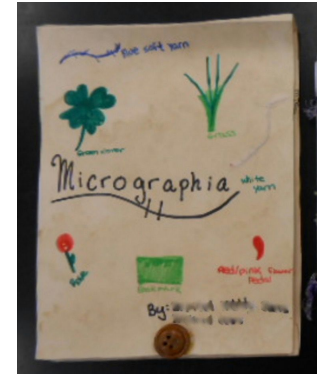


## Lesson 10: Micrographia Project (Day 2/3)

### Summary

This is a continuation of the lesson during which students work on the Micrographia project.



### Next Generation Science Standards

#### Disciplinary Core Ideas

- ETS.2.A: Interdependence of Science, Engineering, and Technology

#### Science and Engineering Practices

- Asking questions
- Constructing explanations

#### Cross Cutting Concepts

- Patterns, similarity, and diversity
- Scale, proportion, and quantity

### Materials

- ★ microscopes (ideally 1/pair)
- ★ materials for students to look at under the microscope (students can bring in additional materials with your permission)
- ★ half-sheets of unlined paper (recommended) for book pages
- ★ colored pencils
- ★ construction paper, colored paper, fabric, etc. for students to make book covers
- ★ stapler, holepunch, string, yarn, and other binding materials
  
- ★ extra copies of the Circles handout or unlined paper and circle templates for drawing circles

## Engage

- Students continue to work on their projects.
- If students have brought in additional materials to look at, review them for appropriateness.

## Explore (40 min.)

- Remind students that class time is when they have use of the microscope. The detailed descriptions, coloring, etc. can be done at home if students don't finish in class.
- Students should be cutting out the circles and pasting them onto their book pages. They should be taking notes that they turn into complete descriptions on their book pages. Encourage them to be personal in their writing, to write about things that surprised them (or their imagined author) and to see things from the point of view of someone to whom this is all new and unexpected.

1. Today you will have class time to work on your project. Use your time to look at different things under the microscope, make careful drawings, and take notes about what you see.
2. Imagine how your author would have viewed these images in the 1600's. What would have been surprising? What might they have compared these images to?
3. After your drawings and descriptions are done, begin working on your cover.

## Explain/Elaborate/Evaluate (5 min.)

- Let students share their progress and ask questions.
- Look at students' progress before they leave. If they have not gotten as far as expected, help them to problem solve so they can make better progress in the remainder of the time.

- If this the last class period in which students can work on this project, announce other times the lab will be open. Help students come up with a plan for completing the project.
- **SWD** Assess which students may require additional support or modifications to successfully complete the project.

## Extend

- Encourage students to do more than the 6 required drawings, and to be creative in their writing and bookmaking.

For students who finish early:

- ❖ Research the history of the lens and of the microscope. How long ago was each one invented?

## Homework

### **HOMEWORK**

- ❖ Work on your Micrographia project. Cut out each circle and paste it on a different page. Color your drawings. Rewrite your descriptions more neatly and completely.
- ❖ Make a cover and think of a quote or dedication you would like to use.
- ❖ Write down what else you need to do. Make a plan for finishing your project by the due date.