



FIELD TRIP: **Hierarchy Of Multicellular Organisms**

Running Time: 7:44

NGSS: HS-LS1-2

Join VVR Host, Steve Grubbs, as he travels to Mexico and Singapore to demonstrate the hierarchy of interrelated systems in multicellular organisms. Focusing on plant life examples: the banyan trees in a Mexican bay, as well as various plant life abounding in Singapore's Gardens by the Bay, students will have a better grasp about the connectedness of internal systems, their impacts on one another, and their role in helping the organism survive. For more information on the Singapore gardens, visit <http://gardensbythebay.com.sg/en.html>



INTERACTIVE EXPERIENCE: **Virus Alert! Investigating The Flu**

Running Time: Self-paced*

NGSS: HS-LS1-3

Students participate in a "medical" evaluation and observe a patient who exhibits flu symptoms. Over the course of the exam, students will learn about homeostasis and its importance to the human body. As each symptom manifests within the patient, an oversized brain highlights which part is regulating the body's response. Simultaneously, a "doctor" explains the why of each scenario.



STORY 1: **The Hierarchy Of Life**

Running Time: 8:18

NGSS: HS-LS1-2

Topics Covered

- Components of a multicellular organism
- Concept of interacting systems
- Human body systems defined

Assessment Answer Key & Critical Thinking Skills

1. B (BT4—analysis)
2. C (BT2—comprehension)
3. A (BT4—analysis)
4. D (BT3—application)
5. A (BT1—knowledge)



STORY 2: **Maintaining A Balance**

Running Time: 5:29

NGSS: HS-LS1-3

Topics Covered

- Homeostasis, Succession, Equilibrium
- Positive vs Negative feedback systems
- Afferent vs Efferent pathways

Assessment Answer Key & Critical Thinking Skills

1. D (BT1—knowledge)
2. B (BT4—analysis)
3. C (BT2—comprehension)
4. D (BT3—application)
5. A (BT6—evaluation)



TEACHER DEMO: **Chiropractic With Wendy**

Running Time: 7:52

NGSS: HS-LS1-2

Vocabulary: chiropractic, osteology

Topics Covered

- Impact of structure on function
- Various spinal conditions

Assessment Answer Key & Critical Thinking Skills

1. D (BT5—synthesis)
2. B (BT1—knowledge)
3. C (BT2—comprehension)
4. D (BT2—comprehension)
5. D (BT4—analysis)

RELATED STEM CAREERS: Chiropractor, Doctor of Osteopathic Medicine, Geneticist, Evolutionary Biologist

Science Standards:

NGSS: HS-LS1-2, HS-LS1-3; **TEKS:** 112.34(c.6.A), 112.34(c.10.A), 112.34(c.10.C), 112.34(c.11.A);

CPALMS: SC.912.L.14.11, SC.912.L.14.14, SC.912.L.14.23,