**The Pop Ups.** Stay seated. Three, two, one, ignition. Get ready for an adventure of magnificent proportion.

**The Pop Ups.** (Singing.) I don't know what you've been told, but we're in a golden age - so many discoveries that are jumping off the page. Wow in the world. Wow in the world.

**The Pop Ups**. With Guy and Mindy. We're on our way, Houston.

(Soundbite of remote click, tv turns on.)

**TV Host.** Today on the deception zone...

**Dennis.** Oh boy! It's starting!

(Soundbite of plopping down on couch)

**TV Host.** Pigeons. Are they real? Or are they robot drones sent by the government or aliens or alien governments to spy on us?

**Dennis.** (Gasp.) No!

**TV Host.** I mean, think about it for a second. Do you even know where pigeons come from?

**Dennis.** I don't!

**TV Host.** Me neither. Probably no one knows. Have you ever seen a baby pigeon? A pigeon egg? A pigeon nest? I know I haven't.

**Dennis.** (Gasp.) I haven't either! Mother! I'll be right back. I have to go and tell everyone that we have an imposter in the neighborhood!

Mother. Ok, Dennis!

(TV sounds turn off.)

**Dennis.** Hold off on microwaving my dinner! This could take more than one minute and thirty seconds plus thirty more seconds to cool!

(Soundbite of door opening and shutting.)

Mindy / Guy / Reggie. (Laughing.)

Mindy. And then I said...why do birds fly south for the winter?

Guy. Yeah?

Mindy. And she said...because it's too far to walk!

Reggie. (Laughing.) Coo!

Guy. (Laughing.)

**Dennis.** (Out of breath.) Mindy! Guy! I have some very important news for you and it can't wait! Get this...Reggie isn't real!

Reggie. Coo?

Mindy. Uh huh...

**Dennis.** In fact, no pigeons are real! They're all just flying robot drones sent to spy on us!

Mindy. What?!

**Dennis.** It's true! I just heard about it on the Deception Zone!

**Mindy.** Okay Dennis! Well, Guy Raz, Reggie, and I were just about to head over to the Home Tweet Home - Tour of Nests!

**Dennis.** Oh, really?

Mindy. Yeah, you want to come with us?

Dennis. Well, what is it?

**Guy.** The Home Tweet Home - Tour of Nests is a bird home showcase.

Reggie. Coo.

**Mindy.** Yeah! And it's happening at the convention center downtown.

Dennis. Oooh!

**Guy.** Yeah! There's going to be an exhibit on a new bird nest study that we just read about in the journal Ecology Letters!

**Dennis.** Huh. Well, will there be a so-called pigeon nest there?

**Guy.** I mean, it's possible!

Reggie. Coo!

Dennis. Well that'll be a first.

**Mindy.** What are you talking about Dennis?

**Dennis.** Mindy...you tell me the last time you saw a pigeon nest.

**Guy.** Dennis, the reason we've never seen pigeons sleeping in nests is because pigeons, like all other birds, do not use their nests for sleeping!

Dennis. Oh, sure.

Reggie. Coo.

**Mindy.** Guy Raz is right, Dennis. The purpose of a nest is to provide a safe place for birds to lay their eggs and take care of their little bird babies. You know, as they hatch and grow strong enough to live on their own.

Dennis. Well, that still doesn't explain why I've never seen a pigeon's nest...

(Soundbite of sigh.)

**Dennis.** ...or a baby pigeon. Or a grandpa pigeon! Or a bunch of cousin pigeons! Or even a-

**Mindy.** Dennis, the reason we rarely see pigeon nests is because pigeons tend to make their nests up high and out of sight.

Dennis. Oh.

**Mindy.** Yeah, in human habitats— you know, cities with lots of buildings and lots of people— it's just safer for pigeons to build their nests up high and out of the way.

**Guy.** And because pigeons build their nests in places out of sight from us humans, that explains why we almost never see baby pigeons or chicks!

**Mindy.** Exactly! Baby pigeons stay in the nest anywhere from twenty-five to forty-five days after they hatch... and by that time they pretty much look just the same as regular adult pigeons!

Reggie. Coo coo coo!

**Mindy.** I agree with Reggie. Can we just go to the Home Tweet Home Show now?

**Guy.** Yeah, I really don't want to miss this nest building exhibit based on new research that just came out of the University of Melbourne in Australia.

**Mindy.** Hey uh, Reggie, do you think you could give us a ride down to the Home Tweet Home Tour of Nests?

Reggie. Coo!

**Mindy.** Thanks, Reg! C'mon, you two! Stay still, Reg...Climbing on.

Reggie. Coo coo coo.

**Dennis.** Wait wait wait wait...you expect me to ride on that robot enemy spy drone?

Mindy / Guy. Yes!

**Dennis.** Oh, okay.

**Mindy.** Guy Raz. Dennis. On the count of three...each of you grab onto my hands and I'll pull you up okay? One...two...three!

Reggie. Coo.

Mindy / Guy. And here we gooooooo!!!

Reggie. Coo!

Dennis. Aaahh!!!

(Soundbite of wings flapping.)

