

Pack 34

Virtual Pinewood Derby Handbook

This is a summary of how we pulled off an event that we never thought we would need to do. A Virtual Pinewood Derby using a very small crew of adults on site, with all scouts attending via video conference. Many different groups have asked how we did it and what procedures were used. Some packs and some districts. I have typed up everything we did. You may need to adjust to your conditions.

Here is a link to the recording from our event:

***** - will be sent soon?

Collecting the Cars

I setup large time windows of 11am-6pm every day for a week when the scouts could drop off their cars on my front porch. Using masks and other precautions the scouts would set their cars on a table which I would then pickup and perform the check in. If a car required minor modifications, I would offer to perform those. Typically removing a small weight from an overweight car or offering to tape coins on to add weight to cars which were far underweight. Many of our den's build days were canceled due to COVID so it was very difficult for families to get an accurate weight, or even know weight was critical.

All cars had to be turned into me at least three days prior to the main event. The cars sat in quarantine at my house to ensure cleanliness.

We returned the cars in a similar manner, leaving them on my front porch for them to pick up during daytime hours, with special sealed bags for those who received awards.

Sharing cars with the Pack

Once all the cars were turned in, we took similar staged pictures of each car. These were posted to our pack's facebook page for everyone to appreciate.

We also created a survey using Survey Monkey so the scouts could vote for their favorite designs. Pictures can be used to Survey Monkey by using this workaround.

<https://www.dropboxforum.com/t5/Dropbox-files-folders/How-to-get-url-with-jpg-end-and-what-works-with-img-tags/td-p/245432>

Cameras and microphones

While planning, we found several videos of VPWD's from other packs and councils. See links at end. We noted that camera quality, view, and broadcast quality were important for the viewers experience. More than one camera angle is needed to really show the track. Single wide angles didn't really catch the cars, and it was tough to see the finish line. Single closeups were bad because you missed so much of the race and could not expect when the cars were coming.

We used a total of 4 cameras. One camera was a closeup of the start line. Another towards the middle of the track. The third was just behind the finish line showing a close up of the finish as well as the last stretch of track. The fourth was pointed at our results screen. Note, we first tried to "share screen" instead of the 4th camera as that would be a cleaner image. However, Zoom made the shared screen a primary view for the attendees, and the camera views were smaller.

All track cameras were suspended over the track, centered on the track, and looking up towards the start line. We found that position to be the best. Also, it resulted in all track lanes oriented in the same direction, and cars moving in the same direction in the attendee's views. We had tried other camera angles, but our test attendees were confused with the cars traveling different directions on their screen. Note, during setup you will notice that Zoom mirrors your camera left/right on your screen, however it will not mirror it for the attendees. So, do not get confused if the lane order is opposite in the camera attached to your computer.

The camera in the middle of the track was a fairly nice video camera one of our adults happened to have on loan from a vendor. The other three cameras were widely available webcams anyone can buy and plug into a computer, but they were higher end with resolutions of 1080. The fancy camera was probably overkill and you would probably be fine with 4 good quality webcams.

We had a separate laptop attached to each camera, resulting in four different laptops in the same room, and broadcasting on the same Zoom webinar. Make sure your wifi and internet are good and won't get throttled. We were the only ones present in the building at the time, and they have great wifi, so we did not have a problem.

We had one microphone setup at our MC's table and attached to one of the laptops. We also had a fancy, pro level whole room microphone attached to one of the other laptops and picking up the track noises. Unfortunately, the fancy whole room mic was picking up a lot of echoes from the room and we had to mute it. Make sure all the laptop speaker volumes are down or you will get a feedback loop.

Here are some pictures of the setup.





Lighting

We have an aluminum track and the room we were in had harsh and poorly spaced fluorescent tubes. This resulted in an awfully bad glare from the track which you can see in the pictures. It did not help that the dark carpet created a dark background for the bright glares. Luckily, the sun was on the other side of the building, so it was not also shining directly on the track from the nearby windows. Our best solution was to turn off all lights and work with the ambient sunlight from the other side of the room.

