

# Turning Garbage into Gold Composting Tips and Teaching

PreK – Kindergarten



## Timeframe

45 minutes

## Objectives:

### Science

K.1A ask questions about organisms, objects, and events observed in the natural world

K.1E communicate observations with others about simple descriptive investigations

K.9B examine evidence that living organisms have basic needs such as food, water, and shelter for animals and air, water, nutrients, sunlight, and space for plants

## Materials:

- Book: *Compost Stew: an A to Z Recipe for the Earth*
- hand lenses
- compost bins, shovel
- science journals
- pencils

## Engage:

Introduce the lesson by reading *Compost Stew: An A to Z recipe for the Earth* or another book about composting

## Explore:

Go to the compost bins. The teacher will turn over some of the working compost. Students will use hand lenses to look for creatures. This can be repeated in various parts of the compost. As creatures are found, students will be encouraged to describe what they see. Students record their findings in their science journals.

## Explain:

Students will verbally share their observations. The teacher will talk about animal needs (food, water, shelter). The teacher will tell them some of the food items that can go into a compost bin to feed the creatures living there.

## Elaborate:

Students will collect compostable materials from their breakfasts and lunches (orange peels, apple cores, banana peels, half-eaten bread). They can feed the creatures they observed by burying the food scraps into the compost bin.

**Evaluate:**

Students draw a compostable material found either from their experience with the compost or their experience sorting compostable materials at the trash. Teachers check the journals and encourage students to label their compost material. Teachers ask students to verbally share why the material they chose to draw is good for the compost.

# Turning Garbage into Gold Composting Tips and Teaching

1<sup>st</sup> – 2<sup>nd</sup> Grade



## Timeframe

45 minutes

## Objectives:

### Science

- 1.1C identify and learn how to use natural resources and materials.
- 1.2A ask questions about organisms, objects, and events observed in the natural world.
- 1.2C collect data and make observations using simple equipment such as hand lenses, primary balances, and non-standard measurement tools.
- 2.1C identify and demonstrate how to use, conserve, and dispose of natural resources and materials.
- 2.2A ask questions about organisms, objects, and events during observations and investigations.
- 2.2B plan and conduct descriptive investigations such as how organisms grow.

## Materials:

- Book: *Compost Stew: an A to Z Recipe for the Earth*
- hand lenses
- compost bins, shovel
- science journals
- pencils

## Engage:

Introduce the lesson by reading *Compost Stew: An A to Z recipe for the Earth* or another book about composting.

## Explore:

Go to the compost bins. The teacher will turn over some of the working compost. Then students will share trowels and turn over working compost. Other students will have hand lenses. They will be encouraged to look closely and see if they can find any living creatures. Students will record their findings in their science journals.

## Explain:

Students will verbally share their observations. Teacher should ask them to share what they know about what animals need to stay alive. What can we feed these creatures? How can you help them stay alive? If necessary, the book can be looked at again to assist students in answering.

**Elaborate:**

Students will collect compostable materials from their breakfasts and lunches (orange peels, apple cores, banana peels, half-eaten bread). They can feed the creatures they observed by burying the food scraps in the compost pile.

**Evaluate:**

Sticky pads will be handed out. Students write R.A.D., and teacher writes the following visual cue somewhere in the indoor/outdoor classroom:

- R - Reflection - A word that you will remember from our compost lesson?
- A - Application - What are you going to do differently now that you know about compost?
- D - Draw - Draw a compostable material found either from their experience with the compost or their experience sorting compostable materials at the trash.

Give students 5 to 10 minutes to complete their R.A.D. evaluation, and then have students share with a shoulder buddy/partner. If time permits partners will share whole class. Teacher can give an informal evaluation or formal assessment based on students' ability to record and reflect on the activity.

# Turning Garbage into Gold Composting Tips and Teaching

3<sup>rd</sup> – 4<sup>th</sup> Grade



## Timeframe

45 minutes

## Objectives:

### Science

3.7A explore and record how soils are formed by weathering of rock and the decomposition of plant and animal remains.

