Activity 4.1d Software Modeling Introduction (Digital STEAM)

Introduction

3D modeling is a powerful tool for engineers. It allows an idea to be translated into a model that can communicate the concept, adapt to changes, and even create a physical model with devices such as a prototype or a mill.

In this activity you will learn the basic Autodesk® Inventor® software interface and file management. This orientation is important to allow efficient modeling of your own ideas.
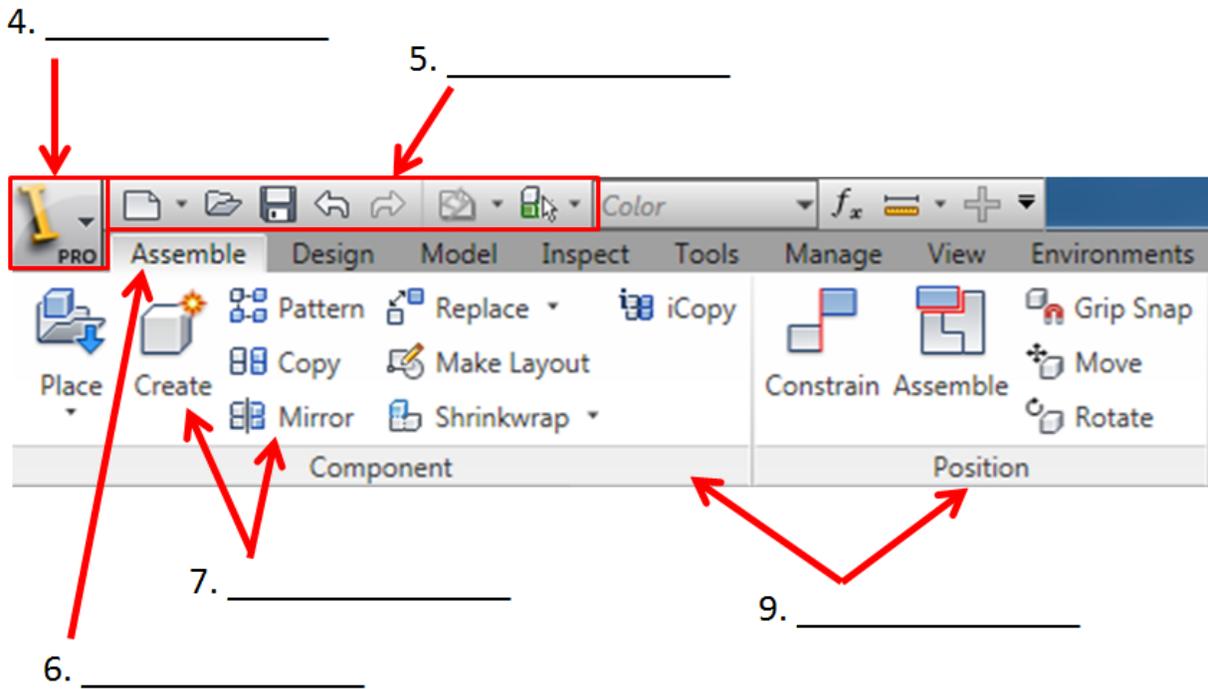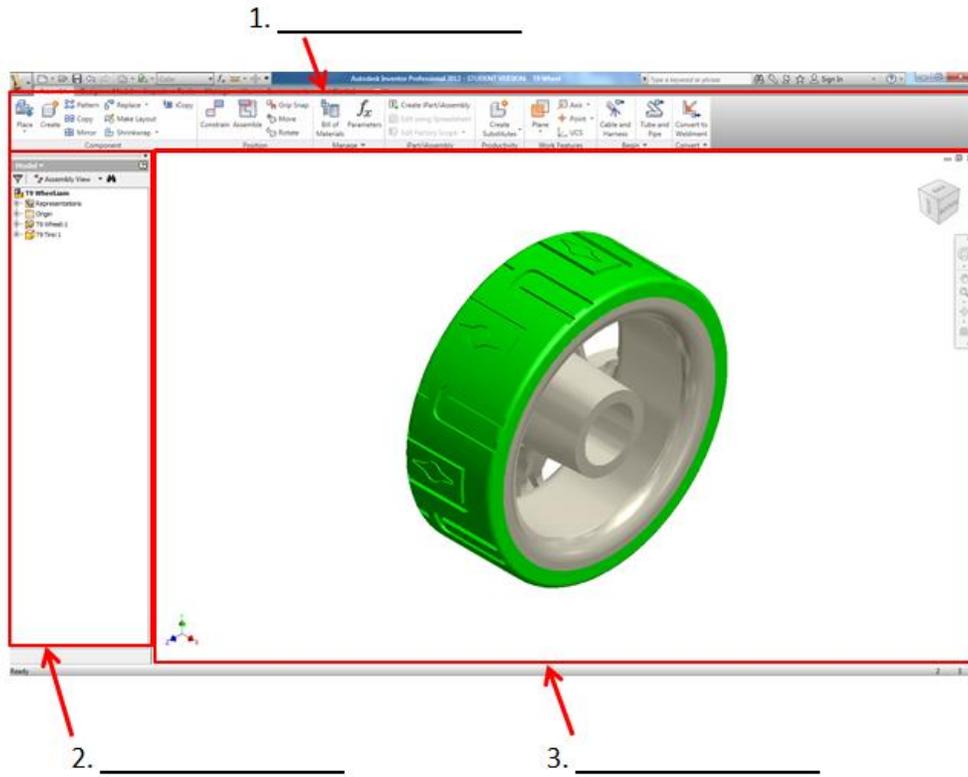
Equipment

- Engineering notebook
- Pencil
- PC with Autodesk Inventor Software

Procedure

1. Go to the **Autodesk Digital STEAM** site at the link below.
   http://curriculum.autodesk.com/student/public/index/index

2. Click Level 1, Digital Study Packet, then Inventor.

3. Under User Interface click Primary Environments and view the tutorial. Answer the questions below. Note: Move the cursor away from the video window for a clear view.

   a. What are the four Inventor base environments and file extension names?

      i. _____

      ii. _____

      iii. _____

      iv. _____

4. View the tutorials listed under UI Navigation – UI Navigation 1, UI Navigation 2, and Graphics Window Display. Answer the questions below.

    a. Label the features of the user interaction images below.

