

5E One Day Learning Map
STAGE 1: PLANNING ⬆

YOUR TARGET: Standard, Goals & Outcomes

Teacher: Ms. Janice Garcia Grade/Subject: 2nd grade/Science

⬆(Indicates aligned with CAL TPA Cycle 2)

TARGET: Unpack Your Standard

Part 1: My Standards, Goals and Outcomes

Academic Standards: : STATE YOUR STANDARD ⬆

2-PS1-4: Construct an argument with evidence that some changes caused by heating or cooling can be reversed and some cannot.

**Highlight the main idea/knowledge (what)*

**Underline the skills/verbs (how)*

Big Questions (Questions to frame student learning)	Knowledge (Concepts to be understood and applied)	Skills (what you will explicitly teach)
Why can some materials be changed by heating and cooling and others cannot? Why are some changes by heating or cooling reversible and others are not?	Some objects may break into smaller pieces and be put together into larger pieces or change shape. Search for cause and effect relationships to explain natural events. Events have causes that generate observable patterns. Heating or cooling a substance may cause changes that can be observed. Sometimes these changes are reversible, and sometimes they are not.	Be able to categorize what can be, what can be reversed and what cannot. Be able to explain why it is or is not reversible. Be able to explain that events have causes that generate observable patterns.

Student Learning Goal: STATE YOUR GOAL FOR THE STUDENTS TO SHARE ⬆

Students will be able to observe patterns due to cause and effect relationships. Students will be able to construct an argument with evidence that some changes caused by heating or cooling can be reversed and some cannot.

Student Social-emotional Goal (LEARNER):

I will encourage all students to ask questions and remind them how to work together in groups. I will review and repeat vocabulary terms and goals that we are trying to meet

together as a class and as a group.

Barriers to learning (LEARNER): (level of literacy; language proficiency levels; funds of knowledge; attention span)

Students will have frayer models with vocabulary words to use as a reminder of term meaning. Videos will be watched to help explain the process and what we are experimenting for. Each student in a group will have a job so everyone is involved and try to reduce boredom or lack of involvement.

Common Misconceptions (LEARNER & TARGET): (Subject-matter specific; Related to academic standard; Knowledge gaps; Student confusion; multiple meanings; cultural differences; misunderstand)

A common misconception is understanding that you should not heat or cold everything. Understanding what is appropriate to do this to and how to handle the product safely. Making sure they understand what it is they are doing and that the product being reversed may take a different form. Understanding terms like matter, solid, and liquid.

Part 2: My Class

My Classroom Composite: (TEACHER & LEARNER) Whole group (Broad needs of students; observable patterns & trends; language and literacy subgroups; digital/technology fluency; emotional regulation) *If you are currently teaching feel free to use students from your class. If you are not currently teaching you may use the following.*

My class is composed of 24 students, 14 boys and 10 girls. I have 8 English Language Learners and 1 that is no longer an ELL. I have one 1 student who is being tested for ADHD.

Technology ☎

What technologies will you use?

Teacher: Promethean Board, YouTube

Student: Chromebook, YouTube

What Materials will you need:

Teacher: Microwave, lighter, freezer, candle, cardboard, ice cream

Student: Writing journal, butter, bowls, popsicle sticks, ice, cups, ice cream, ball

What vocabulary words demand attention & are related to our big idea?	(Here are some examples) Remove examples and put your words here. Temperature gas liquid mixture solid space texture weight matter
<u>Academic Language</u>* *suitcase words- words you can pack up and take with you to other subjects	(Here are some examples) Support Analyze Data Observable
Behavior: What strategies will you use to manage behavior?(Transitions, groupings, off task behavior, reinforcements.etc)	Specific Classroom Rules: I will group my class into 6 groups of 4 so everyone is involved and make sure they all have a job. I will have a checklist of procedures so they know what to do and not wait for instruction. I will pull those not being safe and have them read at their desk if they are risking the safety of others.

STAGE 2: TEACHING

5-E Lesson Plan

Link to [5 E Infographic](#)

