



### THE SOAPTREE YUCCA AND THE PRONUBA MOTH

by Lanny and Marilyn Johnson

*Kids Think and Believe Too* has looked at some incredible animals and plants in the past, and in this issue we will look at another plant and animal that will absolutely amaze you! We have to look at them together because neither could live without the other one! The soaptree yucca and the pronuba moth depend on each other to survive (a dependency called mutualism).

Growing in the desert, the soaptree yucca plants have sharp sword-like spines pointing out in all directions. In the middle of these spines grows a stalk with beautiful white flowers. These flowers only bloom at certain times of the year and only at night. Now, here is where it gets interesting ... the yucca needs the help of a little tiny white moth called the pronuba moth for pollination. Many insects use the yucca, but only this one specific type of moth can do the job of pollination.

The pronuba moth hides in a cocoon buried in the ground. On the very same night that the soaptree yucca's flowers bloom, the female moth breaks out of its cocoon. The moth then flies in

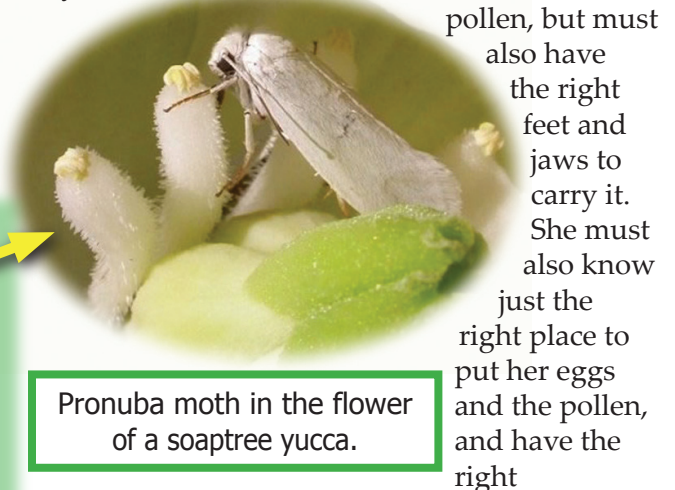
circles until it catches the scent of the flower. The moth has not eaten anything for a long time and yet it ignores the nectar of the flower. Instead of eating, the moth begins to collect pollen of the flowers on its tiny feet. Flying from flower to flower, the female moth carefully scrapes the pollen into a ball that becomes three times the size of its head. The moth holds this ball with its jaws and its specially designed feet. Flying to another flower, she backs down into the heart of the flower, pierces a hole with an egg-laying needle, and lays eggs among the flower's seed cells. The moth then takes the ball of pollen and stuffs it into a special cavity in the flower. This pollen fertilizes the flower's seeds so they can grow. When the baby caterpillars hatch, they eat the seeds. The caterpillars eat all they need, but never eat all the seeds. The yucca has plenty of seeds left over to make new yucca plants ... and the caterpillars have been supplied with all the food they need to complete their entire life cycle. After about two months, the pronuba caterpillars cut a hole in the side of the seedpod, and lower themselves to the ground by spinning a silk thread. Once on the ground, they dig a hole, crawl in, and wait about ten months ...

or until the next yucca flowering. Some years, because of drought or other reasons, the soaptree yucca does not bloom. When the yucca does not bloom, the pronuba moth does not come out. The moth will remain underground until the

next blooming. Occasionally, the yucca won't bloom for years!

The mother moth dies after her work is done, but she has ensured that her babies will have a good source of food to start their life ... and because of the moth, the yucca will have seeds to grow into new yucca plants. The soaptree yucca and the pronuba moth cannot live without each other. There is still more: Every species of yucca plant has its own special kind of moth ... only the right one is specially designed for that kind of yucca!

Evolution cannot explain how a small caterpillar knows it's time to change into a moth, and come out of the ground on the same night when the yucca is blooming. This moth must not only know



Pronuba moth in the flower of a soaptree yucca.

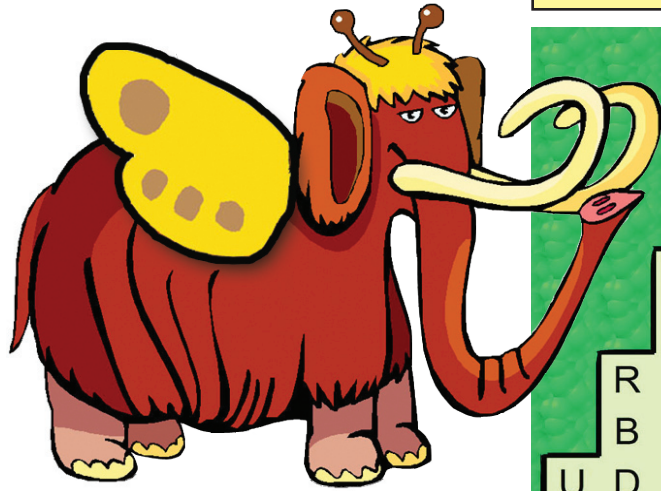
how to collect the pollen, but must also have the right feet and jaws to carry it. She must also know just the right place to put her eggs and the pollen, and have the right

equipment to place them. Furthermore, evolution cannot explain how the yucca obtained all the right parts to hold the seeds, pollen and moth eggs.

Our God had a lot of details to think about when He made the yucca plant and its moth. Every detail had to be just right or these two amazing creations never would have survived! We have a wonderful God that cares about details, especially the details about you! Give Him your praise today!!!