1. _____

2. _____

3. _____

4. _____

5. _____

7. _____

9. _____

6. _____

b. Label the Assembly environment below.

T9 Wheel
⊞ Solid Bodies(1)
⊞ Surface Bodies(3)
⊞ View: Master
⊞ Origin
Sketch1
⊞ RevolutionSrf1
⊞ RevolutionSrf2
⊞ Work Plane1
⊞ Sculpt2
Shell1
⊟ Revolution2   1. _____
  Sketch1
⊟ Revolution4
  Sketch1
⊟ Revolution3   2. _____
  Sketch1
Work Plane2
⊞ Hole1
Fillet2
⊞ Circular Pattern1
FaceDraft2
End of Part

Part Environment

T9 Wheel.iam
⊞ Representations
⊞ Origin
⊟ T9 Wheel:1
  View:
  ⊞ Origin
  Sketch1
  ⊞ Work Plane1
  Work Plane2
  Insert:1   3. _____
⊟ T9 Tire:1
  View:
  ⊞ Origin
  Sketch1
  ⊞ Work Plane1   4. _____
  Flush:1
  Insert:1

Assembly Environment

c. How do you display the browser if it has disappeared?

d. How do you edit the display of items in your Quick Access Tool Bar?

5. View the tutorial listed under Navigation Control. Answer the questions below.

a. Label the navigation control image to the right.

1. _____

2. _____

3. _____

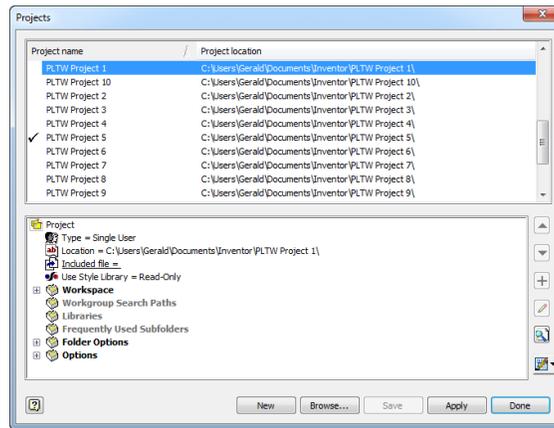b. Describe the functions available with each of the following function keys.

- F2 _____

- F3 _____

- F4 _____

- F5 _____

- F6 _____

6. View the Project Files tutorial. Answer the questions below.

    a. Label the images below with the steps needed to set up a project without Libraries
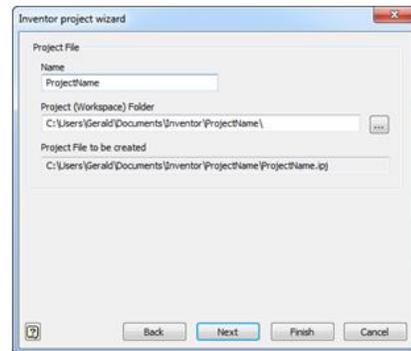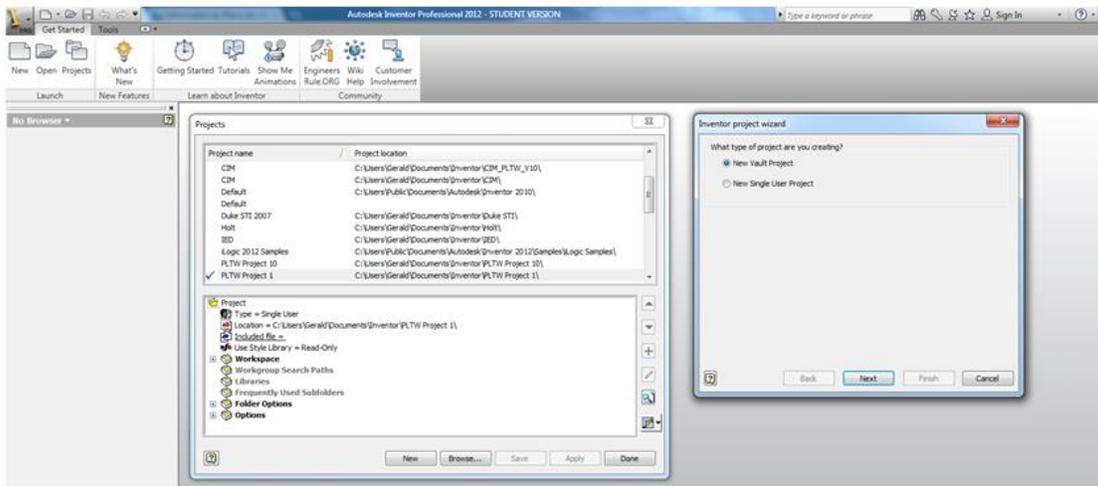
    b. What is the active project in the images below?

 c. How would the PLTW Project 3 be made the active project?

Conclusion

 1. Why is using the vocabulary presented in the tutorials important?

 2. Why is it important to properly select the project each time a model is created?