

WHAT ARE WE INVESTIGATING?

How can we help feed the birds?

MATERIALS:

- Pinecone
- String
- Knife
- Peanut Butter
- Uncooked Oatmeal
- Strive Academy's Engineering Design Process Handout (found at www.striveacademy.org)
- Pencil or Pen

EXTENSION:

- * Set up an observation area where you can see your bird feeder. Watch for 20 minutes and record how many birds you see. You can also record the colors of the birds!
- * Want to know which types of birds are visiting your bird feeder? Check out this bird guide and try to identify some of them : <https://www.audubon.org/bird-guide>.

Pine Cone Bird Feeder

DIRECTIONS:

1. Gather all of your materials. Our materials are just suggestions - feel free to add other things too!
2. On your handout (found at www.striveacademy.org), fill in the title of your experiment (Pine Cone Bird Feeder).
3. On your handout, fill in your hypothesis. You want to answer the question: How can I make a bird feeder out of a pine cone?
4. On your handout, sketch a design of your experimental setup. You will be adding peanut butter and oats to the pine cone. Feel free to use color and label the materials that you will be using!
5. Tie a piece of string to the top of the pine cone. You want the string to be about 2 feet long so that the bird feeder hangs low enough that the squirrels cannot eat them.
6. Using a spatula or knife, spread the peanut butter on to the pine cone. You want to get in all of the nooks and crannies.
7. Spread out some uncooked oats on a plate. Roll the peanut butter pine cone around in the oats so that they stick to the pine cone.
8. Under "Data Collection /Observations", draw a picture of what your pine cone looks like now.
9. Hang your pine cone bird feeder outside on a tree. Watch from a distance and make some observations. Under "Results", record how birds eat from the bird feeder in a 5 minute period.
10. Answer the "Analysis" questions on your handout:
 - How does your peanut butter and oats mixture compare to normal bird seed?
 - Which type of beak do you think birds need to eat from your bird feeder? Why?
 - Based on the number of birds that you saw in 5 minutes, how many birds do you think you would see in 10 minutes?

**** Try the extension activities on the first page for more fun! ****