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Date: _____

DESIGNING LEARNING TASKS

Name of Curriculum: _____

STEP 1: IDENTIFY OPPORTUNITIES IN THE CURRICULUM

Water as Ice Inv 2 p. 19

Lesson and Page Numbers:

Hot Water, Cold Water - part 3

What is the learning goal?

~~Water expands as it warms and contracts as it cools.~~

- Changing the temperature of water may change its properties.
- When water freezes, it increases in volume.

What data will students either be given or collect to analyze?

- temperature outside - (16° F)
- amount of water in the bottle (full water bottle)

What scientific principle will students use to link their claim and evidence?

- the freezing point of water
- When water freezes, it ^{expands thus} increasing in volume b/c water gets bigger when it freezes
- liquid to solid
- ~~Water~~ water

STEP 2: DESIGN COMPLEXITY OF THE LEARNING TASK

For each of the following characteristics consider how simple or complex you want the learning task to be depending on the needs of your students.

What question will you ask students?

Matthew's mother left a full bottle of water in the trunk of their car. That night the temperature outside dropped to 16°F. ~~When his mother opened up the trunk the next day, what did she observe about the water bottle? what will happen? ~~the~~ bottle?~~

What specific data will you either provide students or have students collect?

see front

- amt of liquid in water bottle
- temp that night

How much data will you have students analyze?

see front

What variation of the framework do you want students to include in their response?
For example – complexity of the evidence, complexity of reasoning and inclusion of rebuttal

Variation # 2

STEP 3: CREATE CLASSROOM SUPPORTS

Do you want to include any type of visual representation in your classroom? If yes, describe or sketch the representation.

- charts - CER chart
- organizer w/CER

Do you want to provide students with curricular scaffolds? If yes, draft the scaffolds below.

Consider - content specific, generic or combination AND level of detail to include

on organizer, explain each part

observation
- what see about bottle?
- temp that high?

claim - What happened to H₂O bottle?
(the H₂O in bottle froze & ~~the~~ bottle cracked)

evidence - what caused it to happen?
The water turned from liquid to solid b/c the temperature dropped.

reasoning - Why did it happen? Use scientific ideas.

~~When water~~
(when ^{liquid} water freezes, the volume) increases

vocab
- volume
- freezing point
- liquid to solid