

Lesson 4 - Keys to Innovation

approximately 45 minutes

Lesson Plan
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Step	Approach	Activity	Duration
A	Overarching Question of the Day	What are the Keys to Innovation? Can we cultivate an innovative mind-set?	2 Minutes
B	Context-Setting Activity	<p>Read the excerpt from a speech by Patricia Mooradian, president of The Henry Ford, entitled, "Advancing a Culture of Innovation," to find out about the five Keys to Innovation The Henry Ford believes are essential to innovation.</p> <p>To read the speech online, visit: www.oninnovation.com/templates/_pdf/THF_OnInnovation_Advancing_A_Culture_of_Innovation.pdf or use <i>Resource Sheet 1</i>.</p>	3 Minutes
C	Independent Activity	<p>Select one of the five suggested Keys to Innovation that you think is indispensable for innovation. Watch the suggested video clips of the innovators discussing one of the essential Keys to Innovation. Complete <i>Activity Sheet 1 - Keys to Innovation Activity</i> as you watch the videos or discuss as a group.</p> <p>Curiosity</p> <ul style="list-style-type: none"> • <i>Mitchell Baker: Mozilla Culture</i> www.oninnovation.com/videos/detail.aspx?video=1483 • <i>William McDonough: Childhood</i> www.oninnovation.com/videos/detail.aspx?video=1185 • <i>Bill Gates: Inspirations</i> www.oninnovation.com/videos/detail.aspx?video=1681 • <i>Will Allen: Curiosity</i> www.oninnovation.com/videos/detail.aspx?video=2209 <p>Break the Rules</p> <ul style="list-style-type: none"> • <i>Pierre Omidyar: Advice</i> www.oninnovation.com/videos/detail.aspx?video=1270 • <i>Elon Musk: Curiosity</i> www.oninnovation.com/videos/detail.aspx?video=1251 	20 Minutes

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Step	Approach	Activity	Duration
<p>C Continued</p>	<p>Independent Activity</p>	<p>• <i>Rosa Parks: Read about Rosa Parks at</i> www.oninnovation.com/innovators/detail.aspx?innovator=Parks</p> <p>Collaboration Is Power</p> <p>• <i>Toshiko Mori: Collaboration for Innovation</i> www.oninnovation.com/videos/detail.aspx?video=1223</p> <p>• <i>Will Allen: Collaboration Is Power</i> www.oninnovation.com/videos/detail.aspx?video=2211</p> <p>• <i>Marc Greuther: Thomas Edison, Leadership and Collaboration</i> www.oninnovation.com/videos/detail.aspx?video=2147</p> <p>Meet True Needs</p> <p>• <i>William McDonough: America as a Place for Innovation</i> www.oninnovation.com/videos/detail.aspx?video=1202</p> <p>• <i>Pierre Omidyar: What Drives Me</i> www.oninnovation.com/videos/detail.aspx?video=1272</p> <p>• <i>Dean Kamen: Babies and Business</i> www.oninnovation.com/videos/detail.aspx?video=1874</p> <p>• <i>Will Allen: Early Goals - Education and Basketball</i> www.oninnovation.com/videos/detail.aspx?video=1997</p> <p>Embrace the Risk and the Lessons of Failure</p> <p>• <i>Elon Musk: Risk Failure</i> www.oninnovation.com/videos/detail.aspx?video=1262</p> <p>• <i>Pierre Omidyar: Message to the Future</i> www.oninnovation.com/videos/detail.aspx?video=1276</p>	<p>20 Minutes</p>



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Step	Approach	Activity	Duration
C Continued	Independent Activity	<ul style="list-style-type: none"> • <i>Lyn St. James: Learning from Mistakes</i> www.oninnovation.com/videos/detail.aspx?video=1332 • <i>Thomas Edison: Prolific Inventor, Change Agent (read quote)</i> www.oninnovation.com/innovators/detail.aspx?innovator=Edison • <i>Marc Greuther: Thomas Edison, An Incurable Inventor</i> www.oninnovation.com/videos/detail.aspx?video=2136 • <i>Buckminster Fuller: Visionary Thinker, Serial Entrepreneur</i> www.oninnovation.com/innovators/detail.aspx?innovator=Fuller 	20 Minutes
D	Report Out	Team Leader from each team shares findings and opinion on each of the five Keys to Innovation.	15 Minutes
E	Research and Reflection Activity	<p>If students have access to a computer lab/Internet, encourage them to do the following:</p> <p>Select one innovator out of the featured innovators that you would identify as your role model, and watch their highlight video at www.oninnovation.com/innovators.aspx</p> <p>Answer the questions on <i>Activity Sheet 2</i>, and reflect on the innovator who is your role model.</p> <p>This entire research and writing activity can also be done as a home-work assignment.</p>	5 Minutes

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Keys to Innovation Activity

Activity Sheet 1

Select one of the five suggested Keys to Innovation that you think is the most indispensable for innovation:

- Curiosity
- Break the Rules
- Collaboration Is Power
- Meet True Needs
- Embrace the Risk and the Lessons of Failure

Answer the questions below concerning your choice from the five Keys to Innovation:

1. Discuss the Key to Innovation that you chose and why you feel that key is indispensable. Try to support your statement with at least five reasons. This may include a quote from an innovator or your personal conclusion.

2. Which innovator do you think best represents or supports this Key to Innovation?

3. How do you think the innovator you selected overcame obstacles while he/she was using that particular key to innovate?

Get ready to report out and share your findings.

