



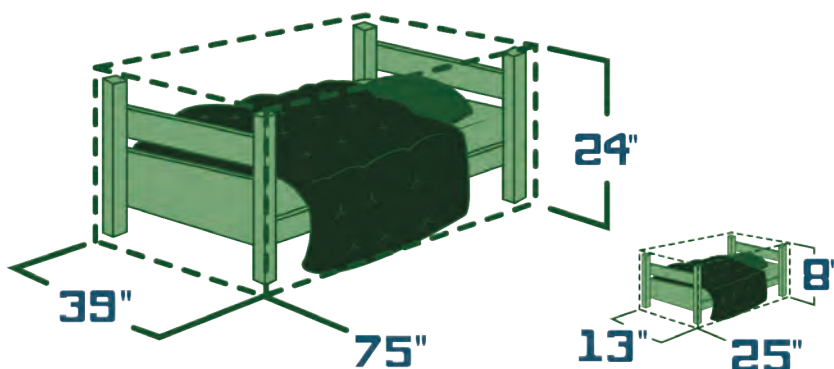
# Scale Ella

## Learner Guide



Watch the animation, *Scale Ella*, and complete these activities. The animation and an instructor guide are available on iTunes U (search "Math Snacks") and at [mathsnacks.org](http://mathsnacks.org)

The regular size of a twin bed is 39" wide, 75" long and 24" high. Scaleo has scaled your bed to this size: 13" wide, 25" long and 8" high.



1. What can Scale Ella do so that you can sleep comfortably tonight?

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2. Scaleo has now scaled you to be bigger by a scale factor of 7. What is your new height?

$$\square \times 7 = \square$$

Your Height x Scale Factor = Your New Height

A. Will you fit on a regular-sized bed?

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B. If you can't, what can Scale Ella do to help you?

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3. You have been given Scale Ella's powers, but before you scale items you have to practice by scaling numbers. Pick a scale factor that will increase the numbers and enter it into box 1. Pick a scale factor that will decrease the numbers and enter it into box 2. Once you pick your scale factors, complete the table by applying the scale factors to increase and decrease the numbers.



	Scale Up By	Scale Down By
Numbers	1 <input type="text"/>	2 <input type="text"/>
.05	<input type="text"/>	<input type="text"/>
1/2	<input type="text"/>	<input type="text"/>
7	<input type="text"/>	<input type="text"/>
13	<input type="text"/>	<input type="text"/>
25	<input type="text"/>	<input type="text"/>
102	<input type="text"/>	<input type="text"/>

4. If you could scale **up** three things in your life by a factor of 5,

**A. What would you scale up? Why?**

<input type="text"/>	<input type="text"/> <input type="text"/>
<input type="text"/>	<input type="text"/> <input type="text"/>
<input type="text"/>	<input type="text"/> <input type="text"/>

5. If you could scale **down** three things in your life by a factor of  $\frac{1}{5}$ ,

**B. What would you scale down? Why?**

<input type="text"/>	<input type="text"/> <input type="text"/>
<input type="text"/>	<input type="text"/> <input type="text"/>
<input type="text"/>	<input type="text"/> <input type="text"/>