



The Science Behind the 2019 Explore Science: Earth and Space Toolkit – Exploring the Universe

Online Workshop Summary of Resources
3-12-2019

Online Workshop Presenters

- **Katherine Kornei**, NISE Net Earth & Space Content Expert
- **Frank Kusiak**, Lawrence Hall of Science, UC Berkeley
- **Darrell Porcello**, Children’s Creativity Museum and NISE Network Earth & Space Co-I

Recording of the Online Workshop on Vimeo

- <https://vimeo.com/323313446>

Online Workshop Resources

- **Explore Science: Earth & Space 2019 digital toolkit**
<http://www.nisenet.org/earthspacekit-2019>
 - Exploring the Universe: Expanding Universe hands-on activity and resources
<http://www.nisenet.org/catalog/exploring-universe-expanding-universe-2019>
 - Exploring the Universe: Space Guess Quest game and resources
<http://www.nisenet.org/catalog/exploring-universe-space-guess-quest-game-2019>
 - Exploring the Universe: Static Electricity hands-on activity and resources
<http://www.nisenet.org/catalog/exploring-universe-static-electricity-2019>
- **All the facilitation and content training videos for the Earth & Space project**
<https://vimeopro.com/nisenet/explore-science-earth-space>
- **More information about the Hubble Deep Fields**
https://www.spacetelescope.org/science/deep_fields/
- **James Webb Space Telescope YouTube page**
<https://www.youtube.com/user/NASAWebbTelescope/videos>
- **Video showing Crab Nebula images from different ground and space telescopes**
<https://www.spacetelescope.org/videos/potw1720a/>

- **Video of interacting galaxies**

<http://hubblesite.org/video/1141/category/19-interacting-galaxies>

Follow-up Question: Why do some materials lose electrons (e.g. cat fur) while others gain electrons (e.g., Styrofoam)?

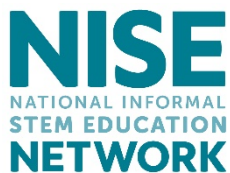
This effect has to do with the arrangement of electrons in an atom (remember that electrons orbit atomic nuclei at different distances): the outermost shells of electrons in some atoms are all "filled up" -- these elements are therefore unlikely to take on more electrons (i.e., they're the elements that lose electrons). Other atoms could use a few more electrons to complete their outermost shells, and these elements are apt to gain electrons.



https://commons.wikimedia.org/wiki/File:Cat_demonstrating_static_cling_with_styrofoam_peanuts.jpg

Flickr user, Sean McGrath

NISE Network Upcoming Online Workshops: <http://nisenet.org/event-type/online-workshop>



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