3.8A observe, measure, record, and compare day-to-day weather changes in different locations at the same time that include air temperature, wind direction, and precipitation.

4.1B make informed choices in the use and conservation of natural resources.

4.7A examine properties of soils, including color and texture, capacity to retain water, and ability to support the growth of plants.

## Materials:

- Book: *Compost Stew: an A to Z Recipe for the Earth*
- hand lenses
- compost bins, shovel
- science journals
- pencils

## Engage:

Introduce the lesson by reading *Compost Stew: An A to Z Recipe for the Earth* or another book about composting.

## Explore:

Students will be given hand lenses, trowels, and thermometers to use in exploration. They will be encouraged to use these items in both the “working” compost and “finished” compost. Students record observations in science journals.

## Explain:

Students will verbally share what they observed. Temperature data will be written on the whiteboard. Data may be different in the finished compost and working compost and the air temperature, too. Discuss the difference between the working and finished compost bins. Ask students what they could do to make more compost. Remind them of items mentioned in the book.

## Elaborate:

Class visits the cafeteria during lunch, and students observe trash that could be compostable. Student partners brainstorm ways the cafeteria could help the garden grow its compost, and create a plan of action.

**Evaluate:**

Student partners join forces with another student partner team, and create a short presentation that will be delivered to the class. This is a 2 minute presentation sharing a plan of action for helping the cafeteria use compostable materials for the garden.

ELEMENT	DESCRIPTION	POINTS
Organization	Does team's plan of action have a procedure for making a change in the cafeteria?	20
Content	Why should there be a change in the way the cafeteria handles trash?	20
Presentation	Are there equal speaking parts, and can the audience hear presenters?	20
Compost	Is there a clear explanation of compostable material and decomposition?	20

**Extension:**

Use small group stations to record temperature data from the "working" compost bin in the weeks ahead.

# Turning Garbage into Gold Composting Tips and Teaching

5<sup>th</sup> Grade



## Timeframe

45 minutes

## Objectives:

### Science

5.1B make informed choices in the conservation, disposal, and recycling of materials.

5.2B ask well-defined questions, formulate testable hypotheses, and select and use appropriate equipment and technology;

5.2C collect information by detailed observations and accurate measuring.

## Materials:

- Book: *Compost Stew: an A to Z Recipe for the Earth*
- hand lenses
- compost bins, shovel
- science journals
- pencils

## Engage:

Introduce the lesson by reading *Compost Stew: An A to Z recipe for the Earth* or another book or another book about composting. Students will be given a list of 5 activities to do in the compost bin. They need to complete at least 3 of them. These activities could be written on the outside whiteboard or given on individual sheets.

## Explore:

The 5 activities are:

1. Record the temperature of the working compost.
2. Observe at least one creature with a hand lens.
3. Turn over some of the compost with a shovel or trowel.
4. Add water to the compost bin without getting your shoes or someone else's shoes wet.
5. Add a compostable material to the bin.

As students finish with the explorations, they are to record observations in their science journals.

## Explain:

Teacher leads discussion on student findings. Review and define decomposition which was taught in 3<sup>rd</sup> grade. Students record variables in decomposition in their science journals, and teacher reviews with students why the compost is so important to the outdoor ecosystem.

**Elaborate:**

Class visits the cafeteria during lunch, and students observe trash that could be compostable. Student partners brainstorm ways the cafeteria could help the garden grow its compost, and create a plan of action.

**Evaluate:**

Student partners join forces with another student partner team, and create a short presentation that will be delivered to the class. This is a 2 minute presentation sharing a plan of action for helping the cafeteria use compostable materials for the garden.

ELEMENT	DESCRIPTION	POINTS
Organization	Does team's plan of action have a procedure for making a change in the cafeteria?	20
Content	Why should there be a change in the way the cafeteria handles trash?	20
Presentation	Are there equal speaking parts, and can the audience hear presenters?	20
Compost	Is there a clear explanation of compostable material and decomposition?	20

**Extension:**

Use small group stations to record temperature data from the "working" compost bin in the weeks ahead.