fact, some people like to live in tiny houses. A tiny house looks like a regular house. But it is much smaller. Most tiny houses are less than 20 feet (6 meters) long. That is about the size of a large living room! It may seem small, but tiny-house owners feel right at home in these little spaces.



tiny house

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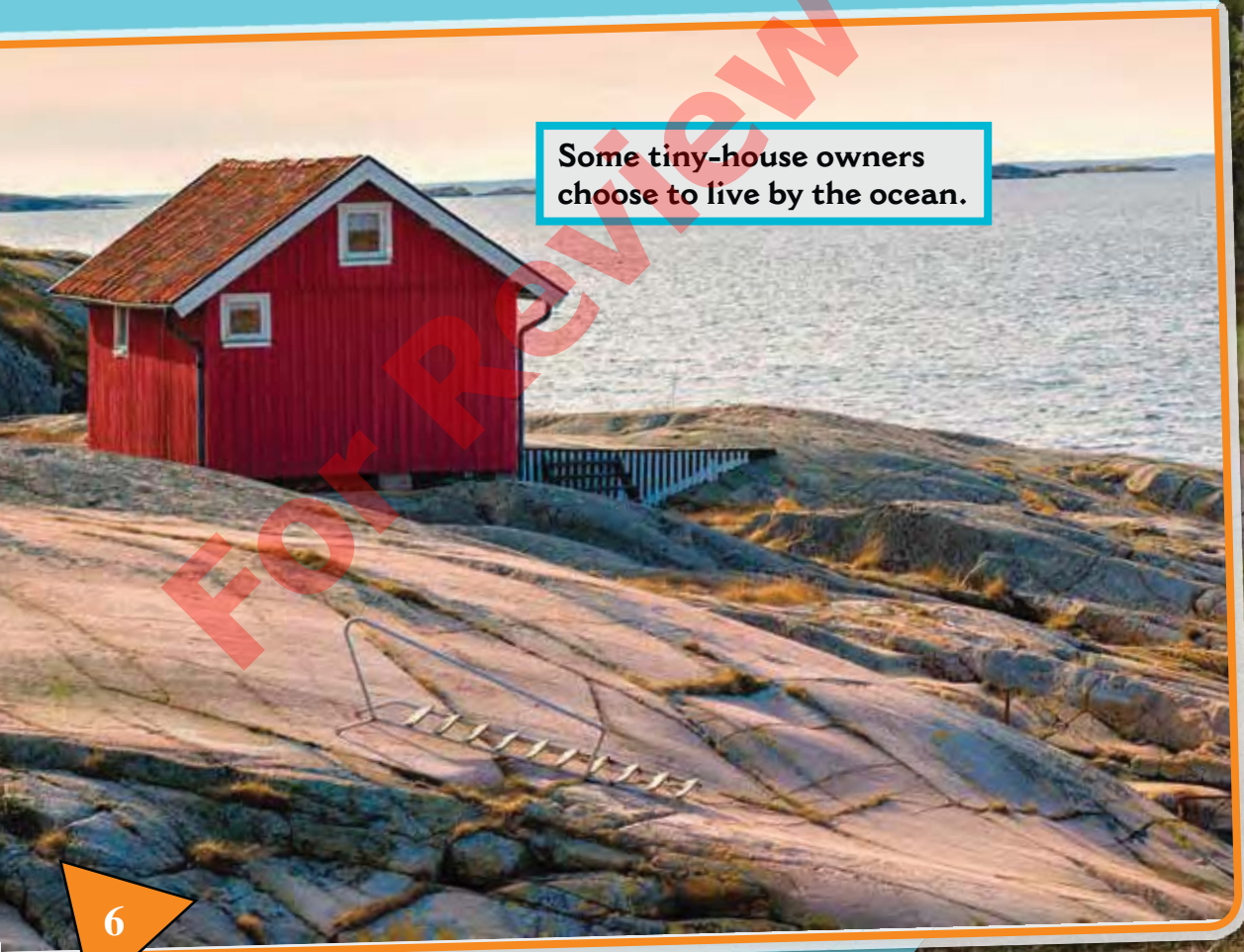


Builders use plans called blueprints to design buildings.

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Tiny House, Big Idea

Living in tiny houses gives people a chance to live big lives. Small homes cost less. They create less **waste**, too. So, tiny-house owners can live where land costs more. Many choose to live near nature. Others use their money to travel. Some people even bring their houses with them!



Some tiny-house owners choose to live by the ocean.

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This tiny house can sleep up to eight people.

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Building the Basics

People save money by buying tiny houses. They can save even more if they build their own house.

When people build their own houses, they can choose what they want to put in each room. As they build, they think of ways to make their small spaces feel huge.



People work together to build a tiny house.

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Let's Explore Math

Imagine the new owners of a tiny house are decorating it.

1. The owners of the house have a footrest shaped like a cube. They want to make a new covering for it by sewing together fabric squares. How many squares do they need to use to cover all sides? How do you know?



2. A window in the house is shaped like a triangle. The owners want to hang a straight curtain rod across it. They want the window to be divided into a trapezoid and a smaller triangle. Draw a triangle similar to the one below. Show where the owners should hang the curtain rod.





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Math Talk

1. How are two-dimensional squares related to three-dimensional cubes?
2. Mike tells Dana that he can make a rectangle using only triangles. How many triangles might Mike need to do this?
3. In her math journal, Donnika decomposes a hexagon into two different shapes. What shapes result?
4. Jada says she can use small squares to build a bigger square and small rectangles to build a bigger rectangle. But, it is impossible to use small triangles to build a bigger triangle. Do you agree or disagree with her? Why?
5. Would you rather build a rectangle using squares or divide a rectangle into squares? Why?
6. Why is it important for builders of tiny houses to know how to compose and decompose shapes?

For Review Only