

14	FOR YOU, THE FACT THAT YOU LIVE IN COLORADO MEANS YOUR ANNUAL DOSE IS EVEN HIGHER THAN PERSONS IN OTHER AREAS OF THE COUNTRY. THE NATURAL RADIATION IN THE ROCKS AND SOIL, PLUS THE INCREASE IN COSMIC RADIATION FROM BEING HIGHER MEAN YOU RECEIVE A DOSE TWO TO THREE TIMES HIGHER THAN PERSONS LIVING IN OTHER LOCATIONS.
15	FINALLY, WE ALSO RECEIVE SMALL AMOUNTS OF RADIATION FROM OTHER SOURCES, SUCH AS TRAVEL, FOOD, AND MATERIALS SUCH AS GRANITE.
16	<p>SO HOW DOES THIS RELATE TO THE RISK OF DEVELOPING CANCER?</p> <p>WE ALL FACE A 20% CHANCE OF DEVELOPING A FATAL CANCER DURING OUR LIFETIME.</p> <p>IF YOU WERE EXPOSED TO A RADIOACTIVE SOURCE AND RECEIVED THE MAXIMUM ALLOWABLE DOSE FOR EMERGENCY RESPONDERS, THE CHANCE OF DEVELOPING CANCER ONLY INCREASES BY 4/10THS OF ONE PERCENT. AND THIS LEVEL OF EXPOSURE IS EXTREMELY UNLIKELY TO EVER OCCUR FOR REASONS YOU WILL UNDERSTAND WHEN WE DISCUSS THE ISSUES OF PACKAGING.</p>
17	THIS CONCLUDES MODULE 2. OUR NEXT MODULE, THREE, WILL INTRODUCE YOU TO SOME OF THE BASICS OF RADIATION.

	<p>PRESENCE OF RADIATION</p>
9	<p>IT IS TRUE THAT YOUR SENSES – SMELL, HEARING, SIGHT, TASTE, AND TOUCH CANNOT DETECT RADIATION. THIS MAY BE WHY WE HAVE SOME UNCERTAINTY ABOUT APPROACHING THESE MATERIALS.</p> <p>YOU CAN – AND SHOULD – USE YOUR SIGHT TO LOOK FOR CLUES AND INFORMATION, YOUR EARS TO LISTEN, AND YOUR COMMON SENSE TO ASSIST YOU.</p>
10	<p>THE LAST ITEM ON OUR LIST – RADIATION CAUSES CANCER</p>
11	<p>THERE IS NO GETTING AROUND IT – YES RADIATION CAN CAUSE CANCER.</p> <p>BUT IT IS ESSENTIAL TO PUT THE RISK INTO PERSPECTIVE OF THE OTHER RISKS IN OUR LIVES.</p> <p>THE POTENTIAL FOR RADIATION CAUSING CANCER IS DIRECTLY RELATED TO THE DOSE WE RECEIVE – THE INTENSITY OF THE RADIATION AND THE LENGTH OF TIME WE ARE EXPOSED TO THAT SOURCE.</p> <p>BUT EXPOSURE DOES NOT MEAN THAT YOU WILL DEVELOP CANCER. CONSIDER THE PERSONS WHO WORK WITH RADIATION ALL OF THE TIME, YET THERE IS NO INCREASE IN CANCERS AMONG THESE WORKERS. RADIOACTIVE MATERIAL IS EVEN SHIPPED VIA FEDEX .</p>
12	<p>WHAT WE DO KNOW IS THAT RADIATION IS A RELATIVELY WEAK CANCER CAUSING AGENT OR CARCINOGEN.</p> <p>THE LARGEST STUDY OF THIS INCLUDED 86,000 SURVIVORS OF THE ATOMIC BOMBS USED DURING WORLD WAR 2.</p> <p>IT WOULD HAVE BEEN NORMAL TO EXPECT 7,244 CANCERS TO HAVE OCCURRED IN A GROUP THIS SIZE.</p> <p>THE ACTUAL NUMBER OF CANCER WAS 7,578 – AN INCREASE OF 334. AND THIS IS IN THE MOST HEAVILY EXPOSED GROUP THERE IS.</p>
13	<p>TO HELP PUT THIS IN BETTER PERSPECTIVE, LET’S CONSIDER HOW MUCH RADIATION WE RECEIVE ON A REGULAR BASIS.</p> <p>AS SHOWN IN THIS CHART, WE ALL RECEIVE AN ANNUAL DOSE JUST FROM NATURALLY OCCURRING RADIATION.</p>

FOSTER On Line
Narration Script

MODULE: 2

SLIDE	NARRATION
1	WELCOME TO MODULE 2 OF FOSTER. IN THIS MODULE WE WILL DISCUSS SOME OF THE TRUTHS, LIES, FACTS AND MYTHS SURROUNDING RADIOACTIVITY AND RADIOACTIVE MATERIALS.
2	THE FIRST MYTH IS THAT RADIOACTIVITY CAN MAKE YOU GLOW.
3	WHILE EXTREMELY INTENSE RADIATION CAN MAKE SOME MATERIALS GLOW, EXPOSURE TO RADIATION THIS INTENSE WOULD QUICKLY PROVE FATAL. IN ADDITION, THE ONLY PLACE RADIATION EXISTS AT THIS LEVEL IS WITHIN THE CORE OF A NUCLEAR REACTOR.
4	NUMBER 2 ON OUR LIST IS RADIATION CAUSES MUTATIONS
5	DESPITE WHAT HAS BEEN PORTRAYED IN MOVIES, RADIATION INDUCED MUTATIONS ARE NOT COMMON. IT IS TRUE THAT EXPOSURE TO SOME TYPES OF RADIATION MAY CAUSE DAMAGE TO DNA AND RESULT IN A MUTATION. BECAUSE FEMALES ARE BORN WITH ALL OF THE EGGS THEY WILL EVER PRODUCE ALREADY IN THEIR OVARIES, THE POTENTIAL FOR SUCH GENETIC EFFECTS ARE GREATER FOR FEMALES THEN FOR MALES. MALES PRODUCE NEW SPERM ON A REGULAR BASIS, THEREFORE THE GENETIC EFFECTS ARE ONLY TRANSITORY. IN ANY CASE, THE RISK TO YOU, SHOULD YOU HAVE TO RESPOND TO AN INCIDENT INVOLVING RADIOLOGICAL MATERIALS IS EXTREMELY SMALL.
6	NUMBER THREE – BEING EXPOSED TO RADIATION MAKES YOU BECOME RADIOACTIVE.
7	NOT ENTIRELY FALSE – IF YOU WERE EXPOSED TO A HIGH ENOUGH LEVEL OF NEUTRON RADIATION THE CALCIUM IN YOUR BONES WOULD BECOME RADIOACTIVE. BUT THIS EXTREME LEVEL OF RADIATION WOULD BE ALMOST INSTANTLY FATAL. WHAT YOU SHOULD BE AWARE OF IS THAT BEING CONTAMINATED WITH RADIOACTIVE MATERIAL DOES MAKE YOU “RADIOACTIVE.” WE WILL TALK MORE ABOUT THIS IN THE NEXT MODULE.
8	NUMBER 4 – YOU CANNOT USE YOUR SENSES TO DETECT THE