



Orange Essential Oil Student Experiment Example

What you need:

- EssenEx® 100 Distillation Kit
- 4 - 8 oranges (Oranges to be consumed by students! --- peel is used in experiment!)
- Vegetable/Cheese grater – “pyramid type”
- Small kitchen or postal scale (0-1 KG, 1gm resolution)
- Microwave oven (normal Kitchen type)
- Roll of paper towels, access to tap water and a freezer.
- Oven mitts, towels or gloves to handle the EssenEx reactor while warm
- Previously prepared: 3 ice cores for use during class period (Freeze overnight)
- At least 3 vials for orange oil that will be extracted.

The Experiment: (Duration: ~ 45 minutes)

- ❖ Does the method of preparation of the orange skin change the amount of orange oil extracted?
 - Quantitative analysis, error, natural organic chemistry,
 - Experiential / Cognitive learning.

Method:

- Team: 4 students. Individual groups or one full class observation of team.
 - o Prepare orange skins for extraction:
 - Grate 80 g of the orange colored portion of the skin (but not into the true orange fruit) with one of the four sides of the grater and 40 g from one of the other three sides, making 3 samples of 40 g each.
 - o Place the reactor and one mug of water into the microwave.
 - o Follow User Manual for the non-plant specific operation. (6 minutes on Hi)

Collection:

- Pour top contents of beaker into the easy separator.
- While the oil is separating, clean out reactor and let two students perform next run.
- Other two students: Rotate the separator axially by rubbing the neck between the palms of your hands. After a few seconds, observe the oil layer.
- Repeat the process if you believe more oil will collect
- Once the oil is separated, measure the column height in millimeters with a ruler.
- Transfer oil to a vial.
- Repeat for the other two samples and develop conclusions based on mm extracted.

For questions and far more suggestions of experiments, please contact us at Info@oilextech.com or fill out our Customer Feedback at our website: www.oilextech.com/contact-us/