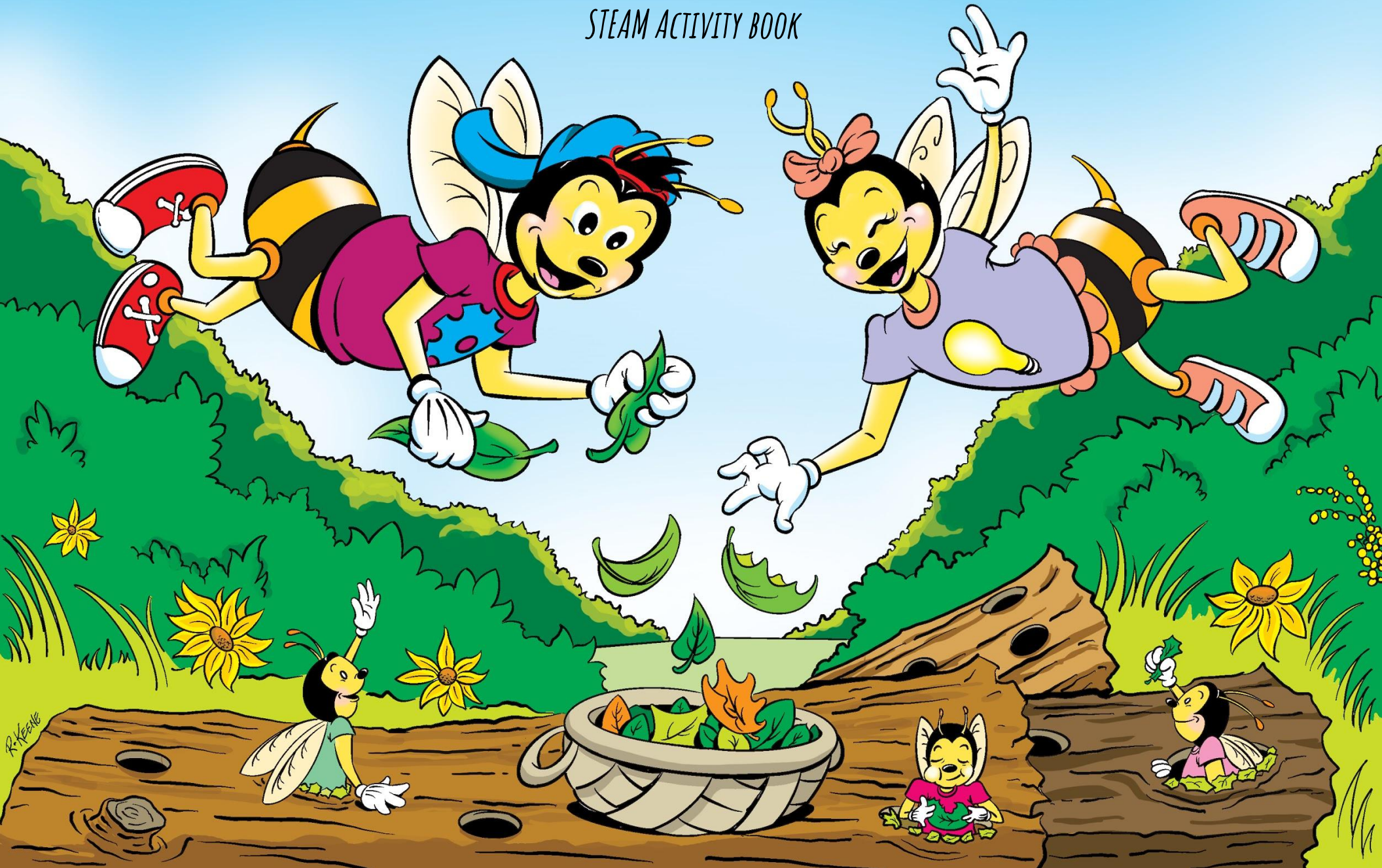


# "BEE" THE INVENTOR

STEAM ACTIVITY BOOK





# "BEE" THE INVENTOR

STEAM IS THE CROSS-CURRICULAR APPROACH TO USING SCIENCE, TECHNOLOGY, ENGINEERING, ART, AND MATHEMATICS TO SOLVE REAL-WORLD PROBLEMS.

