Friday, June 12
2:00pm

SciGirls, "Insulation Station"
4th – 8th grades.

This series showcases bright, curious real girls putting science and engineering to work as they answer questions and make unexpected discoveries in the world around them.

Cold weather, hot science! SCIGIRLS Greta and her sixth- grade pals use passive solar heat and bubble-wrap insulation to warm up an ice shanty on a frozen Minnesota lake.

After watching this episode, choose from the following questions and/or tasks to extend your learning

Question Box 1

- Explain the relevance of the title for this episode "Insulation Station
- What is an ice shanty?
- What is the ice shanty project?
- What is the problem with the Welcome Shanty?
- How do the girls research the problem?
- What tool do they use to identify the problem? How does it work?
- What are the girls planning to change and why?
- Who do the girls select to be their mentor and why?
- What process does the mentor suggest to test different insulations for the shanty?
- Why did the girls decide to do a prototype of the shanty to do their research?
- Describe the prototype process the girls went through?
- What materials did they test?
- Describe how they tested various materials.
- What is passive solar heat? Describe how it works?
- What is bubble wrap insulation? Explain how it works.
- What was the final solution the girls selected? Tell about the final results.

Question Box 2

- Think about how Izzie and Jake (cartoon characters) set the stage for this episode.
- How can prototypes help scientists in their work?
- How might the SciGirls help Jake with his problem?
- What about the show stood out to you?
- What did you find most interesting and why?
- How much did you know about the subject before we started?
- How do you feel about this program? Why?
- What parts of it do you particularly like? Dislike? Why?

Continued on the next page…

- What did you enjoy about this program?
- If someone else were looking at this program, what might they learn?
- What is one thing I would like to add to this topic?

Box 3 (Tasks)

- Compare and contrast the energy usage of a solar house to that of a regular house.
- Describe different insulation materials that can be used for energy efficiency.
- Research and define “passive solar heat” in everyday language.
- What does it mean to be an insulator?

Box 4 (Enrichment)

- Open the following link: Home . DESIGN SQUAD GLOBAL | PBS KIDS
- Select a prototype video to watch and design.
- Try your own!
- Draw a model to show why wood is a better insulator than metal.
- Describe the process the SciGirls used to insulate the shanty.

Box 5 (Extend/Real-Life)

- Learn and engage in more prototype activities:
- Kid Prototype & Test Activities & Tools
- Research and describe the ways that the home you live in is insulated.