EXTENDED RESPONSE: (6-8)
Describe some bad things that could happen to a town when a volcanologist’s prediction is not correct.

EXTENDED RESPONSE: (14-16) What EVIDENCE did the volcanologists gather to determine whether or not Dante’s Peak might be getting ready to erupt. Describe how this evidence was gathered.

* Use “+” for True, or “0” for False
9.______ The most active volcano in the state of Washington is Mount Rainier.
10.______ The state of California has had more eruptions than the state of Oregon.
11.______ Only two Cascade volcanoes have erupted during the last 200 years.
12.______ Washington’s Mt. Adams has not erupted in the last 4000 years.
13.______ California’s Mt. Shasta has erupted 7 times in the last 4000 years.

QUOTE: “If you drop a frog onto a hot plate, he’ll jump! But, if you put a frog on a cool plate and slowly turn up the heat, he’ll ________!”
MEDIA GUIDE: “Dante’s Peak”

Dante’s Peak is an all-too-rare opportunity for you to enjoy a good adventure/“natural catastrophe” movie, and at the same time, get a feel for how geologists (and other scientists) work. You can also learn some science along the way. Of course, the writers, producers and directors did exercise quite a bit of artistic license in the movie, as they should; otherwise, our heroes and heroines would have been killed off as soon as the action started! So, you will find some “scientifically imprecise” embellishments in the movie, but this is quite understandable. No other movie/television series portrays scientific concepts and scientific practice as well as this flick does.

1. “Dante’s Peak” is part of the famous Cascade range of U.S. volcanic mountains.
2. Two gasses volcanologists look for are sulfur dioxide SO₂ & carbon dioxide CO₂.
3. Volcanic gasses can mix with water to form acid, and really could dissolve metal.
4. In order to gather data without getting hurt, scientists will often use a robot.
5. If there is rising magma in the volcano, it will usually produce micro quakes or gasses.

EXTENDED RESPONSE: (6-8)
Describe some bad things that could happen to a town when a volcanologist’s prediction is not correct.
In California, a small mountain village enjoyed good tourist business and high property values. People from all over the state and country wanted to visit the beautiful little town in order to hike, snow ski, or just shop. Some people even paid top dollar to buy property and live there. However, that all changed when the local volcano, which had been absolutely silent for all of recorded history began to show signs of life. First, there were small earthquake tremors. Later, some steam vents began to appear. That is when the trouble really started! USGS volcanologists had been absolutely silent for all of recorded history began to show signs of life. First, there were small earthquake tremors. Later, some steam vents began to appear. That is when the trouble really started! USGS volcanologists began to talk about the events as being signs of a “potential eruption”. Though truly interested in the safety of the townspeople, this kind of talk led to a drastic drop in tourism and property values. No eruption ever occurred.

* Use “+” for True, or “0” for False
9. 0 The most active volcano in the state of Washington is Mount Rainier.
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QUOTE: “If you drop a frog onto a hot plate, he’ll jump! But, if you put a frog on a cool plate and slowly turn up the heat, he’ll just sit right there until he boils!”

EXTENDED RESPONSE: (14-16) What EVIDENCE did the volcanologists gather to determine whether or not Dante’s Peak might be getting ready to erupt. Describe how this evidence was gathered.

SO₂ is a gas known as sulfur dioxide. It comes from molten rock under ground (magma). High amounts of this SO₂ gas indicate that there is a lot of magma underground. This is often a precursor to an eruption.

Deep earthquakes under the volcano can be related to plate movements or to rising magma. Plate movements typically are not a cause for worry. Rising magma, however, is not a good sign. Quakes that indicate rising magma may be focused or clustered in an area directly beneath the volcano. They indicate potential eruption.

“Harmonic tremors” are continuous shakings caused by rapidly rising magma and are a good indication that it is time to leave town (before breakfast is served with toast)! :)

Dante’s Peak!