



Ted Alejandre, County Superintendent

San Bernardino County
Superintendent of Schools
Transforming lives through education



Wednesday, June 3
1:00pm

Food – Delicious Science, “We Are What We Eat
4th – 8th grades.

Food - Delicious Science is the thrilling science story of the food on your plate and the physics, chemistry and biology that lies hidden inside every bite. Across three episodes we use the latest imaging techniques to reveal this inner world of food and we reveal along the way why such a variety of food

have ended up in our diet and how they affect our lives. When viewed at the microscopic level, food resembles a vast range of alien landscapes that shift in remarkable ways as we cook them. Each time we eat, a cascade of biological reactions is set off inside our bodies: from flavor explosions in the mouth; to an energy rush; to occasionally triggering waves of disgust. And how these ingrained human reactions and cravings for food have deep evolutionary roots that offer a whole new way of thinking about our relationship to the modern diet. The science is set against sumptuous location photography shot across the world: from the oldest rice terraces in the Philippines to an ancient variety of potato in the Andes Mountains of Peru; from the corn fields of Mexico to the milk dairies of Bulgaria as we seek the origins of some of our favorite foods to deepen our understanding of why we eat them. This is food as you've never seen it before.

In part three travel the world with Michael Mosley and James Wong to learn how the hidden chemistry in every mouthful of food keeps our bodies fit and healthy.

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

Question Box 1

- What is the central idea? How is the central idea developed?
- Cite evidence from the TV Show to support your determination of the central idea.
- Provide an objective summary of the program.
- Using evidence from “Food - Delicious Science “We Are What We Eat”, explain why this is a good title for this TV program.
- How do the chemicals in our food feed and build our bodies? Explain the process in detail.
- What are the handful of ingredients our bodies absolutely need to survive?
- Describe the essential molecules that come from these familiar sounding groups?
- List the surprises that James and Michael discover when they seek to understand exactly why each class of molecule is so important for the way our bodies work?
- Describe the use of the latest imaging techniques to reveal this inner world of food

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chemistry, biology and physics.

- Describe how and why such a variety of foods have ended up in our diet and how they affect our lives.
- What location in this episode appealed to you the most and why?
- How does the location in this episode influence the food we eat?
- Thinking about the science of food, which food in this episode was most interesting, revealing and/or surprising. Tell why.

Question Box 2

- What surprised you in the program, and why?
- What's the most important thing you learned from the TV show? Why do you think so?
- What do you want to learn more about this topic, and why?
- What did you learn from the program?
- What resources will you need to learn more about this topic?

Box 3 (Tasks)

- Draw a model of the three major food molecules.
- Make a model that shows what happens to food in your digestive tract once you've eaten it.

Box 4 (Enrichment)

- Discuss with evidence that you, literally, are what you eat.
- Discuss with evidence why fast food is contributing to malnutrition.

Box 5 (Extend/Real-Life)

- After looking at the following website, discuss with evidence whether or not you are eating healthy. <https://www.choosemyplate.gov/>
- Mindful eating is a way to practice mindfulness and helps you to focus on the moment. The next time you eat a snack, practice the following:
 1. Look - what colors and shapes do you see?
 2. Listen - does your food make a sound?
 3. Touch - is it smooth, bumpy or rough?
 4. Smell - what does your food smell like?
 5. Taste - put your snack in your mouth. Notice how it feels in your mouth. Do you taste anything yet? Start to chew, does the flavor change? How many different flavors are there?



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Wednesday, June 3
11:00am

Nova, “The Impossible Flight”
9th thru 12th + grades

On March 9, 2015, Solar Impulse II took off from Abu Dhabi on one of the greatest aviation adventures of our time: the first flight around the world using only solar power. Together with a team of brilliant engineers – Bertrand Piccard and Andre Borschberg – designed and built this airplane from scratch, even though top aircraft manufacturers said this airplane would be impossible to control.

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

Question Box 1

- What did you learn after watching this program?
- What is the program’s purpose? How do you know?
- What are the key details in this program?
- What is the central message in this program? Explain?
- What are the program’s supporting claims that support the central message?
- What was Solar Impulse II? How was it powered?
- What is Solar Impulse II made of?
- Why is Solar Impulse II described as the greatest aviation adventure of our time?
- What arguments did top aircraft manufacturers pose as to why this airplane would be impossible to control?
- Why was this flight worth the risk of lives?
- What challenges did the flight encounter during its historic flight?
- What problems did the solar batteries pose?
- What connection is there between Solar Impulse II and Star Trek the Next Generation?
- In your own words describe why this episode was titled the “Impossible Flight”.

Question Box 2

- What resources will you need to learn more about this topic?
- What do you believe could have been done differently to help you learn this topic easier?
- Where did you encounter struggles understanding the topic, and how did you deal with them?
- What do you think are the next steps for flying solar?

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Box 3 (Tasks)

- The Solar Impulse Project lasted thirteen years with \$170 million was raised to support the project. The Solar Impulse II made it around the world in 550 hours for a distance of 43,000 km. Use mathematics to justify the expense of the project and its potential for the future.
- The flight was designed with 10 legs of the trip to complete the 43,000km. The longest leg was from Japan to Hawaii that was 8,924 km completed in 117 hours and 52 minutes. Is this rate equivalent to the rate of the entire trip? Explain why or why not.
- Draw a model of the airplane and label the parts. When you are finished labeling, write a narrative paragraph explaining its function during the flight.
- Research and make a timeline of the history of solar flight

Box 4 (Enrichment)

- Draw a model of a solar panel and label the parts
- Describe how a solar panel works using a model
- Research the innovations in solar technology that allowed the Solar Impulse project to successfully fly around the world.