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WORKER BEES:



DWIJ



SHAGUN

*"BEE" THE INVENTOR™*  
STEAM ACTIVITY BOOK

HELP SHAGUN AND DWIJ BUILD A NEW HOME

MY NAME IS \_\_\_\_\_ AND I AM AN  
INVENTOR!



**Dwij and Shagun are leafcutter bees. They happily live in a great big field in the USA.**

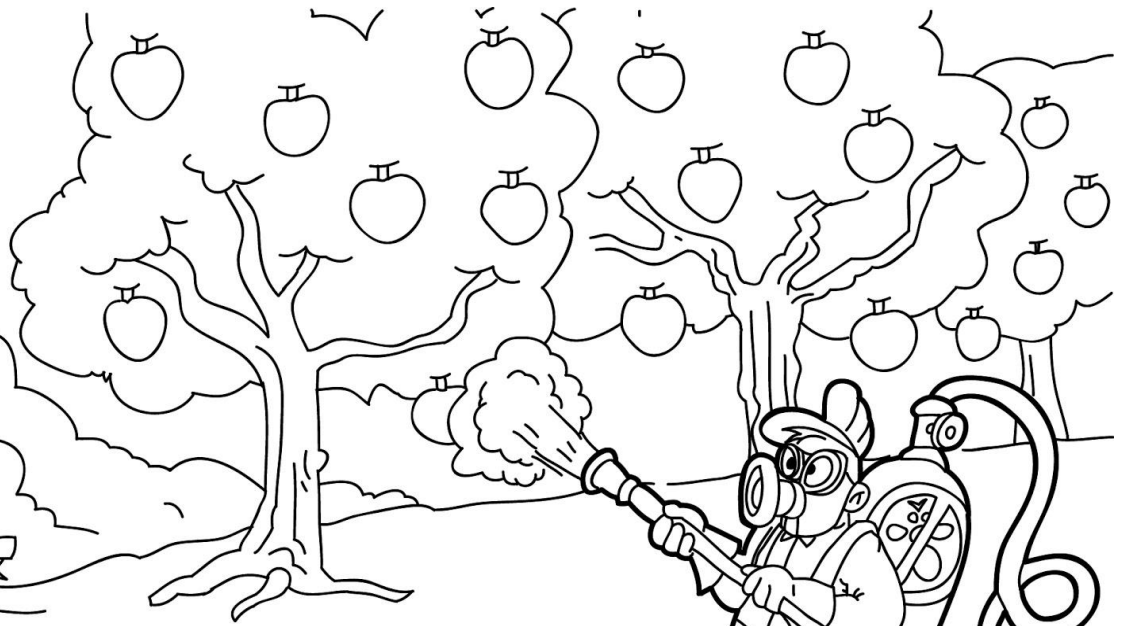
**Leafcutter bees, like Shagun and Dwij, spread pollen from plant to plant. Pollen helps fruits and vegetables to grow. This is called **POLLINATION**.**



**They find snug little twigs, logs and bushes to live in near their big field. }  
They use cut up bits of leaves to help make their nests comfy and safe.**



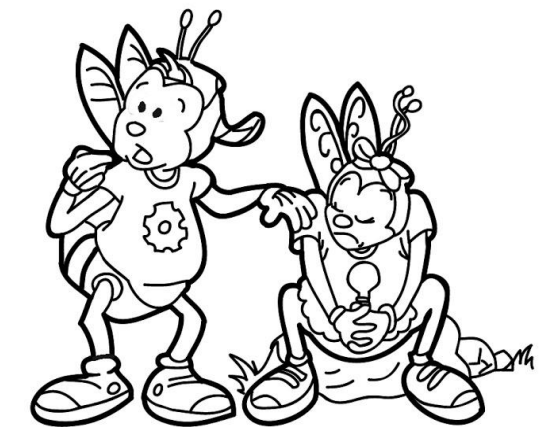
PESTICIDES  
HARM BEES  
AND THEIR  
HOUSES



ANIMALS  
DAMAGE  
BEE  
HOUSES



PEOPLE  
WITH  
MACHINES  
DAMAGE  
BEE  
HOUSES



**Sometimes they are sad because their homes get damaged.  
Can you match the objects with the damage they would cause?**

**Shagun and Dwij are in your backyard looking for a new, snug little house. Can you help them?**



# First take a look at the needs of their new house...

❁ The house must be off the ground as tall as you are.

