

3D STEM Flower Model Challenge

Adapted from <https://www.teacherspayteachers.com/Product/STEM-Activity-Challenge-Build-a-3-D-Flower-Model-2586799>

Time: 1.25 hours

All of your hard work as a student has paid off and you have been promoted to a junior botanist. Congratulations! Your first task? Create a three dimensional model of a flower, including male and female parts. In addition, you must write a description for each part of your model to share with a group of students who will be learning all about parts of a flower through your instruction.

Task:

You must design and create a three dimensional (3D) flower model using various supplies. You must label all of the parts of the flower you create, including male and female parts. Furthermore, you must also write a brief description of each labeled part of the flower, in at least two sentences.

Criteria and Constraints:

- *You must design and assemble a 3D model of a flower.
- *All flower parts must be visible.
- *The flower must resemble a real flower.
- *You may only use the items available to create your model.
- *You **must** complete the **3D Flower Challenge** using complete sentences where required.
- *Each part of the flower (including male and female parts) must be labeled.
- *You **must** write a brief description of each labeled part of the flower, in at least two sentences.
- *Be as creative as possible and be ready to share your model with your peers!

Don't forget to have fun and be creative!

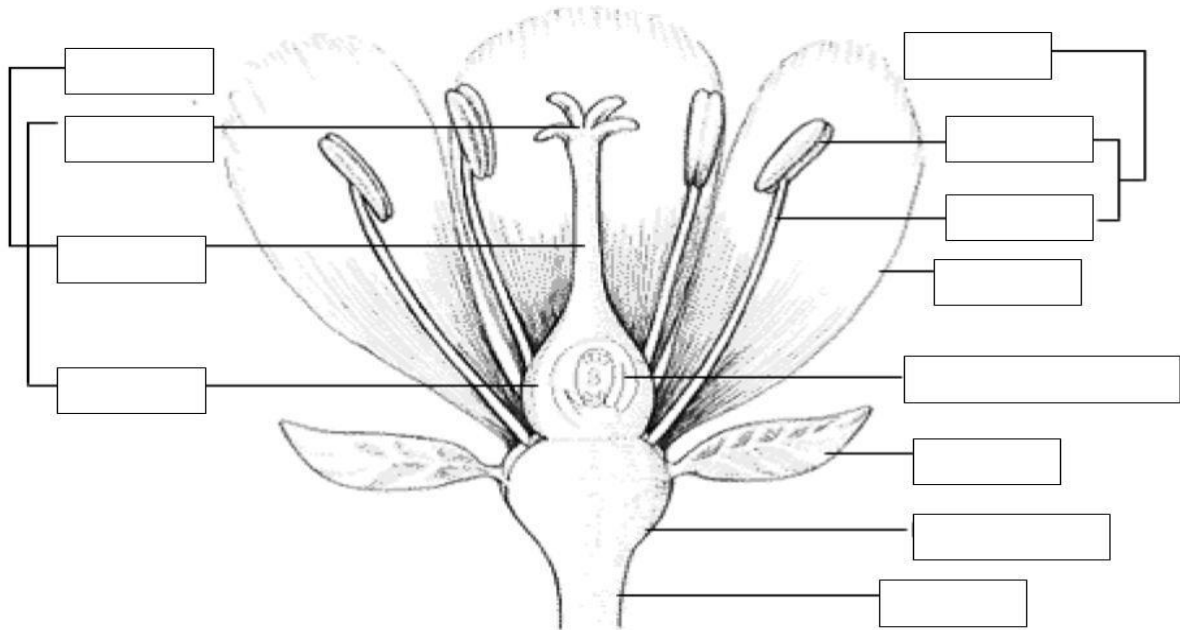


Name: _____

3D STEM Flower Model Challenge

ASK: How can you design and create a three dimensional (3D) flower model, including its reproductive parts?

IMAGINE: Label the flower using the word bank. How does the word bank and labeling the flower before you begin your design help?



Word Bank:

Pistil

Ovary

Stamen

Sepal

Stigma

Ovule with Embryo Sac

Filament

Receptacle

Style

Anther

Petal

Peduncle

Name: _____

PLAN:

Create a sketch of your design on paper. Make sure to label each plant part and write a brief description of the parts function. Make a list of all the materials you need to create your design.

CREATE:

Using your design, create a three dimensional (3D) flower using various supplies. Label all of the parts of the flower you create using words from the word bank.

IMPROVE:

What changes could you have made to your design? What components of your design worked?

REFLECT:

What did you enjoy about this STEM challenge? What did you learn through this activity?

