

Wiggly, Squiggly Earthworms Framework

Blank and editable tables to plan a unit (or course) using Creative Change's 4-stage Unit Design framework. The templates allow alignment of guiding questions, Big Ideas, instruction and assessment at each stage of an inquiry-based unit: I) Establish Relevance, II) Investigate and Reflect; III) Decision-making, IV) Action. Suggestion: Use one row for each lesson in the stage.

STAGE I) Establish relevance

Lessons at this stage help students

- Identify connections to topics.
- Raise questions.
- Identify assumptions and prior knowledge.

Guiding questions

- What are the needs of worms?
- How are worms similar to humans?

'Big Ideas': Students will understand that . . .	Indicators of Understanding/Standards: <i>We know students know when they can . . .</i>	Resources/lessons/learning activities (includes formative and embedded assessments)
<p>Worms are similar to humans in that they have needs that must be met in order to survive.</p> <p>Other creatures are also like humans and worms because they have needs too.</p>	<p>Describe at least two similarities between human needs and worm needs.</p> <p>Write/draw from the perspective of another animal that displays reflective thought about what that animal's life might be like and the kinds of needs that they must meet.</p>	<ul style="list-style-type: none"> • Diary of a Worm Literature Lesson • Books: <i>Diary of a Worm</i> by Doreen Cronin and <i>Earthworms</i> by Claire Llewellyn • Chart paper and marker • ELA notebook for each student

STAGE II) Investigate/Reflect

Lessons at this stage have students

- Explore, experience, and test ideas.
- Analyze, interpret & synthesize information.
- Evaluate different perspectives.

Guiding questions

- What role do worms play in an ecosystem/web of life?
- What would the world be like if worms no longer existed?
- What makes a good home for a worm?

'Big Ideas': Students will understand that . . .	Indicators of Understanding/Standards: <i>We know students know when they can . . .</i>	Resources/lessons/learning activities (includes formative and embedded assessments)
<p>Worms play an important role in the web of life/ecosystem.</p> <p>The world would be very different if worms did not exist.</p> <p>Worms and humans are interconnected through the web of life.</p>	<p>Describe the role that worms play in the web of life.</p> <p>Describe how the world would change if earthworms did not exist.</p> <p>Describe interconnectedness and the relationships that exist between worms and humans.</p>	<ul style="list-style-type: none"> • <i>We all Play an Important Part! Adaptive Lesson</i> • Web of Life cards (Class-sized cards) • String • Set of student Web of Life cards for each student • Paper, scissors, glue, crayons • Books: <i>Wiggling Worms at Work</i> by Wendy Pfeffer and <i>Winnie Finn, Worm Farmer</i> by Carol Brendler
<p>Worms need a good place to live just like humans.</p>	<p>Describe in detail the ideal home/habitat for worms</p>	<ul style="list-style-type: none"> • <i>Where are the Worms? Mapping Lesson</i> • Books: <i>Wiggling Worms at Work</i> by Wendy Pfeffer and <i>An Earthworm's Life</i> by John Himmelman

		<ul style="list-style-type: none">• Paper and pencils for each student
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STAGE III) Make decisions

Lessons at this stage help students

- Evaluate effectiveness of solutions
- Assess costs and benefits to various stakeholders.
- Decide if solutions address root causes or just the symptoms.

Guiding questions

- How can worms help solve a problem at school?
- What can we do to help eliminate waste from snack time and lunch?

'Big Ideas': Students will understand that . . .	Indicators of Understanding/Standards: <i>We know students know when they can . . .</i>	Resources/lessons/learning activities (includes formative and embedded assessments)
<p>A school community produces a lot of waste.</p> <p>Certain types of waste can be added to a compost pile instead of being thrown out.</p>	<p>Explain where waste comes from in a school</p> <p>Describe and identify the different types of waste that can either be composted or recycled</p>	<ul style="list-style-type: none"> • Various lessons on waste, compost piles, and calculation of amount of waste from snack and lunch time • Stewards of the Earth lesson
<p>Worms can help turn certain types of waste into usable soil within a compost pile</p>	<p>Describe how worms help in the reduction of waste, including their role in a compost pile</p>	<ul style="list-style-type: none"> • <i>Composting: Nature's Recyclers</i> by Robin Koontz • <i>Compost Stew: An A to Z Recipe for the Earth</i> • <i>A Handful of Dirt</i> by Raymond Bial • Various lessons on how to make a compost and what it might cost in terms of money and time

STAGE IV) Act on decisions

Lessons at this stage have students

- Set goals & benchmarks.
- Work individually and in groups.
- Reflect on work; assess progress; adjust process.

Guiding questions

- How can we encourage all members of the school to be stewards of the Earth?
- What does it mean to be responsible?

'Big Ideas': Students will understand that . . .	Indicators of Understanding/Standards: <i>We know students know when they can . . .</i>	Resources/lessons/learning activities (includes formative and embedded assessments)
Composting and recycling are actions of a good school citizen	<p>Demonstrate the willingness to recycle and/or compost their individual waste</p> <p>Urge other school community members to compost and/or recycle</p> <p>Actively work towards the overall reduction of waste within their school community</p>	<ul style="list-style-type: none"> • Stewards of the Earth lesson • Creating posters that inform the school community about the benefits of composting