



## Get Growing

Students will learn about the process of photosynthesis and the important role it plays in carbon offsetting.



### Learning outcomes

By the end of this activity, students:

- ✓ will understand the concepts of photosynthesis, carbon footprints and carbon offsets
- ✓ will understand the role of photosynthesis in plants and the environmental benefits plants provide
- ✓ will have discussed the benefits of carbon offsetting

### Complete **ONE** of the following options.

You will only be able to submit work and get credit for one option.

#### Option 1

**Explore the growth process of plants in your classroom or at home**

Students will learn about carbon offsetting and photosynthesis, plant their own seeds and monitor their growth.

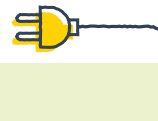
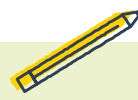
#### Option 2

**Create a school garden or a garden at home**

Students will create a garden, monitor its progress and reflect on the benefits of having a garden at their school or home.

## Important

Please respect all school and governmental guidelines and restrictions surrounding COVID-19. Review the 2021 CDC COVID-19 policy [here](#). This challenge does NOT require students to participate in an in-person setting.





# Get Growing

## Option 1

**Explore the growth** process of plants while your students are in the classroom or learning at home. Students will learn about carbon offsetting and photosynthesis, plant their own seeds and monitor their growth.

## Materials

Tools and materials (soil, seeds, containers, etc.) needed for students to plant their seeds, Photosynthesis worksheet (attached), Carbon Offset worksheet (attached), Plant Life Cycle worksheet (attached).

## Proof to be submitted

Photos of class plants, Plant Life Cycle worksheet OR photos of plants grown at home.

## Activity

Ask your students what they know about the relationship between plants and air quality and how plants reduce pollution in the air. Use the Photosynthesis and Carbon Offsetting worksheets to define these terms. Discuss how these two terms are connected.

Explain to your class that they will be planting their own seeds and monitoring their growth. Distribute the materials required for students to plant their seeds, as well as the Plant Life Cycle worksheet. Explain that the students will be monitoring the growth of their plants and recording growth on the provided handout. Encourage students to draw pictures of the plant's progress and to reflect on their observations.



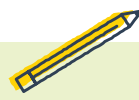
### Teacher tip

Not sure where to get seeds in the off season? Check to see if any parents or colleagues have seed packets left over from last year. Some hardware and kitchen supply stores stock seeds for herbs over winter, and some dollar stores have leftover seeds in their store rooms!

Worried seeds might be too old to plant? Conduct a germination test. Wrap several seeds in a damp piece of cloth or paper towel, sprinkle them with water every few days and keep them somewhere warm and dark. Within a week they should begin sprouting if they are viable!



Classroom Energy Diet Challenge



Energydiet.ca



# Get Growing

## Option 2

**Create a school or home garden.** Students will create a garden, monitor its progress and reflect on the benefits of having a garden in their school or community.

### Materials

Tools and materials (soil, seeds, containers, etc.) needed for students to plant their gardens, Photosynthesis worksheet (attached), Carbon Offset worksheet (attached), Plant Life Cycle worksheet (attached).

### Proof to be submitted

Photos of school or home gardens.

### Activity

Ask your students what they know about the relationship between plants and air quality and how plants reduce pollution in the air. Use the Photosynthesis and Carbon Offsetting worksheets to define these terms. Discuss how these two terms are connected.

Explain to your class that they will be planting a school or home garden. Be sure to get parents or guardians involved if students will be planting at home! If planting at school, decide as a group which types of plants you would like to grow, where your garden should be and explore why you have made these decisions (availability of space, climate, time of year). Once you have decided on the varieties of plants and have received approval from the appropriate people, get growing!

Document the progress of your garden by keeping a log, and discuss whether having a garden has been a positive or negative experience for your class.



#### Teacher tip

Don't let the cold winter keep you from creating a garden. If you can't have a garden outdoors, create an indoor garden or greenhouse.



