Name: ______________________________

Date: ____________________ Period: __________

Regents Review: Performance Test

The Earth Science Performance Test:

The New York State Regents Examination in Physical Setting/Earth Science consists of two components: a laboratory performance test and a written test. Approximately 15% of your overall Regents grade is determined from the performance test which students take two weeks prior to the written examination.

The performance test consists of hands-on tasks set up at three stations. These tasks are designed to measure student achievement on various laboratory and classroom procedures refined the year. How well you perform on this test is determined by the ability to follow a procedure and the precision and accuracy of your answers.

General Information:

The Performance Test consists of three (3) timed stations.

- Station 1: Minerals and Rock Identification
- Station 2: Locating an Epicenter
- Station 3: Constructing and Analyzing an Asteroid's Elliptical Orbit

General Information:

- You must be in class on the day of your lab practical.
- You are required to have a pen [blue or black].
- No cell phones or electronic devices permitted in the testing area.
- There is no talking once you enter the testing center.
- You will be given the answer booklet when you enter the room.
- Do not open the test booklet or start the exam until the test proctor reads the directions.
- Read carefully and complete each procedural step before moving to the next one.

Your Performance Test		
Date	Periods	Location
		Auxiliary Gym

Regents Review: Performance Test

Lab Activity: Minerals

You will identify the properties of a mineral and determine the name using a chart. Be sure to read all the directions and answer all questions. Don't leave any blank answers in your answer booklet.

1. Minerals break in two different ways:
   - Cleavage - ______________________________
   - Fracture - ______________________________
2. Mineral hardness is determined by using a glass plate. Place the glass plate flat on the table and push hard to try to scratch the glass with the mineral. Check if it scratches into the glass.
3. Luster is the way in which a mineral reflects light.
   - Metallic - ______________________________
   - Nonmetallic - ______________________________
4. Streak is found by rubbing the mineral on a ceramic tile. The powdered residue can leave a colored streak, white streak [difficult to see because the streak plate is white] or no streak [if the mineral is harder then the streak plate].

Mineral Characteristic	Description
Breakage	
Hardness	
Streak	
Luster	

Regents Review: Performance Test

Lab Activities: Rocks

Carefully examine each rock and determine the rock type along with an observable characteristic that helped you figure out the answer. Below are some common reasons:

Rock Type	Characteristics
Igneous Rocks	
Sedimentary Rocks	
Metamorphic Rocks	

Word Bank

vesicular, banding, gas pockets, compacted plant remains, glassy, intergrown crystals, fossils, nonfoliated, shells, foliated, cemented fragments, layers of sediments, alternating light and dark layers

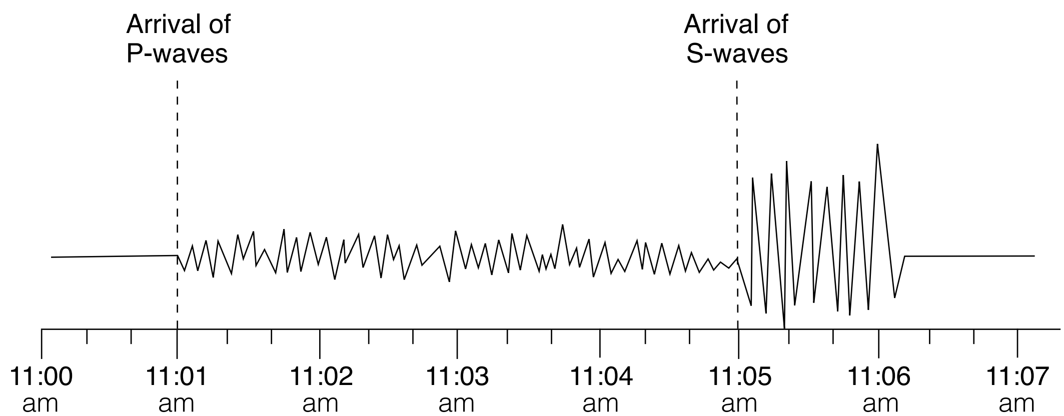
Regents Review: Performance Test

Lab Activity: Locating Epicenters

Use the p-wave and s-wave arrival times to calculate the distance to the epicenter using the Earth Science Reference Tables. Then locate the epicenter by drawing three circles to find the intersecting point.

