



## Seed Sponge Model

### A Teaching Model

The use of physical models can be extremely helpful to both teachers and students. For the teacher, the use of a model can sometimes be the best way to explain a procedure, interpret an observation or describe a process occurring over time.

For the student, the building of a model allows the student to develop a concrete visualization of a structure that may not be easily studied. Each functional part of the structure must be created by the student and placed in the proper orientation. When the model-building is complete, the student has a better understanding of both structure and function.

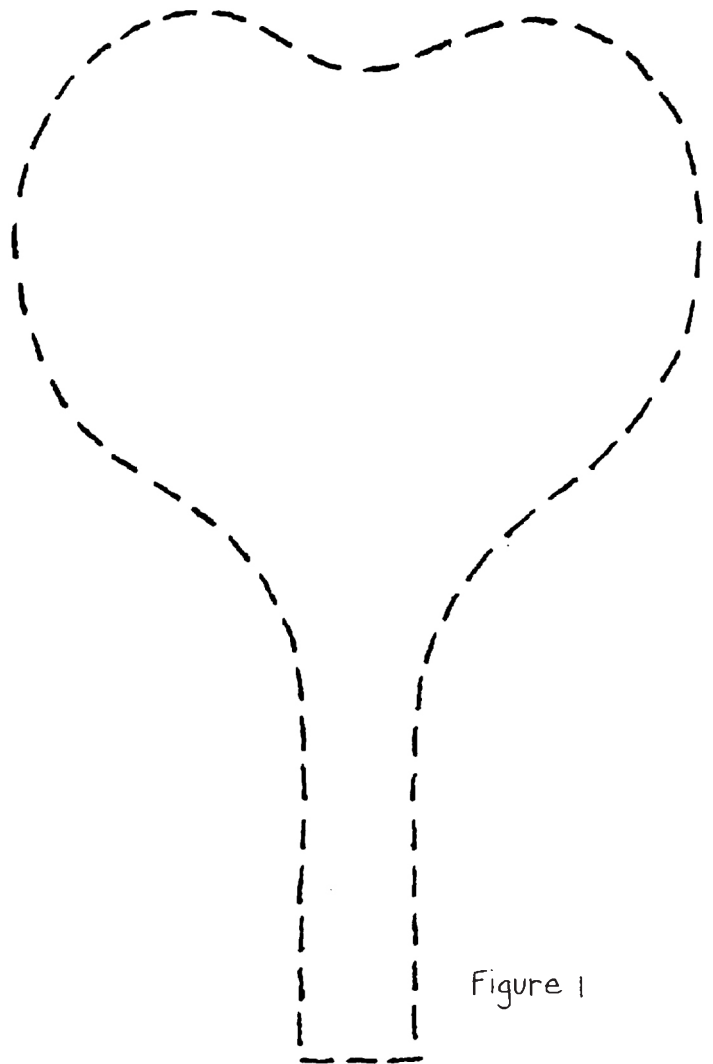


Figure 1

To help students visualize the effect of water intake (imbibition) on a germinating seed, a model can be constructed from a grocery store sponge.

1. Cut the pattern out of a household sponge, as shown in Figure 1.

2. Cut the cotyledon part lengthwise to form two cotyledons (Figure 2).

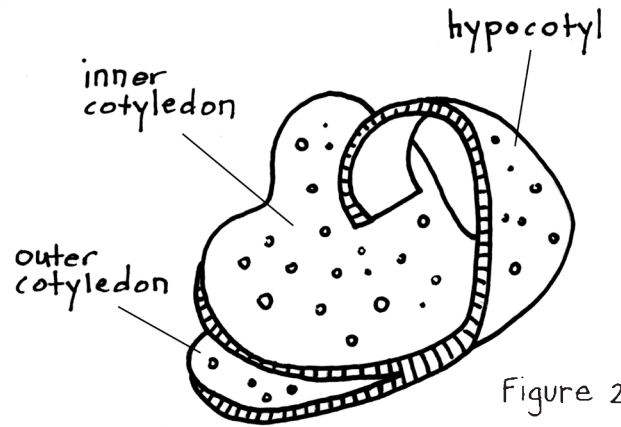


Figure 2

3. Thoroughly wet the sponge and roll it into a tiny ball (Figure 3), folding the radicle inside and wrapping the cotyledons around it.

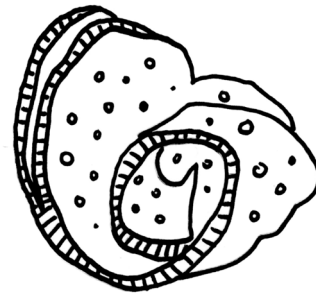


Figure 3

4. Wrap tightly with string and let dry completely, approximately 2 days (Figure 4).

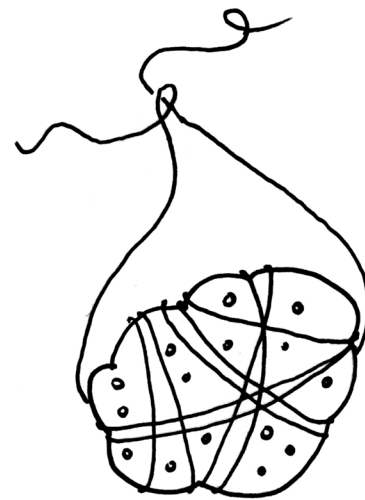


Figure 4

5. Remove string and wrap the "seed" with one layer of tissue (kleenex) to simulate a seed coat. Secure it with a tiny piece of tape.
6. Pop into water and watch it germinate (Figure 5).\*

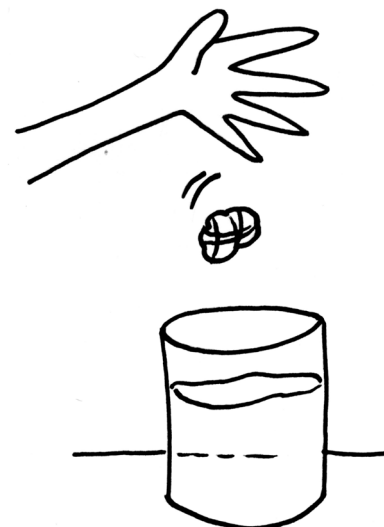


Figure 5

\* Lynnette Eddington, 3rd grade teacher at Mapleton Elementary School in Mapleton, Utah, refers to the germinating seed sponge as "a 10-second lifetime learning experience."