

The Winged Things Fling Manual

The Winged Things Fling is a great, low cost event that's fun for Scouts; they'll also learn a little about flight designs and the U.S. Navy's fleet of modern carriers. It's a good event for a Pack or Troop meeting, though we've also used it at Roundtables and other events. Its inspiration came from <http://www.housingaforest.com/elastic-band-launchers/>, an article about how an upside down chair and a rubber band make for great indoor fun. The Winged Things Fling modifies that to include some facts about the Nimitz Class Carriers (http://en.wikipedia.org/wiki/Nimitz-class_aircraft_carrier), and we add the cardboard carriers to the sides of the chairs to give them some character. It's a chance for parents and kids to work together to build a paper airplane with whatever design and modifications the scout dreams up, have as much fun as they do at the Pinewood Derby, Raingutter Regatta, and Space Derby, while being a lot easier than any of those. There's no pre-meeting prep involved for the scouts and parents, and the event pre-construction and set up are simple for the Scout Leader. Scouts use their imaginations to build their own paper airplane, test their results, and adjust and re-flight their craft (multiple times) to see what works best when launched from the "carrier catapults". Recommendation: make one carrier catapult for each den or patrol, so that you can get lots of flights launched. Prizes are awarded for most accurate flyer (you can also do awards for most inventive flyer in each rank). The target is to get the plane to land in a target (typically just a large cardboard box set on its side about 50 feet away from the launcher, or the optional deck landing described below). Those scouts that stick their landings on the target get an instant recognition (quick announcement and a small award). Each launch takes less than a minute, so each scout can cycle through many times and get multiple launches completed very quickly during this event. And in addition to performing their usual role as their son's creative consultant, parents can also compete themselves (but are not eligible for awards)!

Items needed to build and run your event:

- Cardboard from cardboard boxes that will be cut into the carrier shapes.
- Cardboard boxes to serve as the targets.
- Box cutter and scissors.
- PC (or other web-connected smart device) and printer.
- Roll of duct tape for each carrier.
- Rolls of masking tape for paper airplanes and for line marks.
- Roll of double sided scotch tape.
- Large box of paper clips (jumbo size works better than regular size; e.g. http://www.staples.com/Staples-Jumbo-Paper-Clips-Nonskid-1-000-Pack/product_472514).
- Sheath of 8.5" x 11" paper (colored paper for more creativity; mix of construction or regular paper for more flight-test options)
- Crayons and markers for drawing on the paper airplanes
- Folding chairs (have the same number of chairs as you have cardboard carriers)
- Set of large rubber bands (like the Jumbo ones from Staples = http://www.staples.com/Staples-Big-Rubber-Bands-24-Pack/product_383318)
- Awards for best flights (your choice; we had some small boomerangs so we used those since they were flight related, but paper award forms work great too).

Carrier Construction steps:

1. Go to our website <http://holmdel131.mypack.us/taxonomy/term/1039> for our data files or search online for some background information and pictures of Nimitz Class Carriers (http://en.wikipedia.org/wiki/Nimitz-class_aircraft_carrier), and print them out on 8.5" x 11" sheets of white paper. Color copiers are best for the photos and crests used for the carriers. It's your choice as to the size you make the printouts, but try to keep

them large to attract your scouts to read and study them. Our pack's website includes files (if you want to reuse them) on the USN ships' logos and FAQs that we taped onto our carriers to give the Scouts details about each:

FAQs: http://holmdel131.mypack.us/system/files/Air_Craft_Carrier_Launcher_Facts.docx

Nimitz Class layout pictures: <http://holmdel131.mypack.us/system/files/nimitz.gif>

Color crests of the 4 Nimitz Class Carriers we selected as our "launchers":

http://holmdel131.mypack.us/system/files/USS_Dwight_D_Eisenhower_CVN69_Crest.png

http://holmdel131.mypack.us/system/files/USS_Abraham_Lincoln_CVN72_Crest.png

http://holmdel131.mypack.us/system/files/USS_Theodore_Roosevelt_CVN71_Crest.png

http://holmdel131.mypack.us/system/files/USS_Nimitz_CVN68_Crest.png

2. For each carrier you want to make, get a large cardboard box and unfold it to be completely flat by separating it where it is pasted together at its seam. This will give you the maximum amount of cardboard to work with for each carrier. (A box that when completely unfolded and laid out has dimensions of 72" wide by 22" high is about the minimum size that works well.) Using the Nimitz Class layout picture as your guide, draw by freehand the shape of the carrier on the cardboard so that your carrier's length is 48" or more. Then using the box cutter and scissors, cut out the shape of the carrier. The island tower can be created separately from the scraps of cardboard remaining, and then taped onto the carrier's body using duct tape.
3. Use the duct tape to cover the entire rear side of the carrier's body, both sides of the island tower, and enough of the front side of the carrier's body to make it look all gray. On the front side, since you'll also be taping on that carrier's sheets of FAQ's, you don't have to cover the entire front with duct tape. Only those areas of cardboard exposed after you would have taped on the FAQ's need to be covered in duct tape. Alternatively, you can spray paint the cardboard a grey color, but we found the duct tape added a little rigidity to the carrier's body, which was helpful.
4. Cut the FAQ papers to the shape you want to fit your carrier, then tape the FAQ for that carrier onto the front side of the carrier using the double sided scotch tape. The finished product should look something like these examples:
http://holmdel131.mypack.us/system/files/USS_Nimitz_20130818_172213.jpg
http://holmdel131.mypack.us/system/files/Dwight_Eisenhower_20130818_172422.jpg
http://holmdel131.mypack.us/system/files/Abraham_Lincoln_20130818_172534.jpg
http://holmdel131.mypack.us/system/files/Theodore_Roosevelt_20130818_172459.jpg
http://holmdel131.mypack.us/system/files/Carrier_Group_20130818_172117.jpg
5. Optional: if you'd prefer a harder target to hit, try making a carrier landing deck out of cardboard and duct tape. It's better to have a larger piece of cardboard for this one, as it's hard to keep the planes from sliding off the "deck" as they come in to land, so a larger carrier deck is a better option if you want to have successful results for the scouts. An example picture of a carrier deck where we used masking tape to mark the runways is here:
http://holmdel131.mypack.us/system/files/Landing_Target_20130818_171739.jpg