Name: _____

3D STEM Flower Model Challenge

After completing your sketch design of your flower and including all of the parts from the word bank, choose from the materials list below and label your drawing with the materials you will need.

- *Construction paper (list colors) _____
- *Straws _____
- *Scissors _____
- *Raffia or string _____
- *Small beads _____
- *Pipe cleaners _____
- *Yarn _____
- *Cardstock _____
- *White glue _____
- *Gluestick _____
- *Tissue paper _____
- *Labels _____
- *Tape _____

Name: _____

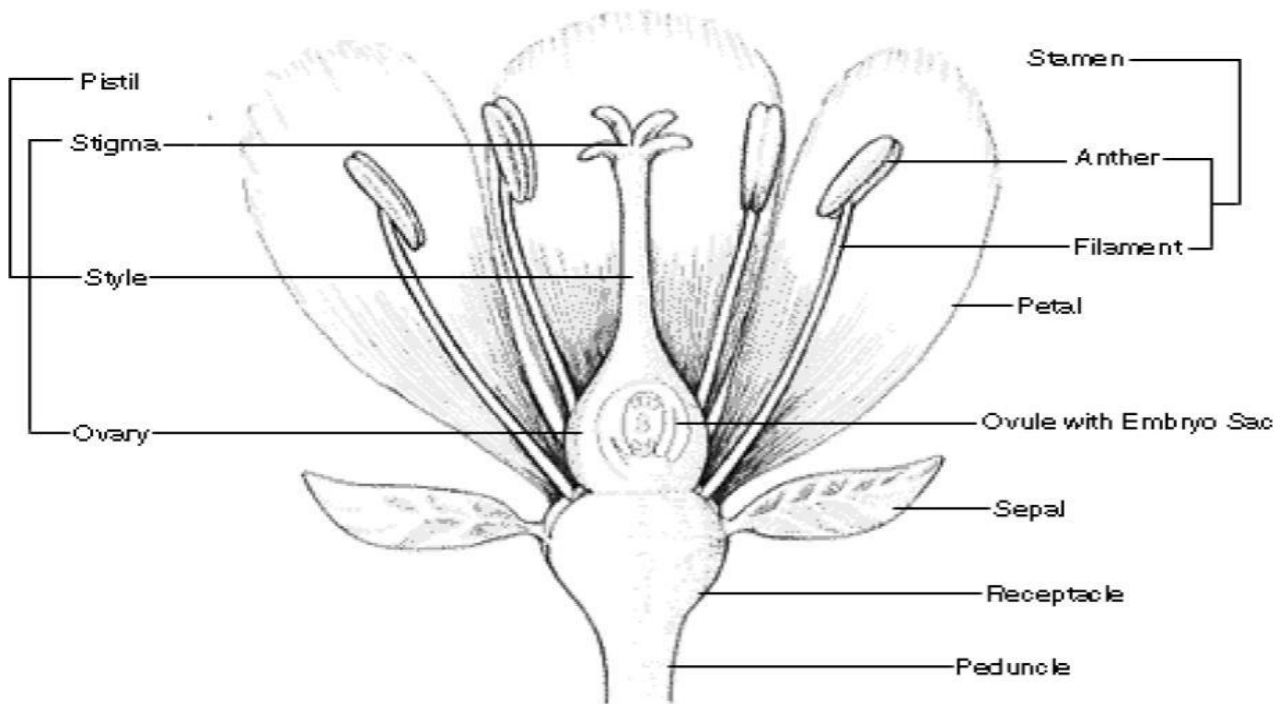
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Parts of a Flower



Flowers hold the reproductive parts of some plants. The pistil, stigma, style, and ovary are parts of the female reproductive system and this is where seeds are made.

Pistil: The entire female unit of the flower.

Stigma: Located at the top of the pistil and this is where pollen is collected.

Style: As a part of the pistil, it is a long tube between the stigma and the ovary. When pollen grains that land on the stigma, a pollen tube grows inside the style.

Ovary: An organ that produces ovules. An ovule is a reproductive cell. After fertilization, ovules become seeds.

The stamen is the male reproductive part of the flower and is where pollen is made.

Stamen: The male part of the flower which produces pollen.

Anther: The top of the stamen is the anther. The anther makes and holds the pollen.

Filament: A stem-like part which gives support for the anther.

The areas that are below the flower have important jobs.

Receptacle: Located at the end of the stalk or stem of the plant.

Sepal: Small leaves right below the flower.

Stem: A stem-like part which holds the plant upright and also into the ground.

Petals: Brightly colored leaf-like parts of the flower which attract birds and insects and may have a pleasant odor.

Peduncle: A stalk which can bear a flower or fruit, or the main stalk.