

## Lesson 2 - Process of Innovation

approximately 45 minutes

### Lesson Plan

Step	Approach	Activity	Duration
A	Overarching Question of the Day	Is there a process of innovation?	2 Minutes
B	Explore More Individual Activity	<p>Compare and contrast Steve Wozniak and Don Chadwick, two current-day innovators – one who is a tinkerer and one who is very methodical and uses a step-by-step process. Find out about the different processes used by these innovators:</p> <p><i>Tinkerer: Steve Wozniak - Accidents Led to Innovation:</i>  <a href="http://www.oninnovation.com/videos/detail.aspx?video=1355">http://www.oninnovation.com/videos/detail.aspx?video=1355</a></p> <p><i>Methodical: Don Chadwick, Product Designer - What Is Design?</i>  <a href="http://www.oninnovation.com/videos/detail.aspx?video=1157">http://www.oninnovation.com/videos/detail.aspx?video=1157</a></p>	10 Minutes
C	Individual Analysis Activity	<p>The process of design is closely related to the process of innovation. Not all innovators use the exact same process or sequence when innovating, but they do use some of the same steps. Explore the following documents and related links and then make a list of steps you feel are essential to the process of innovation.</p> <p><i>Activity Sheet #2 – Innovation and the Design – Thinking Process</i></p>	10 Minutes
D	Inquiry	<p>What are the differences between invention, innovation and discovery? Watch these videos to learn how these innovators talk about and define some of these terms:</p> <p><i>William McDonough</i>  <a href="http://www.oninnovation.com/videos/detail.aspx?video=1190">http://www.oninnovation.com/videos/detail.aspx?video=1190</a></p> <p><i>Steve Wozniak</i>  <a href="http://www.oninnovation.com/videos/detail.aspx?video=1389">http://www.oninnovation.com/videos/detail.aspx?video=1389</a></p> <p><i>Toshiko Mori</i>  <a href="http://www.oninnovation.com/videos/detail.aspx?video=1242">http://www.oninnovation.com/videos/detail.aspx?video=1242</a></p>	15 Minutes
E	Reflection/ Critical Thinking	<i>Complete Activity Sheet #3 – Invention, Innovation and Discovery</i>	5 Minutes
F	Debate and Dialogue	Based on what you learned today, which of the three concepts do you believe is the most difficult to achieve and why?	3 Minutes

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### Process Comparison

### Activity Sheet 1

1. Wozniak and Chadwick have used very different methods to arrive at innovative ideas. List some of the terms they use to describe their process.

#### Wozniak

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#### Chadwick

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2. Chadwick refers to experimenting as a path to innovation. In what way is this process similar to what a scientist does in a laboratory?

3. Wozniak describes a process similar to tinkering, making changes and trying new things here and there. How is Wozniak's process the same as Chadwick's? How is it different?

4. If you were an innovator, which process do you think would suit you better and why?



Aeron Chair Designed  
by Don Chadwick

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### Innovation and the Design-Thinking Process

## Activity Sheet 2

#### 1. Explore these resources:

- The Henry Ford Academy and the Henry Ford Learning Institute use a design-thinking skills model designed by the Hasso Plattner Institute of Design at Stanford University and IDEO to teach the process of innovation to their students. Their design-thinking process consists of the following steps:

1. Understand
2. Observe
3. Point of View
4. Visualize
5. Prototype
6. Test
7. Iterate

- Find out how engineers design something by viewing the video *"What is the process of design?"* at: <http://www.teachersdomain.org/resource/phy03.sci.engin.design.desprocess>. The design-thinking process described in this video consists of the following steps:

1. Identify the Challenge
2. Research and Brainstorm
3. Design a Solution
4. Test Ideas
5. Evaluate
6. Build It

- #### 2. After conducting your own research and analysis, list the essential steps in the process of innovation in your order of priority. Write a few sentences about the reason you selected your proposed steps and sequence in the process of design-thinking and innovation:

1. ....
2. ....
3. ....
4. ....
5. ....
6. ....
7. ....
8. ....
9. ....

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### Invention, Innovation and Discovery

## Activity Sheet 3

View the video segments on William McDonough, Steve Wozniak and Toshiko Mori where they express their views on invention, innovation and discovery.

1. What are the basic differences in the processes of invention, innovation and discovery?
2. Think about the three processes of invention, innovation and discovery that we have been studying. Who comes to mind as you think of invention, innovation and discovery? Name and discuss the contributions of your favorite or most interesting person for each category:

	Person	Contribution	Why did you choose him or her?
Invention			
Innovation			
Discovery			

3. Based on the concepts of invention, innovation and discovery, in which of the three do you see yourself working and why?