

Lesson 3 - 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	Inquiry	<p>Find out the differences between invention, innovation and discovery. Watch these videos to learn how these innovators talk about and define some of these terms:</p> <ul style="list-style-type: none"> • <i>William McDonough</i> www.oninnovation.com/videos/detail.aspx?video=1190 • <i>Steve Wozniak</i> www.oninnovation.com/videos/detail.aspx?video=1389 • <i>Toshiko Mori</i> www.oninnovation.com/videos/detail.aspx?video=1242 	10 Minutes
C	Analysis	Complete <i>Activity Sheet 1 – Invention, innovation and Discovery.</i>	10 Minutes
D	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> <ul style="list-style-type: none"> • <i>Tinkerer: Steve Wozniak - Accidents Led to Innovation:</i> www.oninnovation.com/videos/detail.aspx?video=1355 • <i>Methodical: Don Chadwick, Product Designer - What Is Design?</i> www.oninnovation.com/videos/detail.aspx?video=1157 <p>Use <i>Activity Sheet 2 – Process Comparison.</i></p>	15 Minutes
E	Reflection and Critical Thinking	<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 links and develop a list of steps you feel are essential to the process of innovation.</p> <p>What is the design process?</p> <p>www.teachersdomain.org/resource/phy03.sci.engin.design.desprocess.</p> <p>Use <i>Activity Sheet 3 – Innovation and the Design-Thinking Process.</i></p>	8 Minutes

Lesson 3 - Process of Innovation

Invention, Innovation and Discovery

Activity Sheet 1

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

1. What is the basic difference between invention, innovation and discovery?

Invention	Innovation	Discovery

2. Think about the processes of invention, innovation and discovery. Who comes to mind when 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			



Lesson 3 - Process of Innovation

Process Comparison

Activity Sheet 2

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

Chadwick

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.

Lesson 3 - Process of Innovation Innovation and the Design-Thinking Process

Activity Sheet 3

1. Find out how engineers design something by viewing the video *“What Is the Design Process?”* at: www.teachersdomain.org/resource/phy03.sci.engin.design.desprocess. The design-thinking process described in this video consists of the following steps:

- Identify the Challenge
- Research and Brainstorm
- Design a Solution
- Test Ideas
- Evaluate
- 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:

Find more about the design-thinking process by exploring sites such as design schools, organizations and companies.

