IMMERSION LEARNING CYCLE

- Connect to Big Ideas
- Generalize Results
- Analyze Results
- Test Ideas
- Generate Reasons
- Evaluate Outcome
- Create Design
- Design

Public Dialogue
Science

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IMMERSION LEARNING CYCLE: LEVELS OF UNDERSTANDING

DESIGN CHOICE:
1. Random
2. Purposeful, attempts requirements
3. Purposeful, meets requirements, well specified

TESTS:
1. Nonsense
2. Sense

BIG PICTURE:
1. Wilderness
2. See the path

THEORY:
1. Null hypothesis
2. Null/alternative hypothesis

DESIGN CHOICE/REQUIREMENT:
1. Undifferentiated
2. Vague connection to design choice
3. Well-specified connection to design choice

REASONS:
1. No idea
2. Trial/Error: Naive
3. Trial/Error: macroscopic
4. Feature level: microscopic

ANALYSIS:
1. Report
2. Identify trends/patterns
3. Connect to hypothesis

GENERALIZING:
1. Describe: no connection
2. Describe/connect: no broad rule
3. Describe/connect: broad rule

CONNECTIONS:
1. Lean: no connections
2. Link to previous experience
3. Demonstrate connections
4. Demonstrate connections, link to design

GENERATE REASONS:

ANALYZE RESULTS:

TEST IDEAS:

CREATE DESIGN:

EVALUATE OUTCOME:

DESIGN:

PUBLIC DIALOGUE:

CONNECT TO BIG IDEAS:

GENERALIZE RESULTS:

ANALYZE RESULTS:

TEST IDEAS:

PUBLIC DIALOGUE:

CREATE DESIGN:

EVALUATE OUTCOME:

DESIGN:

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LEARNING CYCLE
UNIFYING THEMES: SCIENTIFIC INQUIRY GSEs

Key
1. Collect Data
2. Communicate understanding and ideas
3. Design, conduct, & critique investigations
4. Represent, analyze, & interpret data
5. Experimental Design
6. Observe
7. Predict
8. Question and hypothesize
9. Use evidence to draw conclusions
10. Use tools & techniques
IMMERSION UNITS PEDAGOGICAL MODEL
UNIFYING THEMES: SCIENTIFIC INQUIRY GSEs

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