

Discover the unique functions of plant and animal cells using this fun shrinking paper. Draw a large and colorful cell diagram, then shrink your design to the perfect wearable size and proudly sport your unique product – a creative blend of fashion, art, and science.

TEKS:

6.12A Understand that all organisms are composed of one or more cells.

7.12F(ss) Recognize that according to cell theory, all organisms are composed of cells and cells carry on similar functions, such as extracting energy from food to sustain life.

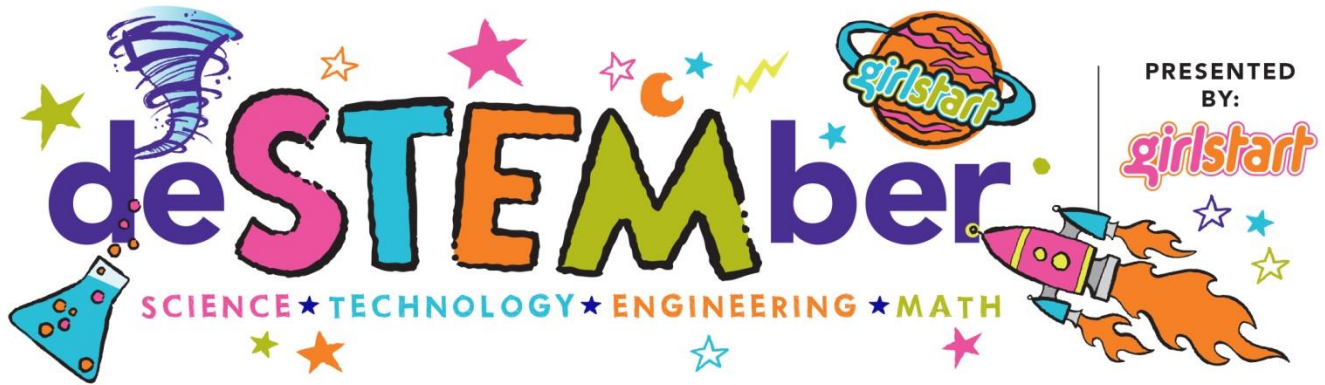
Materials:

- Permanent markers - variety of colors (bright, contrasting colors work best)
- Shrink film sheet ([example here](#))
- Regular kitchen oven or toaster oven (for shrinking designs)
- Baking sheet
- Needle nose pliers
- Hole punch (handheld)
- Keychain and/or other jewelry findings to make cells wearable ([example here](#))
- Plant/animal cell diagram of your choice (to serve as a guide). Below are a few **FREE** diagrams:
 - PLANT CELL (simple) - <http://www.classroomjr.com/printable-cell-diagrams/plant-cell-diagram/>
 - ANIMAL CELL (simple) - <http://www.classroomjr.com/printable-cell-diagrams/animal-cell-diagram/>
 - PLANT & ANIMAL CELL: Clipart and lesson links (free resources)
 - By CasedillaCrumbs: <http://www.teacherspayteachers.com/Product/Plant-and-Animal-Cells-Cell-Clip-Art-Pictures-Science-JPG-and-PNG-FREE-1296088>
 - By Jennifer Findley: <http://www.teacherspayteachers.com/Product/Plant-and-Animal-Cells-Science-Poster-and-Vocabulary-Cards-271644>
 - A shrinky cell kit is also available for order here: <http://www.teachersource.com/product/shrinky-dink-cells/biology-life-science>

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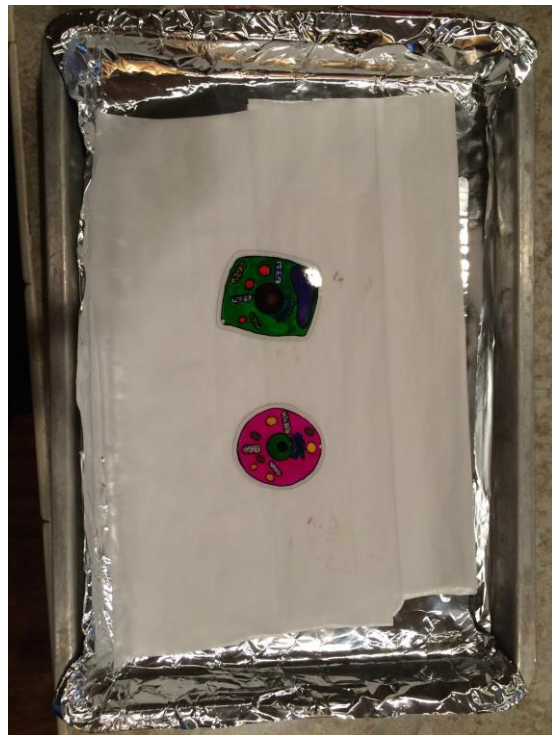
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How To:

