

Changes Unit Plan

GRADE LEVEL EXPECTATION:

Distinguish between physical and chemical changes, noting that mass is conserved during any change.

BIG IDEAS:

Change, Constancy, Measurement, Evidence Explanation.

STUDENTS WILL (KNOW):

- Physical Change
- Chemical Change
- Properties of matter
- Chemical Reactions
- Conservation of Mass
- Scientific Explanation
- Experimental Design
- Respectful Conversation

IF NOT, THEN WHAT?

Mixed Grouping by ability. Put lots of responsibility on group members. Revisit/Review concepts individually and have students create final product based on their own level/strengths. Review each lab by coll. Group at start of new lab.

IF SO, THEN WHAT?

- ✓ Challenge each individual to test a hypothesis for how where chemical and physical changes occur. Have students evaluate how changes effect the Earth and / or atmosphere/ outer space.
- ✓ Use Vernier Probes with graphing Calculators to graph change factors.

STUDENTS WILL (DO):

- Classify a change in matter as physical or chemical
- Provide examples of physical and chemical changes in everyday objects
- Explain how mass is conserved in a physical or chemical change.
- Evaluate whether a physical or chemical change has occurred.

Unit Comments:

- ✓ Check for ties to math curriculum with chemical reactions on graphs.
- ✓ HS Math connections for highs. Calculate reaction rates using probes.

ACTIVITIES FOR LEARNING : (NOTEBOOK)

LAUNCH: Title Page-Vocab. Poem or Comic, picture examples, non-examples.

1. Mechanical Energy (Physical Changes) vs. Chemical Energy (Chemical Changes)
2. Changes in my life Activity.

EXPLORE (Inquiry):

1. Mini-Lesson: Physical or Chemical Change. (See Master notebook)
 - a. Notes: Physical and Chemical Changes – Matchbook foldable.
 - b. Phases Animation for physical changes.
2. WorkTime– finish title page and changes foldable!
3. Video Clip: Bill Nye: Chemical Reactions (get 10 notes)
4. LAB 1:
 - a. Part 1: Physical changes. (Stations)
 - b. Part 2: Chemical Changes. (Stations)
 - i. Quia Site.
5. LAB 2: CHEMICAL CHANGES - Inquiry in Action Lab (Unknown Solids)
6. Start Puzzle pieces. (Work in groups)



SUMMARY:

A. Turn in Graphic Organizer Puzzle complete with reflection on back.

B. Benchmark Assessment and Review BA.