❁ Leafcutter bees need hollow tubes to nest in.

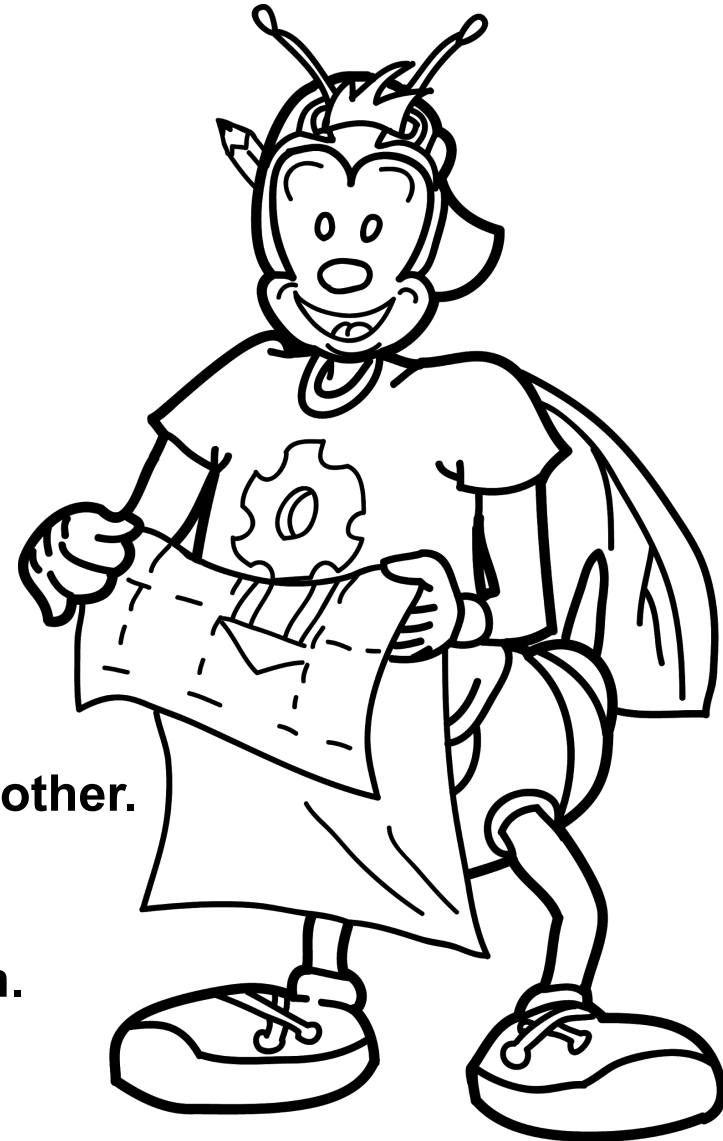
🍷 Smallest could be =  $\frac{1}{16}$  of an inch (Like a drink box straw)

🍷 Largest could be =  $\frac{1}{2}$  inch (Like a garden hose)

❁ Leafcutter bees need bundled tubes to live near each other.

❁ The house must provide SHELTER from the rain.

❁ The house must protect leafcutter bees.





Inventors design new things. Invent a house for Shagun and Dwij.  
Draw your INVENTION here.



Now it's time to make a “practice” house for Shagun and Dwij.

Inventors call this a **PROTOTYPE**.



