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San Bernardino County

Superintendent of Schools

Transforming lives through education



RIVERSIDE COUNTY OFFICE OF EDUCATION

JUDY D. WHITE, Ed.D. County Superintendent of Schools

Friday, May 15

2:30pm

SciGirls “Super Sensors” 4th – 8th grade

SciGirls in Los Angeles reach for the stars! Now that they are inspired by high-tech NASA sensor technology, Rihighna and her friends design and code wildlife cameras to capture images of the animals in their neighborhood.

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

Question Box 1

- Who are the SciGirls and where do they live?
- What does each girl like about science and technology?
- What is JPL? What is JPL’s mission?
- What is Janelle’s job at JPL? Describe her responsibilities.
- What project do the SciGirls want to do? How do they hope Janelle can help them?
- How can Miguel at the LA County Museum of Natural History help with their project?
- What is camera trapping?
- What needs to be considered when designing a camera for recording wildlife? Think about the device, location, and animal behavior?
- Before the girls build their camera, they draw a diagram and write pseudo-code. Why do they do this and how does this help them?
- After designing and programming their camera, the girls test it. How do they test it?
- After seeing the footage from Night 1, what do the girls do to improve their results?
- SciGirls were asked to give a presentation at the museum, what do they do to prepare?
- Why do they girls feel it is important to wear the NASA shirts for their presentation?
- How do the girls feel about what they have learned?

Question Box 2

- What more do you want to learn about coding or inventing, and why?
- What in the program made you curious? Explain.
- What resources will you need to learn more about this topic?
- What type of animal activity do you think happens in your backyard or neighborhood as you sleep at night?
- Do you think the SciGirls had a good plan to complete their project? How can planning for a project benefit you?
- In what way(s) did NASA inspire the girls to build “sensor traps.”

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Box 3 (Tasks)

- List some of the organisms that the girls caught on their camera traps.
- Nighttime visitors: Research animals that frequent neighborhoods at night using the following website: [17 photos of animals enjoying the nightlife | MNN](#)
- Dig Deeper: from the 17 animals listed on the website, which ones are you likely to have visited your backyard or neighborhood? Tell why?
- Take a walk, look for evidence of nighttime animals, record your observations. (ELD)
Record yourself speaking as you video record your observations.

Box 4 (Enrichment)

- Compare and contrast the footage from Night 1 and Night 2.
- Caught on Camera: When visiting JPL the girls saw two different types of cameras that were used for different purposes. What were some of the earliest cameras like?
- Your turn...make a camera of your own:
 - [Make a Pinhole Camera](#)
- Cameras Change Over Time: Make a timeline of the evolution of cameras over time.
- Compare and contrast your camera to the camera the girls used.

Box 5 (Extend/Real-Life)

- Coding is an important job because computers can only understand machine code. It is a coder's job to enable humans and machines to "talk" to each other.
- Join the Hour of Code Campaign –
- In what ways did the girls design and code their camera traps.
- Learn to code at home@ [Learn](#)