1. Check the specifications on the shrink film to adjust the size of sheet based on the percentage of shrink (e.g. the example provided in the 'materials' section above shrinks by 50%). In most cases, only 1/2 sheet will be needed for each cell design.

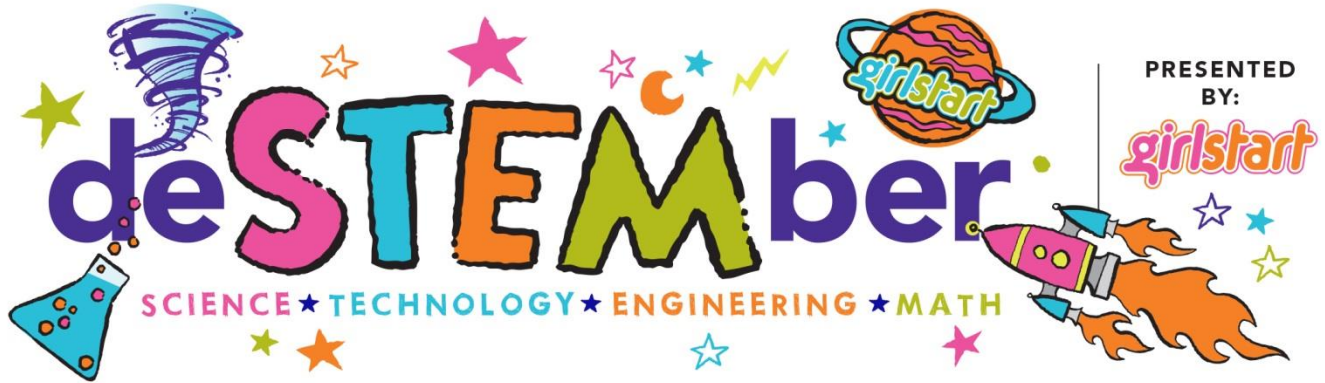


3. Use a pre-drawn image of a plant or animal cell to create your own new diagram of one or both cell types. Cell images are provided above if you don't have one.
4. Color the design with permanent markers (bright and contrasting colors work best) and discuss the name and function of each part of the cell with a partner.
5. Use a handheld hole punch to create a hole in the cell design prior to heating. This will become the location where the finding is attached. The hole should be within 1/2" of the outer border.
6. Follow the manufacturer's instructions on heating and shrinking the sheets (depends on the shrink film you purchased).
7. After you've shrunk your cell(s), attach your keychain or jewelry findings through the hole and use your new shrinky cell!

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Why Does It Work?

The sheets of plastic (i.e. shrink film) used in this activity are polystyrene—the same stuff as recycled plastic #6, which is commonly used for the clear clamshell containers you see in cafeterias. “By nature, the polymer chains within the polystyrene are bunched up and randomly clumped together, but the heating, rolling, and cooling process forces them to straighten out and get into a more orderly configuration.” Read more on this topic at Smithsonian.com.

Career Connection:

Cytotechnologist: “When a patient gets sick, his or her doctor will take sample cells from the affected part of his or her body and send them to a lab for testing to figure out what is wrong. This is where the cytotechnologist steps in. The cytotechnologist will take the sample cells, make slides from them, and examine the slides under a microscope. Cytotechnologists are trained to detect abnormalities in cells that come from all body sites in order to make a diagnosis of cancer or other diseases. These professionals help pathologists and doctors diagnose diseases early, thus saving lives.” Read more about this career at sciencebuddies.org.

Additional Resources:

- Video – How Small Is A Cell? - <http://www.youtube.com/watch?v=TLuaQRtyH9Y>
- PowerPoint by One Stop Teacher Shop: microorganisms, multi-celled organisms, single celled organisms, plant cell parts, and animal cell parts.
<http://www.teacherspayteachers.com/Product/Animal-Cells-Plant-Cells-PowerPoint-Presentation-100-Editable-642276>

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