

# BrickLAB Brain Builders

Grades 1-3

## CURRICULUM SAMPLE



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# BrickLAB Brain Builders

GRADES: 1-3



## COMPLETE PROGRAM



## PRINT MATERIALS



## SAMPLE BUILD



**STUDENTS**  
Up to 30

**TIME**  
12, one-hour lessons

### SUBJECTS

- Life Science
- Engineering Design
- Math Connections
- English Language Arts Connections
- Social Studies & History Connections

### SETTINGS

- Summer camps
- Classrooms
- Before & After-school programs
- Homeschools

Hands-on science and engineering projects challenge learners to apply logic, problem-solve and translate abstract ideas into concrete models.

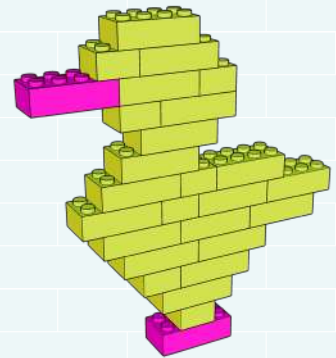
☞ very few consumables

### TECH REQUIREMENTS / PREREQUISITES

- None

### PRICING OPTIONS

- Complete Program: \$1,245<sup>00</sup>
- Curriculum Print & Digital: \$425<sup>00</sup>
- Add-On to Full BrickLAB: \$450<sup>00</sup>



Scan OR Click QR Code for:

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[FULL MATERIALS LIST](#)

[STANDARDS & ALIGNMENT](#)

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# Living Things



## STEM CONNECTIONS

Science: Organization for Matter and Energy Flow in Organisms



## DURATION

60 Minutes



## MATERIALS

- **Page pocket** (1 per pair) **holding:**
  - **Living Things Directions for Students**
  - **Flower Build Plans**
- **Dry erase markers** (1 per pair)

## SCHEDULE

- Discuss and Make a List of Living and Non-Living Things
- Discuss the Parts of a Flower and Their Jobs
- Show How to Diagram the Parts of a Flower
- Build a Flower with Build Instructions
- Label the Parts of the Flower and Each Part's Job
- Build Other Living Things From the List
- Group Discussion

**OBJECTIVE**

Students build a flower and diagram its parts.

**ALIGNED STANDARDS (CSS OR NGSS)**

**Engineering:** K-2-ETS1-2 Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.

**Science:** K-LSI-1 Use observations to describe patterns of what plants and animals (including Humans) need to survive.

**KEY TERMS**

**Diagram:** A drawing that shows the structure of something.

**Living:** Something that is alive (dog, plant, person).

**Nonliving:** Something that is not alive or ever been alive (rock, glass, mountain).

**Survive:** To continue to live.

**Photosynthesis:** The cycle of plants and how they make energy. The sun, water, minerals and carbon dioxide are all absorbed by the plant. The plant then uses them to make sugar, which is the food for the plant. Oxygen is also produced by the plant in this cycle, which is then let off into the air.

**OVERVIEW OF ACTIVITY**

Students begin by learning that all living things need food, water, and air to survive. After discussion, students build a 3D model of a flower and diagram its parts.

This lesson introduces the process of implementing drawings and models to diagram necessary building components as well as encourages students to think creatively.

**BRICK MANAGEMENT**

- **Number of Builds:** The BrickLAB Set included in this program supports up to 18 Flower builds: 9 with white roots and 9 with yellow roots.
- **Recommended Learner Build Groups:** Pairs.
- **Color Considerations:** If you have more than 9 pairs of learners, have half the groups make white roots (as shown in the build plan) and half make yellow roots. There are enough bricks included with your kit to follow the other colors highlighted in the build plan.
- **Additional Considerations:** To account for consecutive or future builds, learners will need to disassemble their builds at the end of every session.

**BACKGROUND INFORMATION**

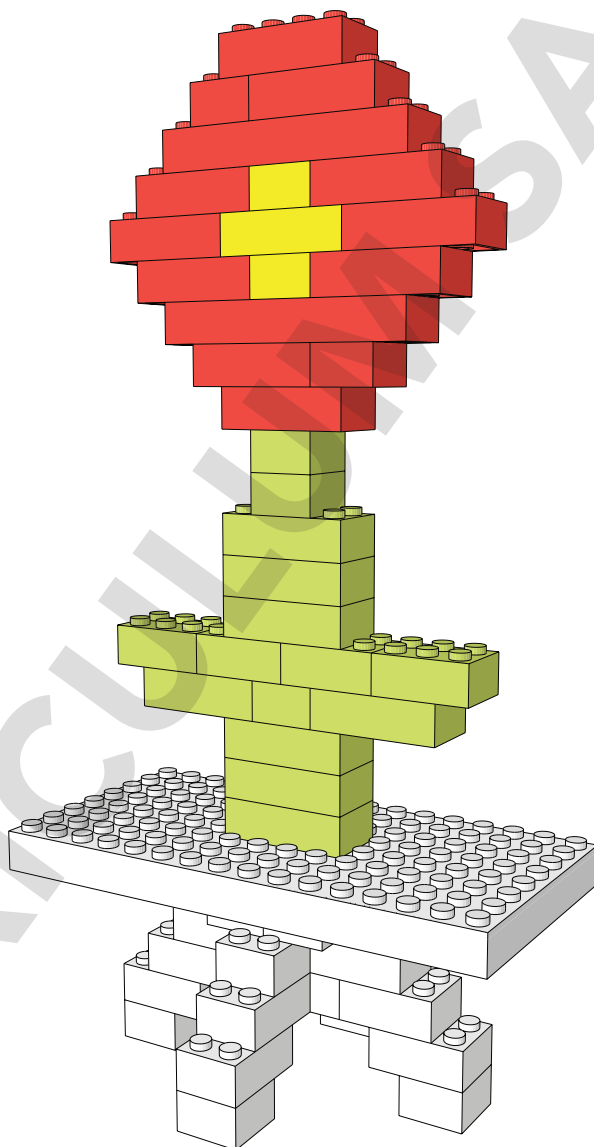
Instructors should study the main parts of a flower and be able to explain their functions.