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Me and My Role Model Innovator

Activity Sheet 2

Go to: www.oninnovation.com/innovators.aspx. Select one of these innovators that you think you can relate to or admire the most. Watch the video clip or readings suggested for that person. Then discuss your views on the following questions:

1. Why do you admire or relate to this innovator the most?
2. What common interests do you share with this innovator?
3. What is the next innovation you would expect or would have expected (in case you chose a legendary innovator like Henry Ford or Thomas Edison) from your role model innovator?



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Advancing a Culture of Innovation

Patricia Mooradian
President, **The Henry Ford**
May 28, 2009

For 80 years, **The Henry Ford** has documented and presented the stories of innovation. These stories give us the road map to help shape a better future. And it's never been more critical that we focus intently on what that future might look like. While it cannot and should not look like the past, our future will be built on time-tested characteristics of innovation from earlier visionaries. Current circumstances give us an opportunity and a responsibility to reexamine and reinvent how we invest, how we work and how we teach our kids. History teaches us that from every major economic crisis, America has emerged stronger, smarter and more innovative—it's in our DNA.

Throughout the 19th century, our country faced several financial crises. Each was followed by bursts of innovation. In the 1840s, we saw the rise of steam power and industrial production. The 1870s gave us electric light and the telephone, and in the early 1900s, we saw the mass production of the automobile.

It's that time again. We must write a new chapter in the story of American innovation. And because **The Henry Ford** has the nation's best archive of innovation, we have a vital role to play. As a catalyst for innovation and change, we are finding new ways to innovate, too. For example, **The Henry Ford** recently launched a new educational initiative called OnInnovation. We have been interviewing and filming dozens of leading contemporary innovators. We have been to their workshops, in their laboratories and in their homes for the sole purpose of documenting their creative process, the way they work, the way they think and how they translate their ideas into reality. We are sharing their inspiring stories with the world and giving them historical context made available through our website, OnInnovation.com.

By showcasing these stories, we will ignite the imagination of a new generation of thinkers, and we will advance a renewed spirit of innovation. We want people to dream.

To date, we have interviewed more than 30 innovators. Let me name just a few:

- Steve Wozniak, co-founder of Apple
- Pierre Omidyar, founder of e-Bay
- Dean Kamen, the inventor of Segway
- Elon Musk, commercial space flight pioneer

There are many characteristics of innovation. Our research helped us identify five common themes that came up in conversation over and over again. These Keys to Innovation can be applied by everyone here, one way or another.



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First, **innovation starts with curiosity**. If we want to cultivate innovation, we need to encourage a culture of curiosity. Think of all the questions that kids ask us. From an early age, it's a constant stream of why, why, why?

Virtually all of the innovators we talked with spoke about their early insatiable curiosity. For example, Charles Elachi grew up in a small village in Lebanon, the son of parents who never finished high school.

He told us he used to look up in the sky, see the stars and wonder if there were people looking back at him. Today he's at Cal Tech, sending spacecraft into the far reaches of our solar system. How many other Charles Elachis are out there today? Let's encourage curiosity at all ages, because curiosity evolves into ambition, and ambition into vision.

The second Key to Innovation is this: **Break the rules**. Innovation requires the courage to be different.

Elon Musk, the champion of commercial space flight and chairman of Tesla Motors, said that people too often think "nobody's ever done that, so it must not be good."

Let's not forget, however, that accepting no boundaries takes courage. Rosa Parks broke the rules. Her determination and courage defined a new world. Visitors to *Henry Ford Museum*[®] have an opportunity to sit on the bus and hear her voice as she describes that historic day in 1955. Ultimately, this social innovator sparked the civil rights movement. Let's empower people to challenge convention and do things differently.

The third Key to Innovation is that **collaboration is power**. Most modern innovations are the product of intense collaboration. The myth of the lone genius is just that, a myth. Edison and Ford both employed teams of talented specialists to explore possibilities together, because they knew that no single person had a monopoly on good ideas.

Our fourth key is: **Meet true needs**. Generally, the most successful innovators are those who recognize and solve the problems that address real needs.

Henry Ford set out to build and market a simple, strong, reliable car that every working person could afford.

Most recently, the founders of Google reimagined the relationship of people to information and ended up revolutionizing global access to human knowledge.

The fifth Key to Innovation is perhaps the hardest: We need to **embrace the risk and the lessons of failure**. Through the ages, the lessons learned from failure form the foundation of innovation. And they still do.

Thomas Edison and his team tested thousands of filaments before he found one that lit his famous light bulb.

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Buckminster Fuller set out to reinvent American housing but sold only a single prototype of his Dymaxion House, which currently resides in *Henry Ford Museum*. This is the perfect example of an innovation that was deemed a failure but in reality led Fuller to invent the geodesic dome, which had and still has a major impact on architecture and design around the world.

That willingness to fail is absolutely critical to innovation. Too often, we're afraid of failure. But if we hope to make our nation a hotbed of innovation again, let's be fearless in the face of risk.

As Dean Kamen said, "If I were given the choice of failing trying to do something really big, or succeeding at something that's no big deal, I'd much rather go down in a ball of flames."

Of course, these Keys to Innovation—be curious, break the rules, collaborate, meet true needs and embrace failure—are easier said than done. We can make history, or we can become history.

History teaches us that our future will depend on how quickly, and how well, we innovate and adapt.

At **The Henry Ford**, our OnInnovation initiative will help to foster and advance cultural change by teaching all of us about innovation, by promoting the emergence of a new talent base of innovative thinkers and by encouraging creative problem solving.

I invite you to think big.

Now, in this time of reinvention, let's use the stories of innovation to fire up a new generation of innovators, and together we can advance America's culture of innovation.