



Challenge Checklist

Prior to Activity:

_____ Go to the NASA Exploration Design Challenge Groups/Individuals page to register

You will receive a confirmation email upon registering

_____ Collect materials on the materials list

During the Activity:

_____ Use the NASA EDC presentation PDF and script to guide instruction

_____ If working with a large group, group participants into teams of 4-6

_____ Watch introductory video(s) found on the Exploration Design Challenge homepage

_____ Pass out materials to each group

_____ Conduct investigation

_____ Record observations on *Ray Shielding* data sheets

_____ Pass out *Design Packet* to each group/student

Grades K-5 http://www.nasa.gov/sites/default/files/716282main_edc_design_packet_k-5.pdf

Grades 6-12 http://www.nasa.gov/sites/default/files/716281main_edc_design_packet_6-12.pdf

_____ Use the *Design Packet* to guide radiation shielding designs

_____ (Optional) Using the materials tested, create a radiation shield that blocks visible light and Ultra Violet (UV) light (sun), if using UV beads

_____ (Optional) Insert UV beads into the design to serve as sensors for UV light

_____ Test model indoors with flashlight in a darkened area (Shield should block all visible light so no glow can be seen.)

_____ (Optional) Take the model outdoors to test effectiveness of radiation shield (If UV beads do not turn color, shield was effective.)

_____ Record results

Following the Activity:

- _____ Submit participant names through the link on the confirmation email
- _____ Download participation certificates for each child and for the group leader
- _____ Additional Activities/Videos may be used to extend children's understanding about radiation and shielding (see additional resources on the Exploration Design Challenge page)