**Roots:** Roots begin from lower portion of a plant and they are in the soil. Their functions are to absorb nutrients and water, hold the plant in the soil and support the stem.

**Stem:** The stem is the upper part of the plant and supports leaves, fruits and flowers. The stems function is to move nutrients and water from the roots to the leaves.

**Leaves:** The function of leaves is to provide food. Leaves turn sunlight into food energy through photosynthesis.

**Flower:** The prettiest part of a plant. Their beauty and fragrance attract pollinators (insects or birds). Their function is to make seeds to reproduce more flowers. They also catch water and feed it to the rest of the plant.



## STEP-BY-STEP DIRECTIONS FOR INSTRUCTORS

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### Whole Group: Introduction

1. Have students brainstorm a list of living and non-living things. Be sure that everyone participates and gives you at least one example. The list can be written on a Dry Erase Pocket with a blank page inside.
  - A. Get as many examples as possible. The list should consist of two columns; one side should be living things and the other should be non-living things.
  - B. Make sure that one of the items on the living things list is plants or flowers.
2. Ask students what the difference is between living and non-living things.
3. Ask what living things need in order to survive. Have students come up with another list. Be sure to write the list for all students to see. They should at least have food, water and oxygen on the list, but they can have as many as they can think of.
  - A. Once the list is complete, ask if there are some items on the list that every single living things NEED to have (remind them of the difference between need and want). With your help, they should start eliminating items and you can cross them off as they do.
  - B. After crossing any items off that are not needed, the list should be left with Food, Water and Oxygen.
  - C. Ask students if they know what photosynthesis is. If any of them do, ask them to explain it. If not, explain what photosynthesis is and what it does for the flower and all plants.
4. Tell students that today, we are going to build living things and we are going to start with a flower. Before we get started, let's talk about the parts of a flower.
  - A. Hold up the final image of the flower build and ask students to tell you what they know about the parts of a flower.
  - B. As they tell you each part, ask them to tell you what the part does for the flower. What is its job?
  - C. Label each part of the flower as they describe it too you. Also, briefly label the job of that part. For example, Roots - holds plant in soil/takes in water.
5. Students then build the flower out of bricks following the building plan. Remind them how to read a building plan and follow step by step instructions. Also remind them that they can make their flower any color they want.
  - A. Once they've completed the flower, have students work in pairs to lay their build on the diagram chart and label each part of their flower. Challenge them to label each part of the flower.
  - B. Have your completed diagram on display so they can copy the words if they need to.

**Pairs: Build**

1. In pairs, the students build their flower and label each part.
2. Once the students complete the flower build and diagram, they can choose any other living things (other than a human) from the group list to build.

If they have thought of something to build that is not on the list, have them tell you what it is and why it is a living thing.

3. As the students are building, go around and ask them what they are building and why it is a living thing.
4. Always encourage them to make their builds large. The larger they are, the more detail they can add.

**Whole Group: Closure**

1. Share and discuss the student models.
2. Ask students to identify the parts of their flower or other builds and what the job is for those parts. How does it get food, water and oxygen into the body.

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**CHECK FOR UNDERSTANDING**

Students can be assessed by their diagram, participation and their ability to identify the parts of a flower and other living things.

**ASSOCIATED DOCUMENTS**

Flower Diagram Sheet, Flower Building Plans.

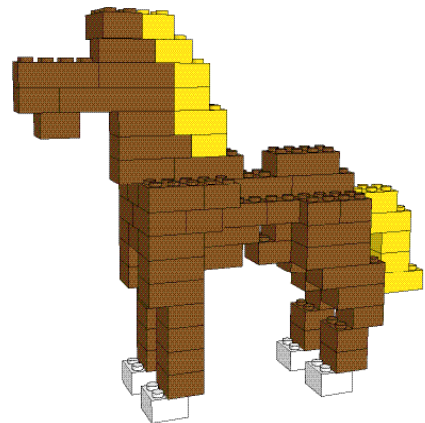
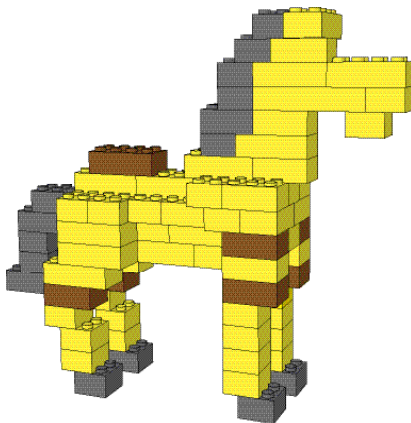


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