# The Pennsylvania State University Workforce Education and Development Competency-Based Teacher Education

## Lesson Plan Template

| |
|---|
| **Name of Instructor: Jeff Weyer** |
| **Program Title: Construction Trades** |
| **Course Title: 600 Concrete** |
| **Unit Title: 601 Use modern concrete materials** |
| **Lesson Title: FID Lesson 1 Intro to concrete and it's properties** |
| **Lesson Performance Objective: Learn basic characteristics of concrete** |
| **Time (length of lesson): 90 Minutes** |
| **Equipment and Materials needed: Packet and quiz in handout** |
| **Academic Standard(s) and Anchor(s) and/or Common Core Standard addressed by this lesson:** |

| |
|---|
| **Technical Standard(s) or Competencies taught in this lesson: CC.3.5.9-10.A Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions CC.2.1.HS.F.2Apply properties of rational and irrational numbers to solve real-world or mathematical Problems.** |
| **Introduction There will be a short introduction lesson covering what is expected when this packet is passed out covering the basics of concrete and form building** |
| **Body: Students will have to read Task module 10504 Forming Foundations and Flat work. Then complete assigned questions on worksheet.**<br><br>**There will be an Email sent out with a link to a zoom meeting on the morning of the FID day where I will have online class with a Power point presentation and will cover the packet with the students.** |
| **Summary: We will review the material the day the students return to school with a question and answer session.** |

| |
|---|
| **Student Assessment (attach a copy of the assessment instrument that will be used to assess students for this lesson): (UDL- Multiple Means of Expression)**<br><br>**Formative Assessment(s) A ten question quiz will be given the next day**<br><br>**Summative Assessment: Completed work sheet.** |
| **Universal Design for Learning (UDL**<br><br>**Multiple Means of Engagement: Paper Packet and zoom meeting**<br><br>**Multiple Means of Representation: Module and power point**<br><br>**Multiple Means of Expression:** |

Name_____ Date_____

# FID Worksheet 1

Instructions:

The following test is multiple choice. Read the statement and choose the best possible word or words to fill in the blanks and enter that choice (A,B,C,D, Etc.) to the right of the number in the blank space provided.

1. The chemical reaction between cement and water is called _____. 1._____

A. Concrete B. Hydration C. Slump D. Aggregate

2. A substance made by burning a mixture of clay and limestone forming clinkers that are ground into a fine powder is called _____. 2._____

A. Ready Mixed Concrete B. Concrete C. Admixtures
D. Cement

3. The terms _____ are not interchangeable nor can they be substituted for one another. One is technically an ingredient of the other. 3._____

A. Admixtures and Slump B. Stone and Sand
C. Cement and Concrete D. Slump and Cure

4. Any material or chemicals added to a concrete batch before or during mixing other than Portland Cement, water, and aggregates is called _____. 4._____

A. Admixtures B. Air Entraining Agent C. Aggregates
D. All Of The Above

5. The ingredient(s) that make up concrete is (are)____. 5._____

A. Portland Cement B. Water C. Aggregates
D. All Of The Above

6. Concrete is ordered from central batch plants by the _____. 6._____

A. Truckload - B. Cubic Yard C. Cubic Foot
D. Admixtures

7. Retarding admixtures are used to _____ the setting time of concrete. 7._____

A. Slow down B. Speed up
C. Decrease Shrinkage D. Increase Temperature

8. In placing concrete, if prolonged delays occur, the _____ of the concrete can be severely decreased. 8._____

A. Shrinkage B. Water Content C. Final Strength
D. Calcium Chloride

9. Although concrete hardens in a few hours, it is called _____ in the trade, until its safe load or stress strength is reached. 9._____

A. "Untempered" B. "Stressfree" C. "Green"
D. "Durable"

10. If a portable machanical mixer is used on the job site, the first ingredient to go into mixer should be the _____. 10._____

A. Admixtures B. Course Aggregate C. Cement
D. Sand

11. Adding water to a concrete batch can induce "Water gain" on the surface, causing a weak non-durable surface called _____. 11._____

A. Job Traffic B. Improper Finishing
C. Depression D. Laitence

12. If not handled and placed properly, defective concrete can result from _____. 12._____

A. Segregation of aggregates commonly known as "honeycombing."
B. Cement paste tending to flow ahead of the coarser aggregate materials.
C. Water bleeding to the top surface.
D. All of the above.

13. To properly place concrete in flatwork, it is best to _____. 13._____

A. Place it at one end and rake or shovel to its final location.
B. Make piles every few feet and push or drag it with rakes until it is evenly spread.
C. Start in the middle of the form and work to the outer edges.
D. Start around the perimeter at one end and place each batch against the previously placed batches.

14. Transporting the concrete on the job site from the mixer to the forms _____. 14._____

A. Should be the shortest possible distance.
B. Should only be done with wheelbarrows or buggies.
C. Should be done with crane and bucket only.
D. Should never be done with a wheelbarrow.