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This lesson was created by a teacher participating in a Wisconsin ESEA Improving Teacher Quality grant entitled Inquiry Based Technology-Mediated Teacher Professional Development and Application.

Title:	How Old Is Mike?
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Grade Level:	Middle School
Subjects:	Science - Geology
Objectives:	As an introduction to absolute dating of fossils, the students will use a list of names and ages to determine the difference between relative age and absolute age.
Duration:	15 to 20 minutes
Materials/Supplies:	whiteboard, chalkboard, or overhead projector, markers or chalk, list of names, 3x5 cards – one per student
Vocabulary:	-Relative age - the age of an object as it relates to something else -Absolute age - the age of an object in years
Background:	We can easily imagine the length of a week, a month, or a year. We know that some people are older in years than other people. Grandparents are usually older than parents, and parents are usually older than their children. Most of us would agree that 100 years is a very long time, but it is like the blink of an eye when we talk about the age of the earth. Earth processes have been active and life has existed in some form on this planet for billions of years. How is it possible for scientists to determine the age of rocks, minerals and fossils from millions of years ago?
Setting the Stage:	This lesson sets the stage for the introduction of radioactive decay and its use in dating fossils. It eases the students into the concept by using something familiar to them.

Procedure:	This can be completed by the class as a whole, or in groups of 3 or 4 students.
1. The teacher writes a list of 10 to 12 first names on the board, including the names "Mom" and "Dad".
2. The students are instructed to put the names in chronological order.
3. Discuss the students' reasons for ordering the list as they did.
4. Give the ages for three or four of the names and discuss whether or not the names should be rearranged, as well as why and how they should now be arranged. Create a new list, but do not erase the first one.
5. Add three more ages and discuss whether or not the names should again be rearranged, and why and how it should be done. Create another new list, without erasing the first two.

Closure:	1. Refer to the first list, and review the relationship between the parents' position in the list and the children's positions. Explain that this arrangement is similar to relative dating.
2. Refer to the second and third lists and review the reasons for rearranging the order of the names. Explain that this arrangement is similar to absolute dating.
3. Ask the students to give an example of a situation where a geology would use each method of dating.
4. Ask the students to give an example of a situation where an archaeologist would use each method of dating.

Evaluation:	1. Give each student a 3x5 card. (This can also be done orally)
2. The students will give an example of their relative age (example: older than ____, younger than ____)
3. The teacher will name an event and the students will give their absolute age when that event occurred. (example: kindergarten).

Links/Extension:	This lesson would be a bridge between the stratigraphy lesson in Intrigue of the Past, which I would use to reinforce the law of superposition, and an introduction to a radioactive decay simulation I use to demonstrate how scientists determine the absolute age of fossils.

Absolute Ages

Dad	
Mom	
Mike	52
Tom	50
Michelle	48
Tammy	46
Dani	44
Dawn	42
Joel	40
Joan	37
Patrick	34
Nancy	32