Mindy / Guy / Dennis. Aaahh!! Oof!

**Mindy.** Whew! There we go. Looks like we've made it! Thanks for flying us, Reg!

Reggie. Coo!

Mindy. Let's just climb down here.

Protestors. Birds are baloney! Birds are baloney!

Mindy. Huh?

**Dennis.** What is that, a protest?

Reggie. Coo.

**Guy.** What in the...?

**Mindy.** Looks like Dennis isn't the only one watching the Deception Zone lately!

**Guy.** Are those people...protesting the existence of birds?

**Dennis.** Oh nice! Well, Mindy...Guy...flying feathered robot drone enemy spy...

Reggie. Coo.

**Dennis.**...it looks like I have found my flock.

Reggie. Coo!

**Guy.** But Dennis!

**Dennis.** Birds are baloney! Birds are baloney!

**Guy.** (Groans.)

Mindy. Don't worry Guy Raz. He'll be back.

**Guy.** Maybe.

Reggie. Coo.

**Mindy.** Come on! Let's go inside!

**Guy.** Lead the way, Mindy!

Mindy. Walk walk walk walk...

(Soundbite doors opening and birds chirping.)

Mindy / Guy / Reggie. Whoaaa! / Coo!

**Mindy.** Look at all of these nests, Guy Raz!

**Guy.** Avian architecture at its finest!

**Tour Guide.** Hello! Welcome to the Home Tweet Home Tour of nests. Along these halls, you will find nests from thousands of bird species from all over the world. Domed nests, cupped nests, floating nests, and even underground nests.

**Mindy.** Ooh la la! Look Guy Raz! That nest over there looks just like a clay pizza oven!

**Guy.** Huh. It says here it belongs to the Rufous Hornero bird?

**Tour Guide.** Ah yes. The Rufous Hornero, otherwise known as an "ovenbird" who hails from South America.

Mindy / Guy. Wow!

**Tour Guide.** What you're seeing is a dome shaped nest built of mud and manure. Once it bakes in the hot sun, it hardens and sticks to its branch.

**Mindy.** Hm, a dome shaped nest, huh? With a little roof and everything?

Reggie. Coo?

**Guy.** Yeah, totally different from the open cup shaped nest made from dry grasses and twigs like we're used to seeing in trees around our neighborhood.

**Tour Guide.** Yes, in fact today, most birds prefer the open and cupped design over the enclosed domed design for their nests. If you'll follow me, we have an entire exhibit on the history of nest building going back forty million years, when songbirds began to spread from the southern hemisphere to the rest of the world

Mindy. Oooh! Guy Raz! This is the exhibit we came here to see!

Reggie. Coo!

**Guy.** Is this the one based off the research of those evolutionary biologists from the University of Melbourne in Australia?

**Tour Guide.** That's exactly right. In that study, the researchers were looking for answers as to why most modern day birds prefer to build open cup shaped nests over enclosed dome shaped nests.

**Mindy.** Yeah...I mean looking at that oven bird nest back there, I would say that the dome shaped nest looks like the cozier and safer option.

(Soundbite of door opening.)

**Guy.** (Gasps.) Wow...look at all of these nests!

**Mindy.** How could something look so cozy and so uncomfortable at the same time?

**Tour Guide.** Now, to your left, you'll see a collection of cup shaped nests built by songbirds such as hummingbirds, barn swallows, yellow warblers, and american robins.

Reggie. Coo! Coo.

**Tour Guide.** And on your right, you'll find the dome shaped nests built by winter wrens and the oven bird we mentioned earlier.

**Guy.** Wow...what exquisite design! I don't think I've ever seen one of these in the wild before.

**Tour Guide.** Well that's because only a third of all birds build these domed nests today.

**Mindy.** I don't understand why? It's so cozy in here! Maybe a little crowded, don't mind if I...

(Soundbite of nest rustling and a thud.)

Tour Guide. Oh my...

**Guy.** Mindy! Get out of that nest!

(Soundbite of onlookers chattering.)

**Mindy.** Never! I feel safe and protected in here! I don't know why all birds aren't building these things! This dome nest is great!

Tour Guide. Please, ma'am-

**Guy.** Mindy! It says on this sign here 'for display purposes only!'

**Mindy.** Yeah, and so did that toilet in the kitchen and bath store, but I didn't let that stop me.

**Guy.** (Groans.)

Tour Guide. Oh heavens.

Reggie. Coo.

**Tour Guide.** Well you might be surprised to learn that when the researchers on this study gathered information from over three thousand song bird species, they found that domed nests...

**Mindy.** Like this one?

**Tour Guide.** Uhh, yes, like the one you're still sitting in against museum policy!

Mindy. Ahhhh...

**Tour Guide.** (Sighs.) the researchers discovered that domed nests, while appearing to be safer, may actually have made it more difficult for certain birds in history to survive as a species.

**Guy.** So what kind of information did they collect from these songbirds to get to this conclusion?

**Mindy.** Ooh! I know! I've got the study right here in my nest.

**Tour Guide.** Madam, that isn't your nest. That nest belongs to a winter wren who stepped out for a lunch break across the-

**Mindy.** –it's okay! there's still plenty of room for her in here when she gets back.

Guy Raz / Tour Guide. (Groans.)

