Name Period Date

Unit	Handout	*Lesson 11: Investigating Magma and New Landforms*
3	26	

Purpose:	Model the movement of molten rock through fractures in the lithosphere, over the earth's surface, and under water.
Guiding Questions:	- How does molten rock cause and affect landforms? - How does molten rock respond to environmental factors?

LAB SAFETY
You must wear goggles and an apron during this activity. Follow all procedures as listed on this sheet and as cited in the textbook procedure. Do not touch the hot model magma or handle the beakers in the hot water baths.

Procedure.

1. Divide and conquer for getting your lab materials:
   - **a.** Goggles for each person
   - **b.** An apron for each person
   - **c.** Material kit from the back prep table

2. Check the materials in your kit and let Mr. Ower know if you are missing any of these items: 1 clear plastic containers of soil, 1 clear plastic container of model magma.

3. Follow step 1 on page 143. Discuss the answers to A-C and write down your answer to A in the space provided below: Is the model magma a solid or a liquid? Give two reasons to support your answer.

4. Skip steps 2 and 3 on page 143. Follow step 4 on page 143.

Observations of Model Magma	**Predictions of Model Magma when it is Heated**

5. Read, but do not do, the instructions of step 5 on page 144. After reading, then do step 5 on page 144. Record your observations on page 2 of this handout. Repeat this for step 6: read then do.

6. Read, but do not do, steps 7-10 on page 145 After reading, then do steps 7-10. Record your observations on the back of this sheet. **You will reuse your soil container!**

Data table. Use this table to record your observations as required in the procedure. You may find it helpful to make drawings to show what happens with the magma *in addition to* writing your observations.

	Room-Temperature Magma	Hot Magma
Magma pushed into soil		
Magma draining from soil	**Does not apply**	

Instructions. Answer the following questions. Use your observations from the previous handout to assist you.

1. What signs in the soil indicated that magma was moving under the ground?

2. How might the signs help scientists predict a volcanic eruption?

3. How does rising magma affect land with no hard rock above it?

4. What happened when the room-temperature model magma reached the surface of the soil?

5. How did the flow of the room-temperature model magma differ from the flow of the heated model magma?

6. What happened to the soil when you drained the heated magma from it?

7. Look at figure 11.7 on page 150. Apply what you have learned in this activity to that image. Read the caption. Describe how that formation was created. (Tip: think about the "cold" magma vs. the "hot" magma we used in the model.)

8. Look at figure 11.10 on page 152. Just as you did in question 7, read the caption and connect this to what we did in class. Describe how that formation was created.