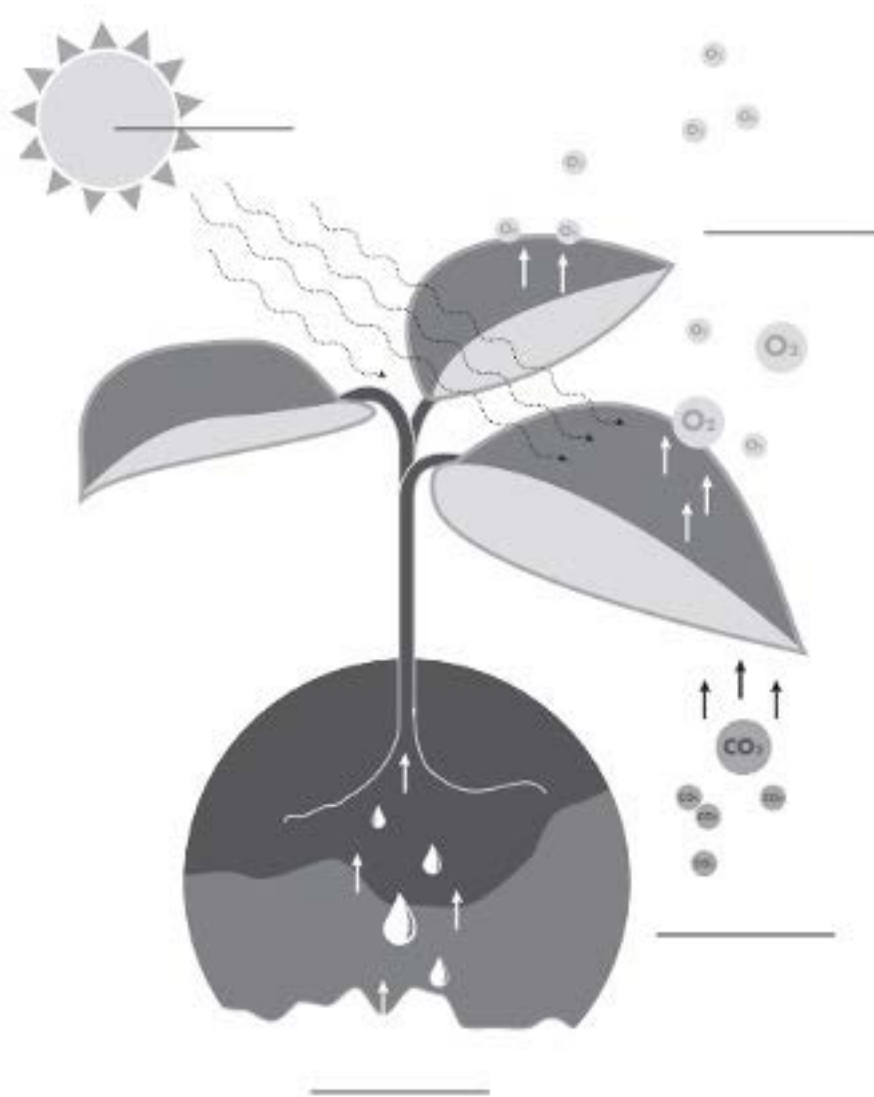
# Get Growing

Name \_\_\_\_\_

Date \_\_\_\_\_

## Photosynthesis worksheet

Complete the diagram by highlighting the steps of photosynthesis using the key words provided below.



Sunlight	Oxygen	Carbon dioxide	Water
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# Get Growing

Name \_\_\_\_\_

Date \_\_\_\_\_

## Carbon offsetting worksheet

Use the following diagram to discuss carbon offsetting and how you can create your own carbon offset.





# Get Growing

Name \_\_\_\_\_

Date \_\_\_\_\_

## Plant life cycle worksheet

Monitor your plants' progress and draw a series of pictures.

Day # Observations:	Day # Observations:	Day # Observations:
Day # Observations:	Day # Observations:	Day # Observations:





# Get Growing

Examples from previous years of how this challenge can be completed:

## Example 1

The Energy Ninjas monitored the growth of plants at home.

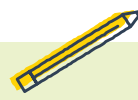


## Example 2

The Water Rockers examined how seeds sprout and grow into plants.



Classroom Energy Diet Challenge



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