

Interdependent Relationships in Ecosystems IN THE ARENA: HUMAN EXPANSION

Total Unit Running Time: 30-40* minutes

FIELD TRIP: **Urbanization**

Running Time: 6:14

NGSS: HS-LS2-7



With two big cities--Chicago and Hong Kong as distinct backdrops, VVR Host Steve Grubbs stands amid the skyscrapers to discuss anthropogenic changes that cause challenges to our environment. Issues related to urbanization are ever-growing and this field trip shows how big cities are implementing solutions to lessen the negative impacts on such growth. For more information, visit <http://maggiedaleypark.com/>

INTERACTIVE EXPERIENCE: **Neon Pulse**

Running Time: Self-paced*

NGSS: LS3-1



Fashioned in a 1980s aesthetic, this interactive game allows students to choose their racing level and then maneuver their vehicle while answering questions based on unit content. Physics-based driving controls and track design seamlessly blend learning and gaming along the colorful routes. Shortcut opportunities embedded in the tracks are awarded for skilled driving and quick thinking.

STORY 1: **Maintaining Ecosystem Balance**

Running Time: 7:10

NGSS: HS-LS2-1, HS-LS2-6



Topics Covered

- Oppositional vs. symbiotic relationships
- Ecosystem imbalances
- Concept of homeostasis

Assessment Answer Key & Critical Thinking Skills

1. D (BT5—synthesis)
2. C (BT4—analysis)
3. B (BT6—evaluation)
4. D (BT5—synthesis)
5. C (BT3—application)

STORY 2: **Group Mentality**

Running Time: 6:51

NGSS: HS-LS2-8



Topics Covered

- Theory & benefits of group living
- Hierarchies of groups
- Different types of social behaviors

Assessment Answer Key & Critical Thinking Skills

1. D (BT5—synthesis)
2. B (BT4—analysis)
3. C (BT3—application)
4. D (BT5—synthesis)
5. C (BT1—knowledge)

TEACHER DEMO: **Ecological Succession With Wendy**

Running Time: 8:17

NGSS: HS-LS2-2



Vocabulary: canopy, spotting, serotinous

Topics Covered

- The role of carbon & the carbon cycle
- 5 stages of succession

Assessment Answer Key & Critical Thinking Skills

1. B (BT4—analysis)
2. A (BT1—knowledge)
3. D (BT5—synthesis)
4. C (BT2—comprehension)
5. B (BT3—application)

RELATED STEM CAREERS: Forester, Fire Fighter, Fish & Wildlife Manger, Ecologist

Science Standards:

NGSS: HS-LS2-1, HS-LS2-2, HS-LS2-6, HS-LS2-7, HS-LS2-8; **TEKS:** 112.34(c.11.B), 112.34(c.11.C), 112.34(c.12.A), 112.34(c.12.B), 112.34(c.12.D), 112.34(c.12.F), 112.37(c.3.D), 112.37(c.3.E), 112.37(c.4.H), 112.37(c.3.F), 112.37(c.8.A), 112.37(c.8.C), 112.37(c.9.E), 112.37(c.9.F), 112.37(c.9.I); **CPALMS:** SC.912.L.17.4, SC.912.L.17.5, SC.912.L.17.6, SC.912.L.17.8, SC.912.L.17.12, SC.912.L.17.13, SC.912.L.17.14, SC.912.L.17.15, SC.912.L.17.16, SC.912.L.17.17, SC.912.L.17.18, SC.912.L.17.20, SC.912.N.4.1, SC.912.N.4.2