Monday, April 27

1:30pm Science Mission 101 – 4th – 8th grade

SCIENCE MISSION 101 is an educational, competitive reality-style program geared to middle schoolers. Host Mike Lee challenges two teams of high school students - Team Awesome and Team Dominate - to unravel the scientific mystery of why only certain strains of the bacterium Salmonella make people sick. The teams perform their scientific investigations aboard the University of Pittsburgh's Mobile Science Lab, a converted 18-wheeler outfitted with the latest high-end equipment. Members of Pitt's Department of Biological Sciences judge each team's findings and evaluate them based on cooperation, creativity, interpretation of experimental data, presentation and scientific thought.

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

Question Box 1

- Why do only certain strains of Salmonella make people sick?
- Describe the scientific investigations that they teams performed to come to their conclusions.
- Describe the Mobile Science lab used for the experiments. What did it look like inside?
- Name some of the high-end equipment the teams used during their investigations and what tasks the equipment was used to complete.

Question Box 2

- How did the team members work together? Think about a time when you had to cooperate with others to solve a problem or find an answer to a question. What worked for you and what made working together difficult?
- If someone else were looking at this program, what might they learn?
- What is one thing I would like to add to this topic?
- What would you change about this program?
- If a part 2 of this program was created, what you like them to focus on?
- Did you agree with the judging and the outcome?
- What is intriguing about science? How can you learn more about this program?

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Box 3 (Tasks)

- Discuss the “Process of Science” in regard to how scientists explore natural phenomena.
- Discuss the difference between being Subjective and Objective. Which term is most important in science and why?

Box 4 (Enrichment)

- Design a flow chart of the Process of Science.
- Select a picture of a natural phenomenon...something in nature that you are curious about….draw and state several of your observations.
- Conduct your own scientific experiment about something that you want to know more about.

Box 5 (Extend/Real-Life)

- Think it would be fun to be a Scientist and conduct experiments?
- With your parent’s permission and help explore this website: https://sciencebob.com/category/experiments/ and pick one experiment to conduct.
    - Write down which experiment you selected.
    - What did you think of the process?
    - What did you learn from the experiment?
    - **Careers in Science**
- Go to: https://www.sciencebuddies.org/science-engineering-careers
- Explore the different careers available in science and engineering.
- Write down two that you are most interested in and explain why you selected them.
- Create an informational pamphlet on one of the two careers you selected *using the supplies you have available to you. Include the following:
    - Career Title
    - What do they do?
    - What skills do they need?
    - How much money do they make?
    - What education is required?
    - Pictures
- *Paper, pencils, pens, markers, magazines, scissors, printer, etc…
- Plant leaves are often associated with the color green, however, there are often hidden colors within the leaf pigment. Design and carry out an experiment to discover what colors are in the green leaf plant pigment in and around your home.
- Social-Emotional Connection: Cooperation is an important part of working on a time. In your journal list the different ways a team needs to cooperate. What things do you have to do as a team member in order to work together in a positive way?