

Energy Pyramid Lab

Work through the lab at keslerscience.com/energy-pyramid-lab. Every answer comes off the screen.

Name _____

Date _____ Pd _____

DO THIS **Build the pyramid**

Open **Step 1**. Build **all three** pyramids: Texas Grassland, Coral Reef, and Chihuahuan Desert. Fill in the grassland one below.

TERTIARY CONSUMERS _____

SECONDARY CONSUMERS _____

PRIMARY CONSUMERS _____

PRODUCERS _____

1. Only one organism above makes its own food instead of eating something else. Which one, and where does its energy come from?

2. Now think about all three pyramids you built. What was the same in every single one?

DO THIS **Run the 10% rule**

Go to **Step 2**. Leave the slider on **10,000 kcal** and press **Send the energy**. Fill in the table from the screen.

TROPHIC LEVEL	ENERGY (KCAL)	% OF PRODUCER ENERGY	SQUARES
Producers			
Primary consumers			
Secondary consumers			
Tertiary consumers			

1. Now drag the slider to **20,000 kcal** and send the energy again. The tertiary consumers read _____ kcal.
2. The lab says that energy “never made it up” to the next level. Where did it actually go?

DO THIS **Work the pyramid backward**

Go to **Step 3**. Use the slider to set what the top predator needs, then read the **producers** line at the bottom.

THE TOP PREDATOR NEEDS...	...THIS MUCH ENERGY IN THE PRODUCERS
10 kcal	
25 kcal	

1. Set the predator back to 25 kcal and press **Add a fifth level**. A fifth level would get only _____ kcal.
2. Use that number to explain why food chains almost never have more than four or five levels.

DO THIS **Challenge and wrap up**

Go to **Step 4** and finish all eight questions.

1. My challenge score: _____ out of 8
2. A grassland can feed thousands of grasshoppers but only a few hawks. Explain why, using the words **trophic level** and **10%**.