**Mindy.** So back to this study. It says here that the scientists came to their conclusion based on all kinds of information. Like how big or small the birds were, how far they were likely to travel, where they lived in the world, whether or not they spent a lot of time in big cities, and of course...what kinds of nests they built.

**Guy.** And I'm guessing that all of this information was used to determine how successful these birds were at surviving as a species.

Mindy. Well, what do you mean?

**Guy.** Well, in other words, how many of them are still with us today versus how many have gone extinct or died out over the last forty million years?

**Mindy.** Oh, I get it. Once they started examining the information they collected, some big clues began to emerge.

**Tour Guide.** That is correct. The researchers discovered that songbirds that built domed nests, like the one your friend is stuffed into right now...

**Mindy.** Ah ha ha ha ha!

**Tour Guide.** ...these birds tended to spend their lives in one area rather than travel long distances. They also found that the dome builders had stricter climate needs.

**Guy.** Huh. Meaning that they needed to stay in areas that were not too hot or not too cold, or too dry or too wet, in order to survive.

Tour Guide. Exactly!

Reggie. Coo.

**Guy.** Well, looking at this dome nest, I would assume that it would offer protection from whatever the weather! I mean, it's got a roof, some substantial walls, it's almost more like a little birdhouse than the nests we're used to seeing!

**Mindy.** Yeah, this place is pretty great. I feel like I could adapt to anything in a home like this!

**Tour Guide.** Well it's funny that you should mention that.

**Mindy.** Wow. I wasn't even trying to be funny.

**Tour Guide.** No, I mean– (sighs.) – you see, prior to this study, scientists believed that domed nests would have made birds more adaptable to different living conditions.

**Mindy.** Oh, adaptable. Meaning like the ability to adjust to new things and situations.

Tour Guide. Yes.

**Guy.** But it turns out, that with dome nests, that's not the case at all?

Tour Guide. Not at all.

Reggie. Coo coo.

**Tour Guide.** Oh, uhhh...if you'll excuse me, I just need to step away for a moment. Walk walk walk walk...

Mindy. Hey, that's my line!

**Guy.** What's going on over there?

(Soundbite of birds chirping.)

Mindy. Ooooo!

(Soundbite of Mindy climbing out of nest.)

Mindy. Let's go see! C'mon Guy Raz! C'mon Reggie!

Guy. Alright...

Reggie. Coo.

(Soundbite of cheering crowd.)

**Tour Guide.** Welcome, everyone, to the battle of the birds!

**Guy.** Is that the tour guide we were just talking to??

**Tour Guide.** On the left side, speaking for the cups! Give it up for the american robin!

(Soundbite of robin chirping.)

Mindy. Woooo yeahh!

**Tour Guide.** And on the right side, dominating for the domes, it's the winter wren!

(Soundbite of winter wren chirping.)

**Mindy.** Whew! Good thing she didn't catch me in her nest! Her wings are ripped!

Reggie. Coo!

**Tour Guide.** In this battle of the birds, we will give each side thirty seconds to sound off on why their nest is the best!

(Soundbite of crowd 'ooohing'.)

**Tour Guide.** Winter wren...we'll start with you. Tell us, when it comes to home, why should birds dome?

Winter Wren. Tweet tweet.

**Guy.** What is she saying Mindy? I don't speak bird!

**Mindy.** Ok, uh...well...she's saying that the dome will protect birds from the elements...you know like rain, wind, snow...stuff like that...

**Guy.** Huh. And what other reasons is she giving for why a dome nest is best?

(Soundbite of crowd 'gasping'.)

Mindy. Uh...that's about it!

**Guy.** But Mindy...she still has time left on the clock!

**Mindy.** Yeah, I guess she just ran out of reasons why domes rock!

(Soundbite of ding.)

**Tour Guide.** And time is up! We now throw it to the American Robin, here to speak on behalf of cup nests. American robin, tell us...what makes the cup nest the best? Thirty seconds on the clock.

(Soundbite of clock ticking.)

American Robin. Tweet tweet tweet.

**Guy.** What's she saying Mindy?

**Mindy.** Well, my robin is a little rusty, but let me see if I can translate here...uh...she's saying that they're cheap to build...

(Soundbite of crowd 'ooohing'.)

**Guy.** That makes sense. Cup builders generally build their nests out of things like twigs and dried grass.

**Mindy.** Okay, she's also saying that cup nests are easy to rebuild multiple times a season.

Reggie. Coo.

**Guy.** Huh, so it's no big deal if they get destroyed after the birds are finished with them. They can just build a new nest in its place.

**Mindy.** Uh huh, yeah....and she's also saying that if a predator comes a-knockin' the cup shape will make for a clean and easy getaway!

(Soundbite of crowd 'ooohing' and ding.)

**Tour Guide.** And time is up! Looks like we have our winner in the Home Tweet Home - Battle of the Bird Nests. The cup builders have won a better chance at survival for millions of years to come!

**Guy.** Wooooh yahhhh!! I love cups!