



Texas School for the Blind and Visually Impaired

Instructional Resources Library

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Making a Model Eye

Age(s) / Grade Level(s): 3rd-12th grades

Subject(s): Science

Length of time: 45-60 minutes

Curriculum Standards

§112.6: Science, Grade 4, Adopted 2021

(5) Recurring themes and concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to: (D) examine and model the parts of a system and their interdependence in the function of the system

§112.27: Grade 7, Adopted 2021

(1) Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to: (A) ask questions and define problems based on observations or information from text, phenomena, models, or investigations

§112.42 Biology (One Credit), Adopted 2020

(2) Scientific and engineering practices. The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to: (A) identify advantages and limitations of models such as their size, scale, properties, and materials

Objective(s)

- Engage in a discussion about the parts of the eye.
- Construct a model of the human eye using everyday objects.
- Identify structures of the eye impacted by student etiologies.

“Making a Model Eye”

Updated: February, 2026 | Instructional Resource Library

Page 1 of 3

Materials Needed

- [1 Mini Plastic Dessert Cup w/ Lid](#)
- [1 Foam Disk Shooter](#)
- [1 Clear, Flat Marble](#)
- [1 Clear Balloon](#) (5 inch in size)
- 1 piece of [Red Cellophane](#)
- [1 Flexible Straw](#)
- Tape or Hot Glue
- Eye Diagram

Lesson/Activity Sequence

1. Provide a copy of the eye diagram document in an accessible format to each student.
2. Review the parts of the eye you have discussed during previous lessons, especially the retina, optic nerve, lens, iris, and pupil.
3. Provide one of each item from the materials list to the student along with access to hot glue and/or tape.
4. Tell the students that they will use each item to construct a model of the eye. The items given will represent the globe, retina, optic nerve, pupil, vitreous, lens, and the iris.
5. Give the students time to construct the model as they think is appropriate, using the dessert cup as the method for keeping it all contained.
6. Here is a guide for each item:
 - a. Dessert Cup - Globe
 - b. Foam Disk - Iris and Pupil (Remind students that the pupil is a HOLE, not something you can touch.
 - c. Flat Marble - Lens
 - d. Balloon - Vitreous
 - e. Red Cellophane - Retina (A small piece is sufficient.)
 - f. Straw - Optic Nerve
7. Discuss the finished product and make any necessary adjustments on each model to ensure student understanding.

How Will I Assess Student Progress?

- Students will identify parts of the eye included in the model.
- Students will construct a model with the eye parts in the correct order from front to back.
- Students will participate in discussing the part(s) of the eye that is impacted by their own visual impairment.

Differentiation

- Provide physical support for students who have difficulty manipulating the materials.
- Simplify language for younger students or those with complex access needs.
- Build the model together as a class.
- Challenge students to construct the model without being given a list of what each part represents.

“Making a Model Eye”

Updated: February, 2026 | Instructional Resource Library

Page 2 of 3

- Challenge students to identify the job of each part of the eye represented in the model.

Next Steps/Lesson

- Research personal eye conditions and create a presentation informing others about your etiology.
- Match eye part to function.
- How the Eye Sees Lesson.