

# EDIBLE BIRD NESTS



Science, art, and cooking intersect in this fun, delicious activity! While making edible bird nests, children will experiment with states of matter while explore the chemistry of melted chocolate and learning about different types of nests.



## MATERIALS

2 Cups of Chocolate Chips  
*(butterscotch chips can also be used!)*  
½ Cup of Smooth Peanut Butter  
6 Oz of Crunchy Chow Mein Noodles  
½ Cup of Shredded Coconut  
Green Food Coloring  
1 bag of Mini Candy Eggs or Jellybeans  
Parchment Paper  
Cookie Sheet



## STEPS

- 1) Place noodles in a large bowl.
- 2) Add peanut butter to the bowl and begin to gently mix it into the noodles until they are thoroughly coated and there are no clumps of peanut butter.
- 3) Pour chocolate chips into a bowl and heat them in a microwave in one minute intervals, stirring in between, until a smooth consistency is reached.
- 4) Add the melted chocolate to the noodles mixture and combine until thoroughly coated with chocolate.
- 5) Place parchment paper on cookie sheet and spoon rows of about two tablespoons of the mixture onto it.
- 6) Form each scoop into the shape of a bird's nest, then place cookie sheet in refrigerator.
- 7) Place ½ cup of shredded coconut into a bowl and add 2 drops of green food coloring, then mix until coconut is entirely green.
- 8) Remove nests from refrigerator and add a small pinch of green coconut "grass" to the center of each "nest."
- 9) Top the grass with a few eggs!

## THE SCIENCE BEHIND IT

Edible Bird Nests are a great way to explore the different states of matter. While making their nests, children will see chocolate transform from a solid in their chips form to a liquid when melted, as they easily mix it in with the noodles and peanut butter. After the nests spend some time in the refrigerator, the melted chocolate will solidify once again, holding the mixture together and forming solid nests! What is happening here? The chocolate is undergoing a “reversible change.” A reversible change is a physical transformation that can be undone, such as melting and freezing water. Water has a freezing point of 32°F: Under 32°F and it freezes, over 32°F and it liquifies. If we think of ice as our chocolate chips: As the temperature of ice increases, it goes from solid (ice) to liquid (water), and if the temperature of that water is decreased it will turn back into ice at 32 degrees Fahrenheit. Similarly, in chocolate, the cocoa butter or fat molecules also undergo phase changes as the temperature changes. The melting point for fat molecules in chocolate is about 96.8°F, and heat applied by the microwave that melts it is well above that, thus turning the chocolate into liquid (melted). The temperature inside a refrigerator is around 40°F, thus turning the chocolate back into a solid. One way to understand why these changes occur is to think about temperature as the energy level of molecules- In their liquid phase, molecules have a lot of energy and are randomly running around each other. As the temperature cools and they lose energy and get more tired, they don't run around as fast or as freely- They now stay closer together. In their solid phase, they are even more tired, so they just pack closely together into a structured form. Solidification occurs upon a decrease in temperature, as molecules move more slowly and form ordered clusters as they cool.

### EDIBLE BIRD NESTS SUPPORT NGSS

While making Edible Bird Nests, children will:

Plan and Carry Out Investigations and Analyze and Interpret Data; Explore Cause and effect; Energy and Matter; and Stability and Change; all while learning about Physical Science and Life Science.



### RESOURCES FOR EXPANDED LEARNING

- ❖ [Discover how birds build different types of nests!](#)
- ❖ [Learn to identify different types of bird nests!](#)
- ❖ [Investigate 10 weird and wonderful bird nests!](#)
- ❖ [Explore fun facts about bird nests!](#)
- ❖ [Conduct a Chocolate Science Taste Test!](#)
- ❖ [Explore more on the chemistry of melting chocolate!](#)
- ❖ [Experiment with chocolate and body temperature!](#)
- ❖ [Investigate the sun's effect on chocolate!](#)

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