



# DPTV's Digital Adventure

## DIA Virtual Field Trip: Science at the Museum

### Unit XC01 – ‘Where Do I Fit?’

| SUBJECT   | TEACHERS   | GRADE                           | DATE              |
|---|--|---------------------------------|-------------------|
| Cross-Curricular (XC):<br>Art, Chemistry,<br>Engineering, &<br>Political Leadership | Alycia Chase<br>Tim Fox<br>Nic Fraylick<br>Mimi Hoffman<br>Mervet Ismail | 9-12<br><br>1st Semester (2016) | November 30, 2016 |

**OVERVIEW**

Students are going on a field trip and will be asked to get themselves prepared to get the most from this experience. This is a field trip they will do in the comfort of their own school/home – a virtual field trip. It is an extraordinary trip because they are going where few have gone before – behind the scenes at the Detroit Institute of Art. Hosted by Detroit Public Television, the students will witness how the DIA validates as well as prepares to exhibit its collection of art.

During this field trip we are going to expose the ‘sure’ and ‘not so sure’ ways that four of the disciplines identified by STEAM, Science, Technology, Engineering, & Art fit in the procurement, authentication, and exhibition of its collection. – ‘Where Do I Fit?’

**Teacher Guide**

**Student Guide**

|                  |  |   |
|------------------|--|---|
| Objectives       | (See Curriculum Standards below)   | Learn about the connection between STEAM disciplines and challenges encountered by curators of a publicly owned art collection.   |
| Information      | Instructions for Activities are provided via hard copy / electronically via Google share document. | Students will participate in a virtual field trip and identify connected learning relationships in the STEAM-based disciplines.   |
| Activities<br>#1 | Pre-Event Worksheet  | Students go online to selected websites and identify the connection between the disciplines within STEAM and the validation and exhibiting of art in a public collection. |
| #2               | Exposing the Four Dub's  | Students, in groups of eight representing four of the STEAM disciplines identify the connections between the disciplines and the art collection as well.                  |

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|--------------|--|---|
| #3           | Reflection on the event and the information uncovered on our field trip journey.   | Students will craft a two paragraph MLA-based document about the DPTV/DIA experience using either a compare/contrast or reflection format.  |
| Verification | Students will 'share' their files with a teacher-approved 'Peer' through Google Drive. Peer will provide comments for editing. After receiving Peer-review approval, students will share file with teacher via Moodle. | Student Peer will review and validate each URL and response. Teachers will identify work performed as attaining one of three level of badges - Discovery, Guided Work, and Independent Work |
| Summary      | Student's ability to communicate professionally (thoroughly, accurately, and succinctly) in sharing 'Connection Relationships' is an important objective of this lesson.   | Successful students will be awarded digital badges for their level of completion.   |

The standards shown below have been taken directly from the State of Michigan Department of Education website. These standards represent a partial representation of the content presented and activities performed by the students engaged in the 'Virtual Field Trip' and its accompanying assignments.

## CURRICULUM STANDARD

- Art
  - ART.VA.I.HS.1 Apply acquired knowledge and skills to the creative problem solving process. (21st Century Skills: I.4, II.2)
  - ART.VA.II.HS.8 Explore social and global issues through the application of the creative process. (21st Century Skills: III.7, III.8, III.9, III.10)
  - ART.VA.V.HS.1 Design creative solutions that impact everyday life. (21st Century Skills: I.1, I.2, I.4, III.3, III.4, III.6)
  - ART.VA.V.HS.2 Explore and understand the variety of art and design careers. (21st Century Skills: II.2, II.3, II.5, III.7)
  - ART.VA.V.HS.3 Explore and understand the application of the creative process throughout career pathways. (21st Century Skills: II.1, II.2, II.3, II.5, III.2, III.7, III.8, III.9, III.10)
  - ART.VA.V.HS.8 Identify the role visual arts play in enhancing civic responsibility and community. (21st Century Skills: I.3, I.6, III.2, III.4, III.7, III.9)

### Engineering

#### COMMUNICATIONS

- II.C.1 Apply factors and strategies for communicating with a diverse workforce.
- II.C.2 Respond and/or restate information that will clarify STEM techniques to be used and/or information to be applied to projects, plans, or processes.
- II.D.1 Interpret messages or information provided that clarifies issues, ideas, plans, projects, or processes.
- II.D.2 Respond and/or restate information that will clarify STEM techniques to be used and/or information to be applied to projects, plans, or processes.
- II.E.1 Use effective methods to communicate concepts of STEM to a broadly

represented audience.

- II.E.2 Apply the ability to read, interpret, and analyze STEM materials discerning the information and concepts.
- II.F.3 Listen to a presentation and record important information. Report back identifying central themes and use key points to explain how the message applies to a similar situation.

### III PROBLEM-SOLVING AND CRITICAL THINKING

- III.A.1 Employ critical thinking skills independently and in teams to solve problems and make decisions (e.g., analyze, synthesize and evaluate).

### IV INFORMATION TECHNOLOGY APPLICATIONS

- IV.B.1 Use information technology tools to manage and perform work responsibilities.
  - IV.B.2 Use email to share files and documents.
- ### IIIV DEMONSTRATE an UNDERSTANDING of the cultural, social, economic, and political consequences of engineering decisions.
- IIIV.B.1 Identify changes caused by the use of technology ranging from gradual to rapid and from subtle to obvious.
  - IIIV.B.3 Identify ethical considerations important in the development, selection, and use of technologies.
  - IIIV.C.3 Identify technologies devised to reduce the negative consequences of other technologies.

Science – Chemistry

- C1.1A Generate new questions that can be investigated in the laboratory or field.
- C1.1B Evaluate the uncertainties or validity of scientific conclusions using an understanding of sources of measurement error, the challenges of controlling variables, accuracy of data analysis, logic of argument, logic of experimental design, and/or the dependence on underlying assumptions.
- C1.1E Describe a reason for a given conclusion using evidence from an investigation.
- C1.2A Critique whether or not specific questions can be answered through scientific investigations.
- C1.2B Identify and critique arguments about personal or societal issues based on scientific evidence.
- C1.2C Develop an understanding of a scientific concept by accessing information from multiple sources. Evaluate the scientific accuracy and significance of the information.
- C1.2D Evaluate scientific explanations in a peer review process or discussion format.
- C1.2E Evaluate the future career and occupational prospects of science fields.
- C5.2B Distinguish between chemical and physical changes in terms of the properties of the reactants and products.

Social Studies –  
Civics  
(Political Leadership)

### **General Social Science Knowledge**

- K1.2 Know that each discipline is subject to criticisms and limitations; be aware of the primary criticisms and limitations of Civics.
- K1.3 Understand and analyze social relationships and patterns.
- K1.4 Understand social and political perspectives.

- K1.5 Understand the diversity of human beings and human cultures.
- K1.6 Analyze events and circumstances from the vantage point of others.
- K1.8 Apply social studies concepts to better understand major current local, national, and world events, issues, and problems.

***Social Studies Procedures and Skills***

- P1.3 Understand that diversity of interpretation arises from frame of reference.
- P1.4 Communicate clearly and coherently in writing, speaking, and visually expressing ideas pertaining to social science topics, acknowledging audience and purpose.
- P2.3 Know how to find and organize information from a variety of sources, analyze, interpret, support interpretations with evidence, critically evaluate, and present the information orally and in writing; report investigation results effectively.
- P2.4 Use multiple perspectives and resources to identify and analyze issues appropriate to the social studies discipline being studied.
- P2.5 Use deductive and inductive problem-solving skills as appropriate to the problem being studied.