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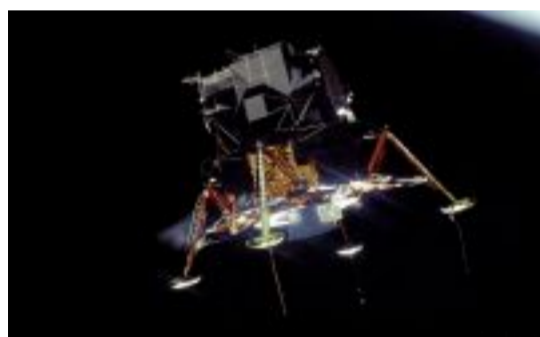
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Blog

Activity: Kids Land on the Moon

Posted by admin on November 20, 2012



For an activity at a fifth-grade camp, kids simulate the landing of Apollo 11 on the moon. A pair of kids on a horizontal step ladder are carried by parents over a human "boulder field" to the surface of the moon, onto which they walk and raise a flag. As they step through excerpts of the NASA audio recording, we analyze the implications of the various alarms, mission control statements, and emerging situations.

Original Audio

Many of the kids and their attending parents alike had never heard the extended audio that preceded that "one small step for man." In the wake of Neil Armstrong's passing in 2012, I wanted to convey the understated demeanor and conduct under pressure of the astronauts as they neared the critical juncture of their mission--the first lunar landing.

About 50 fifth-graders gathered on a field at Camp Friedenswald in southwest Michigan. I pulled aside two student volunteers who arrived early and gave them the [student script](#), which was selected excerpts from the conversation between Mission Control and the Apollo 11 astronauts as the Eagle lander neared the moon. The two lightweight kids were to be Neil Armstrong and Buzz Aldrin, and a parent had the speaking role of Charles Duke. I asked another dozen kids to assemble off to the side and to sit during the reenactment with their legs pulled up to their chests.

After some opening words that complimented the comportment of Neil Armstrong and the astronaut corps in general, I played an [audio recording](#) of the last three minutes before lunar landing. The sound was very faint, so the seated students and a group of parents standing on the perimeter were thankfully silent. No one spoke. That scene alone, of parents and children listening to a video-free snippet of American space history, was rewarding in itself.

I told them we were going to explain the text and what they had just heard. At the breaks in the lines of the student script were pauses for brief discussion. (See [presenter script with comments](#).) A few parents held an 8-foot step ladder horizontally, on which the student astronauts rode. Flashlights in hand, the kids read their respective lines aloud as the ladder-lander moved across the field toward the assembled group. On cue, the ladder passed over the huddled dozen, who represented lunar boulders.

```
102:45:32 Aldrin: Drifting forward just a little bit; that's good.
(Pause) Contact Light.
102:45:43 Armstrong: Shutdown
102:45:44 Aldrin: Okay. Engine Stop.

[Contact light. At least one of the probes hanging from three of the
fivequads has touched the surface. They arrive at the surface of the
moon. As they settle down gently, they have to turn off the still-firing
engine and adjust some other controls.

Armstrong - "He actually had the engine running until touchdown. Not
that that was intended, necessarily. It was a very gentle touchdown. It
was hard to tell when we were on."

Aldrin - "You wouldn't describe it as 'rock' (as in, 'dropping like a rock').
It was a sensation of settling."

Some of the other crew that down 'in the air' (meaning 'prior to
touchdown') and had a noticeable hump when they hit.]

102:45:57 Duke: We copy you down, Eagle.
102:45:58 Armstrong: Engine arm is off. (Pause)
Houston, Tranquility Base here. The Eagle has landed.
102:46:06 Duke: Roger, Tranquility. We copy you on the
ground. You got a bunch of guys about to turn blue. We're
breathing again. Thanks a lot.
```

The Eagle Approaches

In the final three minutes before touchdown, the astronauts encounter a series of critical issues that vie for their attention.

- A 1201 program alarm goes off, indicating data overflow in the computer.
- The lunar module is coming down toward a boulder field. Armstrong must override the computer and guide the lander manually further downrange, but at the expense of using more fuel.
- Altitude and velocity warning lights suggest the computer is not getting good radar data.
- Fuel is running low. Mission Control calls out "60 seconds", meaning the astronauts have one minute before the "Bingo" call, at which they have 20 seconds to land the craft or abort the mission.
- Lunar soil whipped up by the descent engine makes it hard for Armstrong to discern the movement of the lander over the stationary lunar surface.
- Mission Control calls out "30 seconds." The success of the mission is in the balance.

One Small Step

In sync with the script being read out by the two kids, the ladder "lands" on the moon. The parents slowly tilt the horizontal ladder upward and extend the ladder's rear rails as the kids carefully maintain their position on the front steps. The girl who represents Neil Armstrong is near the bottom rung and the step ladder is set up in its normal operating position. The young Armstrong descends onto a footpad, makes the big step onto the moon, and proclaims, "That's one small step for man; one giant leap for mankind."



Strapped on the side of the step ladder is a tube that held an American flag and a bent rod to hold the flag outward, akin to the actual flag on the moon. The astronauts unfurl the flag, assemble the unit, and then one of the "boulder" kids holds the flagpole upright. Astronaut Aldrin, who has since joined Armstrong on the moon, salutes the flag.

If I'd had time, I probably would have re-played the three minute [audio recording](#) again. I welcome your comments and suggests for modifying this new activity.

Resources

Student Script

[Apollo11landing-tricolor_script.pdf](#)

Text from excerpts of Apollo 11 lunar landing dialogue. The words of three people--Duke, Armstrong, and Aldrin--are in three differently colored fonts.

Presenter Script

[Apollo11landing-comments.pdf](#)

Comments accompany excerpts of Apollo 11 lunar landing dialogue.

The First Lunar Landing,

Corrected Transcript and Commentary,

<http://www.hq.nasa.gov/alsj/a11/a11.landing.html>

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Videos of the Apollo 11 landing (from which I used just the audio):

- Windows Media 16-mm Film Clip (4 min 31 sec; 10Mb)
<http://www.hq.nasa.gov/alsj/a11/AP11%20FINAL%20APPROACH.wmv>
- Higher-Resolution version (4 min 35 sec; 31Mb)
http://www.hq.nasa.gov/alsj/a11/Apollo11_Version2.wmv

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Posted by Sally Bosken on Nov 23rd, 2012

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what a wonderful activity. We will keep this to use. Thanks for promoting!

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