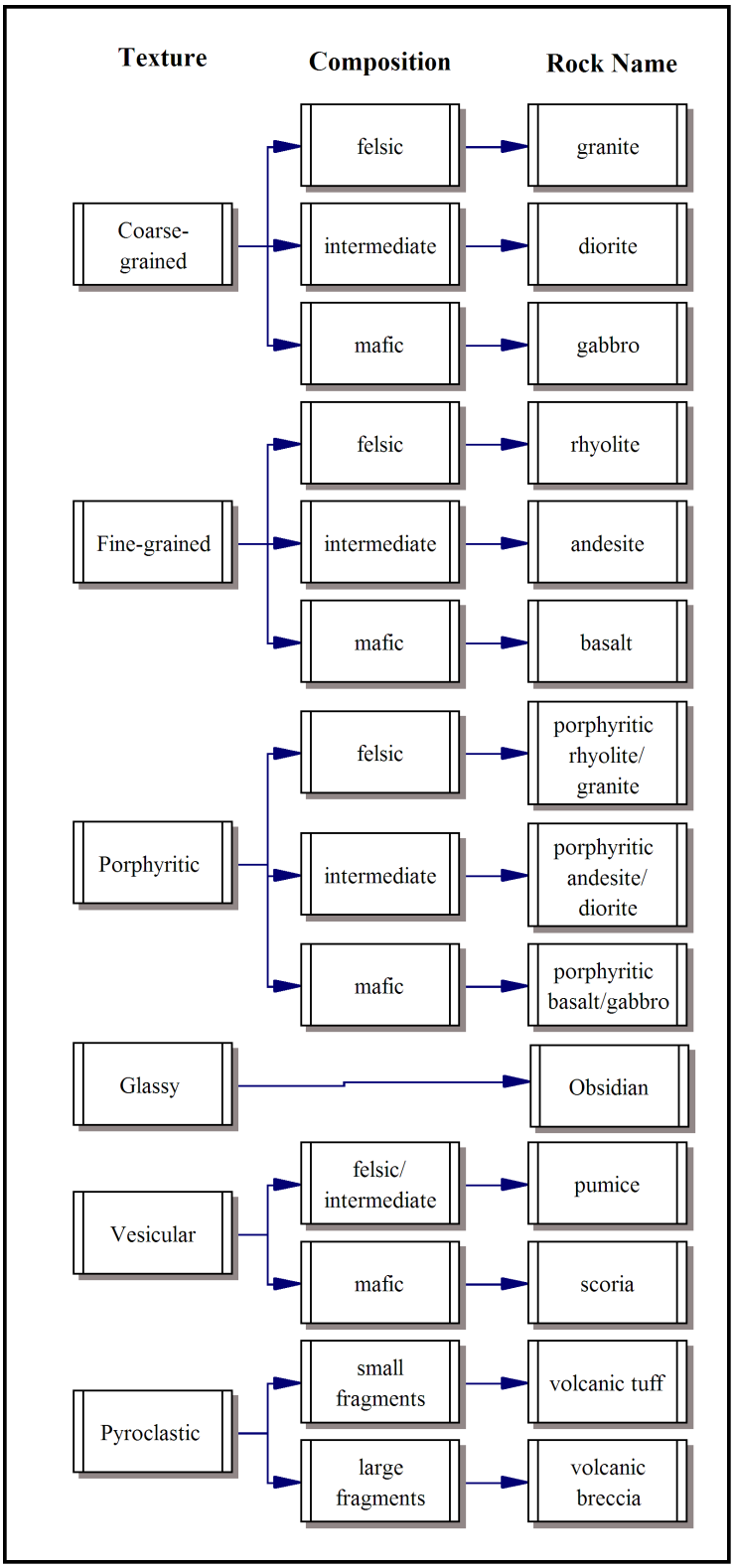
Group Members:_____ Section: _____

# 4 Igneous Rocks

To classify an igneous rock, follow these steps:

1. Determine its texture.
   (a) Pegmatitic—very coarse-grained. (We won't look at any of these in class.)
   (b) Phaneritic—coarse-grained
   (c) Porphyritic—-some coarse grains surrounded by a fine-grained matrix.
   (d) Aphanitic—fine-grained
   (e) Glassy
   (f) Vesicular—like foam or bubbles
   (g) Pyroclastic or fragmental—made from stuck-together pieces. ejected from the volcano.
2. Determine the mineralogy and color
   (a) Felsic minerals are light-colored; mafic minerals are dark-colored.
   (b) Felsic igneous rocks—0-15% mafic minerals
   (c) Intermediate igneous rocks—15-45% mafic minerals
   (d) Mafic igneous rocks—46-85% mafic minerals
3. Then use chart on the following page to determine the rock name.
4. Use the 3-D photos that I will hand out to answer the following questions. You may need to refer to figures 4.22 and 4.23 in your text.
   (a) What is the dark central object in the photo?
   (b) What are the lines radiating out from the dark central object?
   (c) What do you think this area looked like 27 million years ago?

## Igneous Rock Identification



| Igneous Rock Identification Sheet | | | |
|---|---|---|---|
| Item Number | Texture | Color Index | Rock Name |
| 18 | | | |
| 22 | | | |
| 27 | | | |
| 28 | | | |
| 29 | | | |
| 30 | | | |
| 32 | | | |
| 53 | | | |