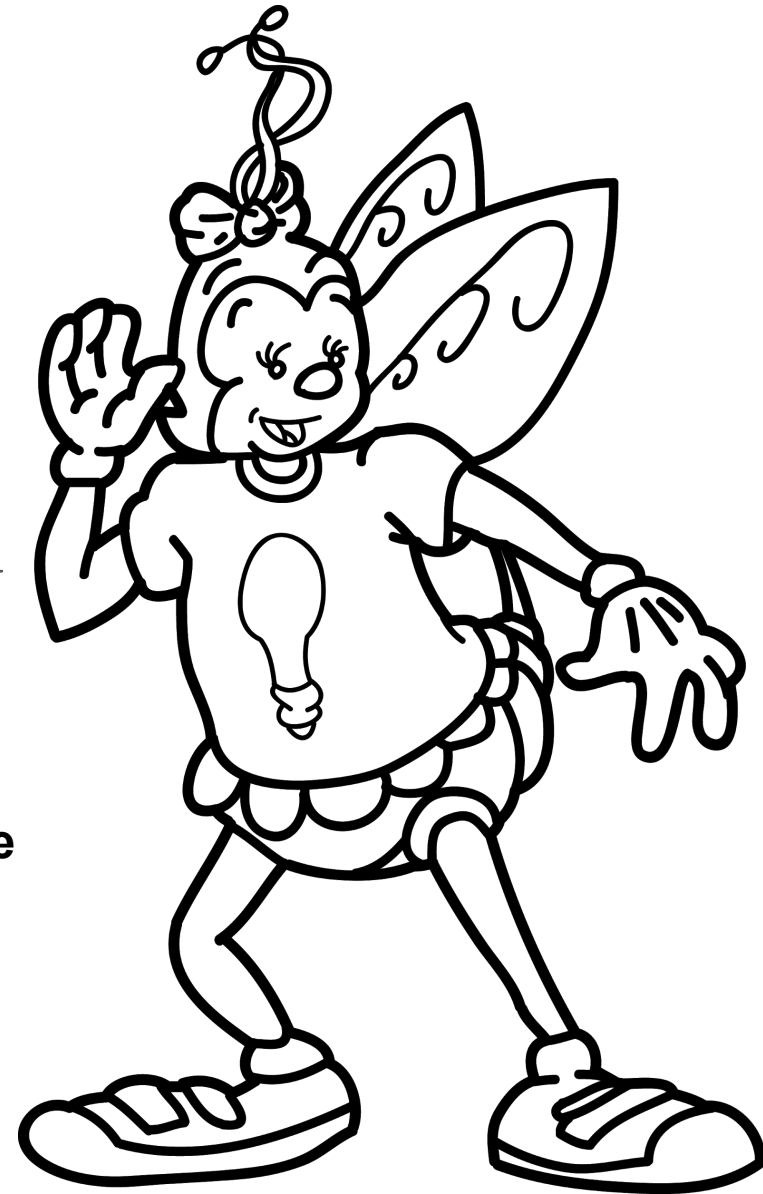
Ask a grown up to help you. Use things from the recycle bin to make a prototype. Do you have other free things that you can build with?