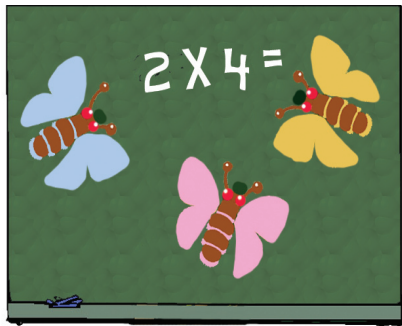


What's the biggest moth in the world?



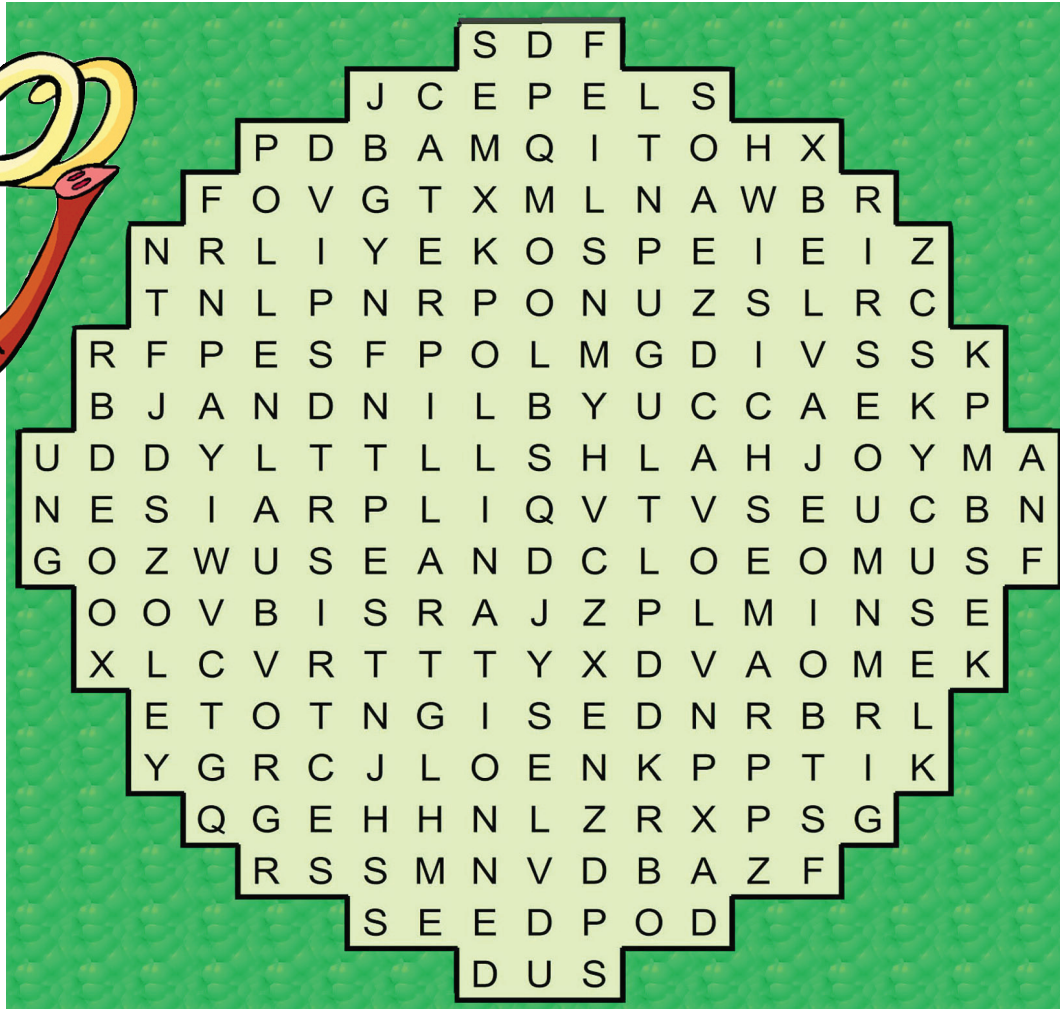
A mam-moth!

What do insects learn at school?



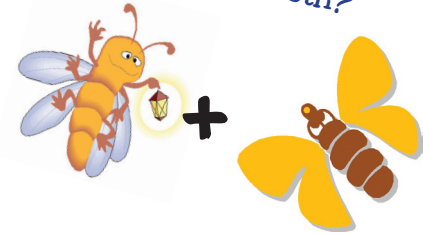
Moth-matics!

Look for the words in the puzzle from the words in the WORD LIST below puzzle. The hidden word might be up, down, sideways, slanted, or backwards.



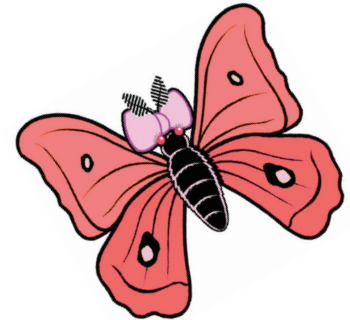
BALL • CATERPILLAR • COCOON • DESERT • DESIGN • DETAILS • FLOWERS  
 • MOTH • NEEDLE • POLLEN • POLLINATION • PRAISE • PRONUBA •  
 SEEDPOD • SOAP TREE • SPINES • YUCCA

What do you get if you cross a firefly with a moth?



A insect that can find its way around a dark clothes closet!

What is a myth?



A female moth!