Engage: Inspire Interest +Pre-Assess Describe how the teacher will capture students' interest. Phenomenon, Story Line.	STEP 1: Engage: How would you begin this lesson, how will you stimulate thinking. What type of questions should the students ask themselves? Example:What can I find out about this? Start off this lesson by giving everyone a scoop of ice cream in a bowl. As they eat it we will discuss the texture, taste, and begin to notice the liquid parts at the bottom from sitting. I will ask them "why is there liquid at the bottom of my bowl when I just scooped ice cream in it?" Light a candle and make sure to say it is ice cream scent so they are aware of the candle that you lit.
Explore: Hands-On, Student-Centered! Describe what hands-on/Minds-on activities students will be doing)	STEP 2: Explore: How would you begin this lesson, how will you broaden and stimulate student thinking? What type of questions should the student's ask themselves? Example: What can I find out about this? Students will be given butter, a popsicle stick, and a bowl. They will compare the texture of butter to that of ice cream and they will play with it with the popsicle stick watching as the movement makes it melt. Students need to ask themselves why is it melting? I will get a piece and put it in the microwave and melt it. Once I melt it I will show the class how heat affects it then I will place it in the freezer to show after lunch.
Explain: Clarify & Connect the Dots Students participate in discussions and activities that make concepts, processes, technical terms, and skills plain, comprehensible, and clear to students.	STEP 3: Explain: Engage in academic conversations to explain possible solutions or answers to other students. Students talk with their group and discuss why they think this is happening to the butter. Do they think putting it in the cold will change it back to butter? Watch a video about ice and time lapse with ice turning into water then back to ice. Have them pass around a cup with ice and have them feel it. Tell them to discuss what happens to ice in the heat? Place the cup of ice in direct sunlight and check it after lunch and see if their responses were correct. Now look back at the candle and mention the liquid running down the candle and around the flame. Is the candle the same as the ice cream and the ice? If not, what's different?
Elaborate: Practice, Practice, Practice! Describe how your students will develop a	Step 4: Elaborate: What vocabulary will be introduced and how it will be connected to student observations? How is the knowledge applied in our everyday lives?

more sophisticated understanding of the concept.	Now watch the video of the candle burning and it melting away. Then it disappears. Explain why is this different from ice cream? Explain liquids, solids, matter, and texture. Now burn a piece of cardboard. Is this the same as ice cream or ice? Why or why not?
Evaluate: Formative & Summative Assessment Describe multiple ways r all students to monstrate knowledge-Make sure the assessment is aligned with the Standard.	⦿ Step 5. Evaluate: Include the following assessments. Informal Assessment: Ask for thumbs up or down if they agree or disagree that melting ice cream is reversible. Student Self Assessment: Students will be able to determine if a substance is reversible or not before doing anything to the substance. Formal Assessment: Students will be able to explain the characteristics of the substances before cooling or heating, after cooling or heating and once reversed if it can be reversed.

WHAT IS YOUR LEARNING MAP SEQUENCE? (List your steps, what you do 1st etc.)

Engage: Give ice cream in a bowl to introduce this to the students.
Ask the students why there is liquid in my ice cream bowl?
Have the students discuss why it's there.
Light a candle to allow it to start melting.

Explore: Give the students a piece of butter, popsicle stick, and a bowl.
Compare the texture of butter to ice cream and ask what they think will happen if we introduce heat to it.
Microwave a piece of butter and show the texture.
What happens if we introduce cooling to it? Put in the freezer for an hour.
Watch an ice lapse video, showing ice melting and freezing changing from water to ice.
Introduce the candle and explain the liquid rolling off of it, is it the same as ice cream or butter?
Discuss what they think happens and why it is different.

Explain: Compare the ice cream, water, ice, butter, and candle. Explain why introducing heat or cooling to these substances changes the texture and form. Discuss which are

reversible and which are not.

Elaborate: Show another example of cardboard and burn it with a lighter. Is this reversible? Have them explain in their groups. What are the characteristics before, during and after? Can you reverse this? Explain liquids, solids, texture, matter, and the small particles making larger particles.

Evaluate: Ask questions and give a thumbs up or down for agree or disagree. Questions like can melting ice be reversed?

As they discuss, have them be able to name more things that they think are reversible if you introduce heat or cooling to them. This is their self assessment to see if they understand the characteristics and predict others with the same characteristics.

Clean up and everyone back at their seats. Have them in their journals write down characteristics of items that are reversible and those that are not. Also explain what happens when it is reversed or what happens to those not reversible and name other things that can be reversed.

Accommodations/Adaptations/Intervention

🕒 Based on the lesson you created, what accommodations and adaptations should you make to this lesson to assist students in reaching their learning goals

You may use this scenario or you may use students from your own classroom.

I have 8 English Language Learners and 1 being diagnosed with ADHD.

Group your students that have similar learning challenges and plan appropriate accommodations or adaptations to meet their needs. Do the accommodations and adaptations you created assist students in reaching learning goals in multiple ways?🕒

I will group by making two groups of ELL learners together and the rest will be split into groups as well. There will be four to a group and my ELL students will be using their chromebooks to be able to review the videos and look up anything they have questions on. They will be able to watch the videos in their native language to explain it more. They will be able to draw the answers to responses to show if they are reversible or not and how they look after. My ADHD student will be able to stand while he works and he will be provided with a ball to play with to help distract him from wanting to walk around. He will also be able to draw what he sees as it is happening to keep him occupied and answer the questions.

Resources:

[2-PS1-4 Matter and Its Interactions | Next Generation Science Standards
\(nextgenscience.org\)](https://www.nextgenscience.org/2-PS1-4-matter-and-its-interactions)

<https://youtu.be/wdcvF8iPuB4>

<https://youtu.be/Mhhw0kKuPR0>