**Shagun and Dwij want to hear all about your prototype.  
Share your ideas with them and others.**

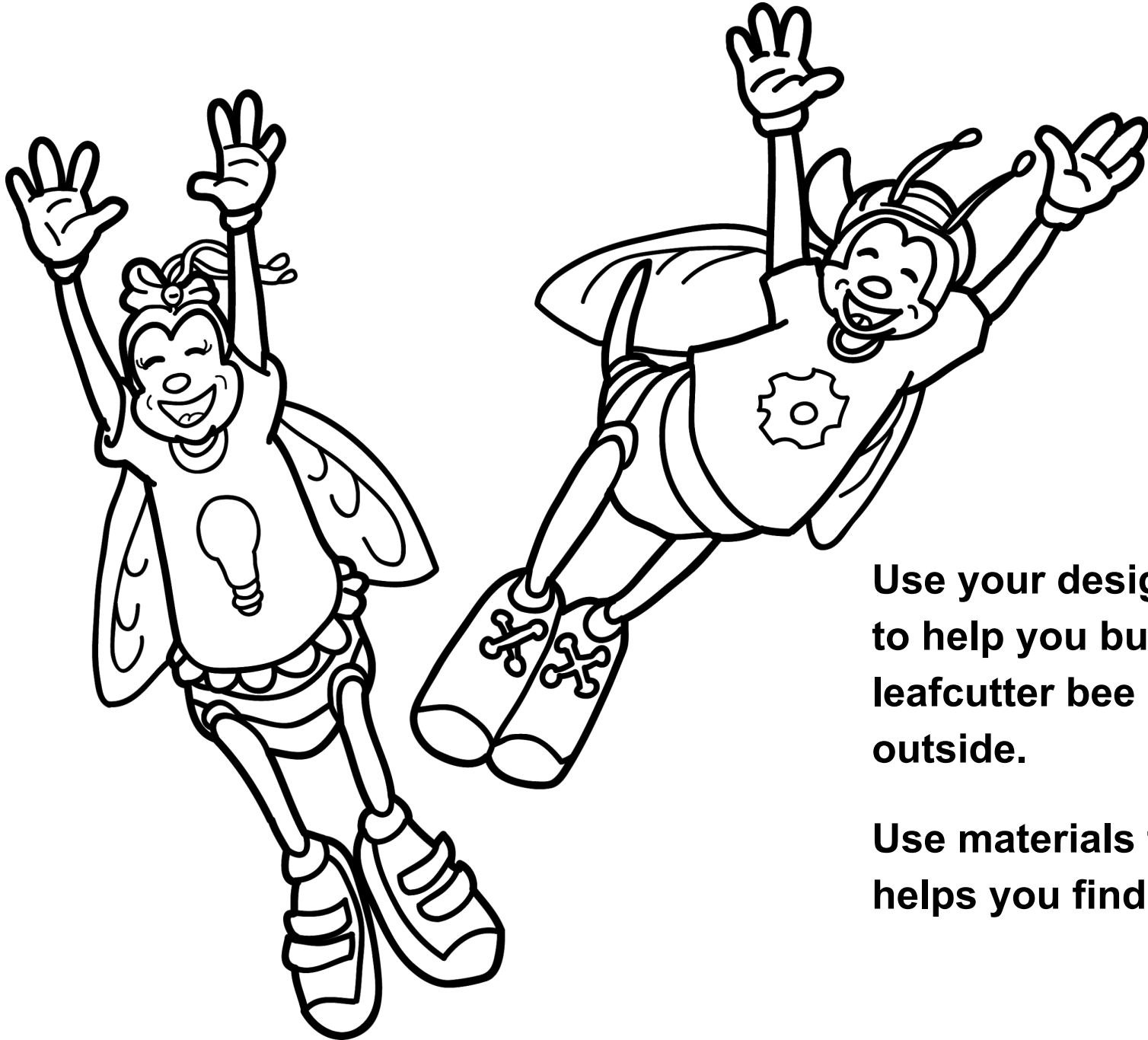
1. **How is it useful?** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2. **How is it special and unique?** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

3. **What will Shagun and Dwij like best about the house  
you made?** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



**Help Shagun and Dwij's leafcutter bee friends outside.  
Let's build a real house for them!**



**Use your design and prototype  
to help you build a real  
leafcutter bee house for  
outside.**

**Use materials that a grown up  
helps you find.**

# Trace and color some new words you have learned

POLLINATE

**Taking pollen from one plant to another**

PROTOTYPE

**A practice model of your design**

SHELTER

**A safe place**

INVENTION

**A useful thing that solves a problem in a new way**

# Information On Leafcutter Bees And Invention Resources

[MICHIGAN STATE UNIVERSITY - BUILDING AND MANAGING  
LEAFCUTTER BEE HOUSES](#)

[PLANET BEE FOUNDATION - NATIVE BEE SERIES - LEAFCUTTER BEES](#)

[LEMELSON FOUNDATION - SMITHSONIAN - SPARK LAB - INVENTOR'S  
NOTEBOOK](#)

[INVENTION EDUCATION ORG](#)

[LEMELSON FOUNDATION](#)

[LEMELSON-MIT PROGRAM](#)

**LEMELSON-MIT**

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