Zoom webinar

We had all spent enough time in conference video calls for work, school, and scouts to know that interruptions would happen and ruin the experience for the attendees. With the normal Zoom meeting you can lock down the guests audio and video after they are on, but even with all options checked the guests can still have their video already on when they join and it could pop up on the viewer's screens. There are also downsides with normal Zoom meetings concerning organizing the four camera views. We settled on the Webinar add on for Zoom which allowed us ultimate control keeping the attendees from cutting in with audio or video and control their view. We did allow the chat option. Many scouts used the chat window to interact with us and others at home. The webinar feature is a \$40/month add on to any of the paid subscription levels. We checked but unfortunately we were not able to find a parent with this feature already on their work Zoom account that they could share with us.

Zoom webinar allows for a host who then promotes attendees to panelist roles and then the panelists can share their cameras and audio. So, one laptop is the host and the other three are panelists.

A weird feature of Zoom is that if you record the session it records the single camera that it deems important. This applies for webinar IF the host is the one recording. However, if a panelist's computer records, it will record the four camera view that the attendees are seeing. So, if you are planning on recording for future viewing then be sure to have a panelist computer record.

Zoom also allows you to live stream to YouTube and Facebook to reach a larger audience. We did not do that, but it did seem easy to click on. Just have your accounts lined up and signed in. Also, you must switch on an option in YouTube to livestream, but it takes up to 24 hours to activate, so do not wait until the last minute.

MCs

We are lucky to have a great husband/wife team who MC our typical PWD race days. They were able to attend the VPWD and provide great color commentary to fill in the silence between races. They had sent questions out to the racers ahead of time. Questions like, what is your favorite part of your car, what do you like most about Scouting, what is your favorite joke. This kept us from having dead silence between races.

Our timing and groupings

First, if you have a skeletal crew running the cars then you need to accept that you will not have your usual short turnaround time between heats.

We had 54 cars running from our pack. Normally we mix all the cars together and run them randomly so the scouts pay attention through the entire race looking for their car. But for the VPWD, we didn't think they'd want to stay on for an hour-long Zoom. So we scheduled them by rank and gave the families start times to expect each rank. We included some extra time between ranks to allow for delays, which did happen. We still had each car run six times, once in each of the six lanes. Running cars by ranks resulted in having to wait for the previous cars to come back before we could finish loading the next heat, slowing down our turnaround even more. Smaller runs of cars may decide to run all the ranks together.

The only other advice we have is as you watch our video you'll see that the results from the previous heat was shown for a short period of time with the next heat lineup featured for a longer time. Looking back, we would switch that so they could see the previous heat's results for longer.

Links to events we reviewed while planning our event.

Council Run VPWD, jump ahead in the video about 30 minutes to get to race. One camera at start of track with no good view of finish.

<https://www.facebook.com/103425176359278/videos/565670274372071>

<http://www.monroecountyherald.com/news/local-cub-scouts-host-virtual-pinewood-derby>

Link to video is below, scroll thru Facebook feed to April 18 for multiple posts of pics and videos

<https://www.facebook.com/gatewayareacouncil/>

This video is VERY jumpy...I don't know if it is an issue with the camera or something else.

Pack 63 YouTube video

<https://www.youtube.com/watch?v=CZ9UMH39I5c>

Camera catches blurs going across the finish line. Also shows the importance of keeping participants muted.

They also cut the main view between results and the finish line. Almost seems that they can do replays of finish line. But they were slow to cut from results screen to finish line.

Scroll down the page and click on the YouTube for Digital Pinewood Derby. They only had a wide angle of the track with no view of finish line.

<https://www.mountbakerbsa.org/scouton/live-events/>

Best of luck with your event!

David Weaver

Pack 34 Cubmaster

dweaverpv@gmail.com