Running The Winged Things Fling:

- A. For each den/patrol, have a folding chair available, and turn it upside down at one end of the room with the back of the chair pointed downfield toward the target area. The chair legs pointing up the highest will hold the

rubber bands that will launch the planes. Stretch a large rubber band between those 2 chair legs.

http://holmdel131.mypack.us/system/files/Chair_n_Rubberband_20130818_175203.jpg

- B. Attach with duct tape one of the cardboard carriers to the side of the chair.
http://holmdel131.mypack.us/system/files/Front_View_20130818_175346.jpg
http://holmdel131.mypack.us/system/files/Rear_View_20130818_175727.jpg
- C. Line up your launchers at one end of the room, and leave room behind them so that the scouts can line up behind them with their planes in hand. Set your targets up at the other end of the room (50 feet is a good distance, but any distance will do) so that each chair and target pair are separated by the same distance. Targets can just be a formed cardboard box that can catch the planes shot at them, or the landing deck described above. It's your choice as to whether the box is upright or on its side (each has its own landing challenges). You can also mark the floor with masking tape at 10' intervals, to help with getting distance corrections made during launching.
- D. Have a table workspace where the scouts can build their paper airplanes. Distribute the paper and paper clips to the scouts (or have them report to your "Quartermaster" to obtain their pieces). Have tape (duct tape, masking tape, scotch tape) available at the table as well. The scouts use the paper to construct their airplane based on whatever design they like. They can also draw whatever symbols they want on their plane with the markers and crayons. Have them take their paper clip and unbend it in the middle and at one end, leaving only one end of the wire shaped like a hook and the rest of wire being semi-straight. That hook is what will be used to pull back the rubber band's launcher. Have the scouts tape the paper clip inside the nose of the paper airplane, leaving only the hooked end exposed outside of the plane. **MOST IMPORTANTLY, SCOUTS HAVE TO SECURELY TAPE THE PAPER CLIP TO THE PLANE; THE MORE TAPE THE BETTER OVER THE FULL LENGTH OF THE STRAIGHT WIRE.** (Otherwise, the paper clip alone gets launched and the plane is left behind.) Some examples of completed planes are shown here:
http://holmdel131.mypack.us/system/files/Planes_with_hooks_20130818_173619.jpg
- E. Man your launchers with Den/Patrol Leaders so that there's some semblance of control. Have the scouts line up behind their Den/Patrol Leaders, and when the Scout Leader announces that catapults can be loaded, have the first scout in each line step up and load their plane on their catapult as shown:
http://holmdel131.mypack.us/system/files/Loading_Catapult_20130818_175524.jpg. When the Scout Leader announces the field is clear and ready for launch, the scouts can begin aiming and firing their planes.
http://holmdel131.mypack.us/system/files/Ready_to_Launch_20130818_175645.jpg. Continue launching with each scout in sequence until all planes have been launched, and then have the scouts go and retrieve their planes.
- F. Since paper clips can sometimes slip out of their tape, there will be cases where only the paper clip goes zooming downfield. It's therefore a good idea not to have scouts standing around down by the targets. If extra control is needed, have a parent be down by each target, and have them help return the planes to the scouts if need be (i.e. if you lose one parent to an errant launch, you can always find another). It's not really that big a safety concern since the planes and paper clips aren't exactly rocket fueled, but better safe than sorry. Have the parent wear some goggles if possible to avoid any possibility of eye injury.
- G. Continue with the launching sequence for multiple rounds. The scouts will quickly learn which of their peers' designs work better than others (my personal favorite is the spit ball, which is just a balled up paper with the clip taped to it). Scouts can re-do their plane's design multiple times at the work table, so keep the supplies available during the entire event.
- H. As aiming gets perfected, scouts will begin getting their planes to "land" in their targets. Each time this happens, make an announcement and deliver whatever award you prepared to the scout that aced their landing. It's impossible to have too many winners, so keep the awards and presentation simple and short respectively.

- I. Run the launches until you're out of time. Then have the scouts help with cleanup by collecting all the remaining materials and the launchers used. Scouts of course get to take their own planes home.

Other Info:

If you want to go a little overboard, visit an Army-Navy Surplus Supply Store before you run the event, and pick up a U.S. Navy baseball cap and U.S. Navy miniature flag so that you can set up your flagship command center. It will only add to the scouts' fun.

If you have any questions on this guide, submit them to gestrich131@gmail.com, and I will attempt to answer them. Good luck to you and your Scouts, and I hope your group has as much fun with The Winged Thing Fling as our packs did.