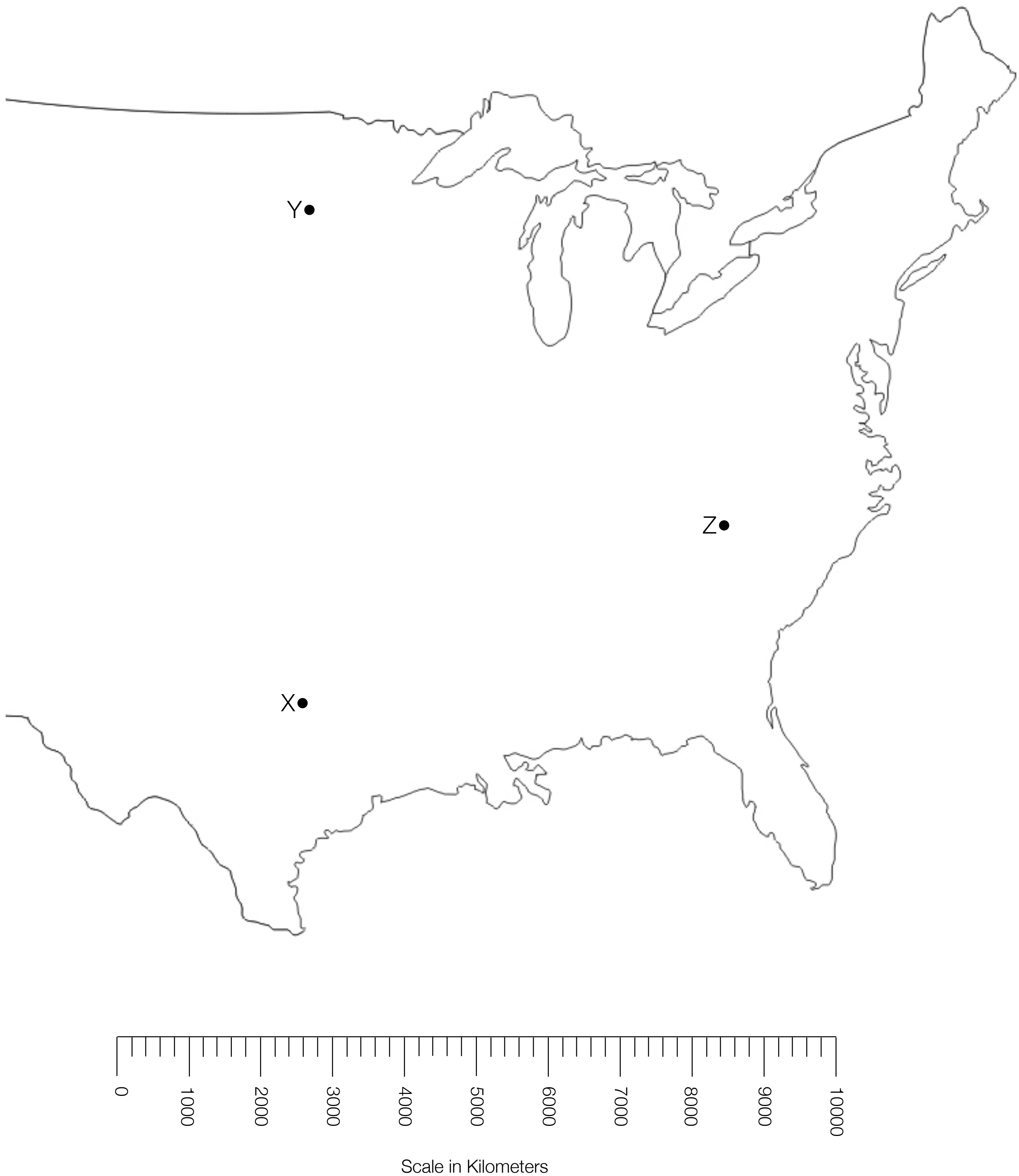
1. Use the difference in arrival times of p-wave and s-wave and the chart to find out the distance to the epicenter. Put the difference on the edge of scrap paper and see where that segment fits perfectly between the p-wave and s-wave curves. Be exact.
2. Draw the circles form each station using the distance to the epicenter calculated earlier.
3. Mark an X for the epicenter location. This will be where all three circles intersect or the smallest triangle created where the circles almost cross.

Station X



Station	P-wave Arrival Time	S-wave Arrival Time	Difference in Arrival Time	Distance to Earthquake (km)
X				
Y	11:06:00	11:13:00		
Z	11:04:00	11:09:40		

Lab Activity: Locating Epicenters



Regents Review: Performance Test

Lab Activity: Eccentricity

Using two tacks and a looped string, draw an ellipse using two focal points. Then using the metric side of the ruler, measuring the distance between foci and length of major axis. These are your variables that will be used to calculate the eccentricity of your constructed ellipse. Read the tips below carefully.

1. When measuring with the ruler be sure to round to the tenth of a centimeter.
2. The distance between the two push pins is the “distance between foci”.
3. The longest straight line distance across the ellipse is the “length of the major axis”.
4. To calculate eccentricity you take the distance between foci and divide it by the length of the major axis. Your answer should be between 0 and 1.
5. As eccentricity decreases (gets closer to 0), the shape becomes less elliptical (more circular).
6. As eccentricity increases (gets closer to 1), the shape becomes more elliptical (more flattened).
7. Orbital speed will be the fastest when a planet is closest to the Sun.

Ellipse A	Ellipse B
Length the Major Axis: ________________	Length the Major Axis: ________________
Distance Between Foci: _______________	Distance Between Foci: _______________
Eccentricity (thousandths place): ____________	Eccentricity (thousandths place): ____________

Question: Compare the eccentricity of Ellipse A to that of Ellipse B.

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