



Build a Bird Nest

STUDENT ACTIVITY INSTRUCTIONS

Materials Needed:

- Video Link: <https://kmos.pbslearningmedia.org/resource/nat15.sci.lisci.structnest/the-structural-engineering-of-nests/>
- Notebook
- Pencil
- Materials of choice for nest building
- Heavy book or other flat, heavy object
- Optional: Measuring Tape

Preparation Instructions:

1. Watch the 5 minute video from PBS about the Structural Engineering of Nests. Link above.
2. After watching the video, think about the materials and structure that made each nest strong and flexible.
3. Make a plan to build your own bird nest.
Plan:
 - a. What type of nest do you want to build?
 - b. What materials might be available in your yard or in your own home? Start from there.

Note: Your nest will have to go through some tough challenges so think carefully about how to make your nest structurally sound.

Activity Instructions:

1. It's time to make your nest! If you really want to do it like a bird would, you can only carry a small piece of material at a time, bring it back to the construction site, and then go look for more.
 - a. It's also important to remember that birds do this with only their beak and feet! We won't make you do that.
 2. After you are finished construction your nest, it is time to put it to the tests. Grab a notebook and writing utensil to record your test results.
 3. Test #1: The Drop Test
 - a. Drop your nest from at least 6 feet in the air. You can achieve this by either standing on a stable chair (carefully!) or dropping your nest from a balcony.
 - b. Try to estimate or measure the height from which you dropped the nest.
 - c. Record observations in your notebook about what happened to the nest.
 4. Test #2: The Crush Test
 - a. Grab a textbook or other heavy book. You could also use something else flat and heavy if you don't have a heavy book.
 - b. Drop the heavy object from 3 feet above onto the nest. The recommended method is to have the nest on the floor or the ground and drop with your hands holding the heavy object directly above the nest.
 - c. Record the results in your notebook.
 5. Test #3: The Softness Scale
 - a. On a scale of 1-10, with 1 being sandpaper and 10 being the softest thing you have ever felt like a cat or soft blanket, how soft is the middle or inside of your nest where the eggs would sit?
 - b. Record this number in your notebook.
 6. How does your nest compare to the nests in the video? Write your thoughts in your notebook.
 7. What improvements could you make to your nest? Write them in your notebook.
- Optional: Put your improvement ideas to the test! Make the adjustments to your nest and re-perform the tests.

Conclusion

Nests are difficult to make properly. Every time a human tries to make a bird nest, we can feel an appreciation for what these birds are able to do; often without anyone teaching them how. A round of applause for the art and engineering feat that is bird nests.