Box 5 (Extend/Real-Life)

- Describe with evidence the relationship between solar panel and battery technology.
- Research solar panel technology and use your evidence to predict the future use of solar technology.



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Wednesday, June 3
2:30pm

SciGirls Stories, "Bee Haven"
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.

What's the buzz in urban gardens? The SCIGIRLS use math, mapping and data visualization to help a colony of bees thrive in a downtown Phoenix neighborhood.

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

Question Box 1

- What is the central message in SciGirls? Explain?
- What did you learn after watching this program?
- What is the program's purpose? How do you know?
- List five details that you learned about bees from the episode.
- What are some of the challenges that are created when a bee colony is located in a neighborhood?
- How did the SciGirls plan for and respond to the challenges?

Question Box 2

- What do you believe could have been done differently to help you learn this topic easier?
- Where did you encounter struggles understanding the topic, and how did you deal with them?
- What did/do you enjoy about this program?
- What is the one thing you particularly want people to notice when they watch this TV program?
- Bees are a protected species due to their role in crop growth and development. Do you think this is necessary? Why or why not?

Box 3 (Tasks)

- Make a model of an urban garden.
- Make a model of a beehive and label the parts.
- Visit <https://www.mannlakeltd.com/mann-lake-blog/8-different-ways-kids-can-help-honey-bees/> to learn more about bees and how kids can protect them. Share your new

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learning with your family. Choose one thing that you can do to help the bee population.

Box 4 (Enrichment)

- Discuss with evidence the role bees play in the environment.
- How did the girls use science and math to help the bees thrive?
- Watch the YouTube video about bees at <https://www.youtube.com/watch?v=z9zZ48jJZyk>. With help from a family member, create your own public service announcement about how kids can help the bee population.

Box 5 (Extend/Real-Life)

- Research and discuss why bee populations worldwide are decreasing.
- Would you consider a career as a Beekeeper (Apiarist)?
- Review the career profile found at this link: <https://www.agcareers.com/career-profiles/apiary-worker-beekeeper.cfm>
- Watch this short video about beekeeping: <https://www.youtube.com/watch?v=FejwYVA4ICw>
- Write a summary of the career and whether or not you would consider this as a career.



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Wednesday, June 3
9:00am

The Roosevelts: An Intimate History, "Pt 1 Get Action"
9th thru 12th + grades

The lives of the three great Roosevelts -- Teddy, Franklin and Eleanor -- are captured in this series. Ken Burns and producer, Paul Barnes describe the lives and times of these three American icons who influenced 20th century American history more than perhaps any other family. Through wars, revolutions, depressions, movements, the three led the country through what was called America's century. At times they had little in common but for one thing they always had in common . . . their ability, desire and conviction to lead.

In part one, a frail, asthmatic young Theodore Roosevelt transforms himself into a vigorous champion of the strenuous life, loses one great love and finds another, leads men into battle and then rises like a rocket to become the youngest president in American history at 42. Meanwhile, Franklin Delano Roosevelt, brought up as the pampered only child of adoring parents, follows his older cousin's career with worshipful fascination and begins to think he might one day follow in his footsteps.

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

Question Box 1

- What is the central idea? How is the central idea developed?
- Cite evidence from the TV Show to support your determination of the central idea.
- Provide an objective summary of the program.
- What interaction influenced future events? Provide evidence.
- Who are the three great Roosevelts addressed in this program? What were their accomplishments?
- Why are these Roosevelts seen as icons?
- What were each of their influences on 20th Century American history?
- What role did wars, revolutions, depressions, and movements play in each of their three lives?
- Why was the 20th century called "America's Century"?
- How is young Theodore Roosevelt portrayed in the program? How did his frail youth play a role in his leadership as an adult?
- Describe the events that lead to Theodore Roosevelt's ascension into America's highest office.
- What impact did Theodore Roosevelt's career have on his younger cousin Franklin Delano Roosevelt?

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Question Box 2

- What's the most important thing you learned from the TV show? Why do you think so?
- What do you want to learn more about this topic, and why?
- What in the program made you curious? Explain.
- What did you learn from the program?

Box 3 (Tasks)

- Teddy Roosevelt was the youngest president and also considered one of the five most influential presidents: Washington, Lincoln, Jefferson, Franklin Roosevelt and Teddy Roosevelt. Is there a correlation between age and accomplishments? Use mathematics in your reasoning about direct correlation.
- In 1902, while out hunting, Teddy refused to shoot a bear cub, and stuffed bears called, "Teddy's Bear" were created. Describe using mathematics, what the "teddy bear" has done for the toy industry.
- Create a Double Bubble map comparing and contrasting any two of the three Roosevelts in this program (Theodore, Eleanor and Franklin).

Box 4 (Enrichment)

- Look at Teddy Roosevelt's rise to political office. Compare it with Barack Obama's, Donald Trumps or another president of your choosing. How are they similar? How are they different?
- Look at Teddy Roosevelt's Rough Riders, then look at the coalition of Democrats that FDR puts together to win the presidency. How are these groups similar and different? And how do each of the Roosevelt's find a way to weave connections among seemingly disparate groups of people? What qualities does it take, and how might you continue to develop those qualities in yourself?

Box 5 (Extend/Real-Life)

- Reflect on this episode and consider Teddy Roosevelt's accomplishments. Select one or two and describe how they still impact modern day Americans. If this is difficult, perhaps imagine if he had not accomplished the one or two you selected and how life would be different for modern day Americans.
- Despite suffering with health issues, Teddy Roosevelt persevered and was a strong leader. He often had to make very difficult decisions. Write in your journal about a time you persevered through a difficult situation. What were the skills you used in order to persevere? How do you use problem-solving skills to work through difficult situations?