

Trying To Get Some Shut Eye!



Hi friends! I am still in Brazil, and I have not had any luck in finding a way out of the rainforest. I'm really thankful that Monkey is still with me though. I would be really lonely without him. I have been trying to find a way out of the rainforest, but I am so sleepy. I can't sleep at night because the ground is cold and wet, and it is very scary. I even tried napping during the day, but the sun is in my eyes. Also, I can't seem to stay away from critters that are all over the ground. If I don't get to sleep soon, I'm not going to be able to continue my search. If you could help to design a shelter for me, that would be so helpful! I could finally get some restful sleep. Check out the videos I posted online for more details, and let's get those gears moving!

Good luck, Flyhh

Instructions for GEERlings

Segment 1—Bug Out Bungalow



Hello GEERlings! Thanks for helping me to get a good night sleep. It's a good thing I have you to help me! I'm so sleepy!

Inside Flynn's Fun Pack, you have items that represent things that Flynn either has around her from the environment or things she always carries with her. These will be the only items you can use to solve the problem. Here's what you've got to work with:

Material:

What it Represents:

Shower Curtain (Two 4x4 Pieces)	⇒ Piece of Flynn's Raincoat
Plastic Wrap (Two 4x4 Pieces)	⇒ Spider Webs
Tape (1 container)	⇒ Palm Leaves Covered In Sap
Index Cards (5)	⇒ Tree Bark
Toothpicks (20)	⇒ Twigs
Straws (10)	⇒ Bamboo
Pipe Cleaners (5)	⇒ Vines
Wires (4 Pieces)	⇒ Spokes From A Bike
Comb (1)	⇒ Hair Comb That Flynn Found
Tongue Dispensers (10)	⇒ Logs
Rubber Bands (4)	⇒ Bungee Cords
Clothes Pins (5)	⇒ Monkey's Special Creation

Your Challenge

Segment 1—Bug Out Bungalow

Create a study shelter that can keep Flynn off of the ground and dry. Using the materials, design a shelter that Flynn can sleep in. Your design must keep Flynn dry and shady. It must also be off the ground to keep all the rainforest critters away!

All of your ideas should be your own. Remember, *Monkey see, Monkey do*, so make sure Monkey can recreate your solution by using only the materials in Flynn's Fun Pack. Good luck, GEERlings!

Before you start working, see if you can plan what you think your solution will look like in the space below.

My solution will look like this, and I will use this amount of each material to build it:

- ___ Shower Curtain
- ___ Plastic Wrap
- ___ Tape
- ___ Index Cards
- ___ Toothpicks
- ___ Straws
- ___ Pipe Cleaners
- ___ Wires
- ___ Comb
- ___ Tongue Dispensers
- ___ Rubber Bands
- ___ Clothes Pins

Let's Engineer It!

Segment 2—Bug Out Bungalow

Flynn needs a sturdy shelter so she can rest, stay dry, and get off of the ground. Since Flynn has done research on living in wet climates before, her engineering intuition tells her that a pitched roof and stilts would help her stay dry in this climate. The stilts would get her off of the ground, and the special roof would help the water run off of the top, almost like an umbrella! Your job is to answer the questions below which will help you design a sturdy shelter.

Don't forget to use the links on the growingeers.com website to help you with your research!



1. What is a pitched roof? What is another name for a pitched roof?
2. What does a pitched roof look like? Why does it look this way?
3. What other type of roof would work for this problem as well?
4. What is a truss? How does it help hold up a pitched roof?

5. How could a pitched roof with trusses help Flynn?
6. How are shelters at the beach and in the bayou raised off of the ground?
7. What materials work best for raising a small shelter off of the ground?
8. How can trusses help keep the shelter sturdy?
9. How will Flynn benefit from having a raised shelter?
10. What part of the structure would water come in contact with if it did flood below the structure?
11. Will water affect the stability of those materials holding the structure up?
12. Make a list of all of the ways you can prevent bug bites.
13. What could you build to help prevent the bugs from

Remember *GEERlings*, my engineering intuition says a pitched roof would be the best solution for my problem. Make sure you are designing a shelter that Monkey can recreate! Take your time during your research to come up with a good plan!



Let's Put It All Together!

Segment 3—Bug Out Bungalow

Okay GEERlings, now that you have learned how to build a great shelter, it's time to use that information and your creativity to stop bugs and rain from reaching Flynn. If your shelter can stay dry on the inside when you put 5 drops of water on it, then it will certainly keep Flynn dry while she sleeps! And remember, it should also be shady and lifted off of the ground!

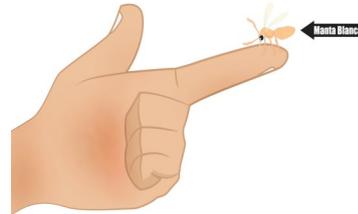


Let's review what you designed during the last session of this quest. Are there any changes you want to make?

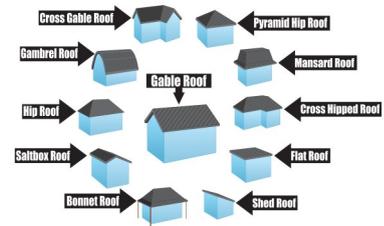
I think I can build my shelter like this, using these materials:

Student Vocabulary List

Manta blanca: a small, bloodsucking insect, similar to a mosquito that can leave bites that last up to several days or weeks. The bites itch and if scratched, can become infected. They are also known as sandflies or midges.



Pitched roof: a roof that has a high point in the center and slopes downward toward the outside, in the shape of a triangle. Also called a gable roof.



Truss: planks that fit together in diagonal shapes to improve that strength of a structure or roof.



Stilts: tall poles that are under a building to hold it up of the ground.

