Where does oil hide?

Materials:

Sedimentary rock samples, all approximately the same size
- Limestone- 3 samples
- Sandstone- 3 samples
- Shale- 3 samples

3 Paper plates
Eye dropper
Mineral oil, available at drug stores
Clock
Lab notebook

Instructions:

Place one of each type of rock on each paper plate. Write the name of the rock next to the sample.

Look carefully at the rocks and note baseline differences in their characteristics. Write down your beginning observations in your notebook.

Fill the eyedropper with mineral oil. Add three drops of oil to each rock sample on each paper plate. Make sure to place the drops right on top of each other, not spread out over the rock. Write down any observations about how the rocks look after the oil drops in your notes.

Examine rock samples again after 30 minutes and then again after an hour. How has the rock responded to the oil? Does the oil sit on top, or has it been absorbed?

Create a data table that combines all of the results from each of the plates.

Questions:

Which type of rock did you expect to absorb the oil? What characteristics made you think that?

Which type of rock absorbed the oil fastest?

Look up the words “permeable” and “impermeable.” Note which describes each type of rock.

Look up the words “reservoir rocks” and “cap rocks.” Which rocks do you think are reservoir rocks? Which would make a good cap rock?