

## Teacher Resource

# Young STEM Inventor

## Focus Questions

1. What did the BTN *Young STEM Inventor* story explain?
2. When did Max get involved in STEMSEL?
3. What does Max do at STEMSEL?
4. Explain what Max's invention BioBin does.
5. The waste put into the BioBin decomposes into...
  - a. Fertiliser
  - b. Methane gas
  - c. Both
6. Methane gas is worse than carbon dioxide. True or false?
7. What inspired Max to invent the BioBin?
8. How is Max helping to fight climate change?
9. Explain the success that Max has had with BioBin.
10. Illustrate an aspect of the BTN *Young STEM Inventor* story.

## Activity

### What do you think?

Students will respond to one or more of the following questions:

- What do you THINK about what you saw in the BTN *Young STEM Inventor* story?
- What does this story make you WONDER?
- Think of three questions you have about the story. Remember that good questions are open-ended (have no right or wrong answer and can't be answered with a 'yes' or 'no').
- What did you learn from the BTN story?

Hold a class discussion about the BTN *Young STEM Inventor* story. Here are some questions to help guide the discussion:

- What is Max's invention?
- What inspired his invention?
- How does it work?
- What materials is it made from?
- What problem does it solve?
- How does it help the environment?
- What is unique about the design?
- What questions do you have about the invention?



To learn more about the benefits of composting organic material, watch the [BTN Composting Awareness](#) story.

## Key Learning

Students will learn more about inventions created by kids that have an environmental benefit and design their own invention.

## Curriculum

### Geography – Year 4

The use and management of natural resources and waste, and the different views on how to do this sustainably.

### HASS – Year 4

Reflect on learning to propose actions in response to an issue or challenge and consider possible effects of proposed actions.

### Science – Year 4

Living things depend on each other and the environment to survive.

### Science – Years 5 & 6

Scientific knowledge is used to solve problems and inform personal and community decisions.

With guidance, pose clarifying questions and make predictions about scientific investigations.

Reflect on and suggest improvements to scientific investigations.

## Activity

### Kid Inventions

Here are some examples of kids' inventions that have an environmental benefit. Watch the video for each invention and respond to the questions.

#### Dylan's Food Recycling App

Watch the [short video](#) about Dylan's invention and respond to the following:

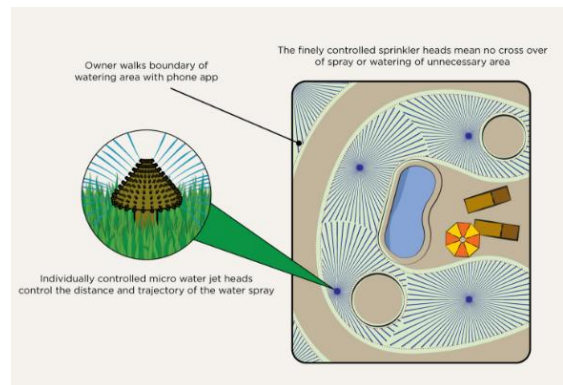
- Briefly describe the invention.
- What inspired Dylan's invention?
- How does it work?
- What materials is it made from?
- What problem does it solve?
- What is unique about the design?
- How does it help the environment?
- What questions do you have about the invention?



#### Kern's Smart Sprinkler

Watch the [short video](#) about Kern's invention and respond to the following:

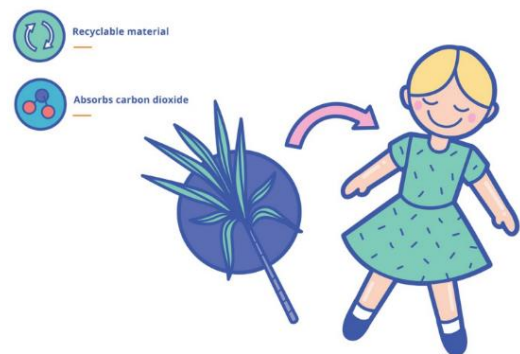
- Briefly describe the invention.
- What inspired Kern's invention?
- How does it work?
- What materials is it made from?
- What problem does it solve?
- What is unique about the design?
- How does it help the environment?
- What questions do you have about the invention?



#### Bella's Sugarcane Plastic Toys

Watch the [short video](#) about Bella's invention and respond to the following:

- Briefly describe the invention.
- What inspired Bella's invention?
- How does it work?
- What materials is it made from?
- What problem does it solve?
- What is unique about the design?
- How does it help the environment?
- What questions do you have about the invention?



### Design your own invention

Students can design their own invention that has a positive impact on the environment. Students will respond to the following:

- Name their invention
- What problem does it solve?
- How does it work?
- What materials is it made from?
- What is unique about the design?
- How does it help the environment?
- Draw a picture of their invention

## Activity

### Kids Taking Action

BTN has featured lots of stories about kids who are taking action on climate change. Below are some examples. Students will investigate ways they can make a difference to an environmental problem. Working in pairs, brainstorm some solutions to the problem. For example, conducting a beach clean-up or reducing the amount of plastic packaging. Look at Molly Steer's **Straw No More** [campaign website](#) and check out her [Ted Talk](#) for inspiration.



[Straw No More](#)



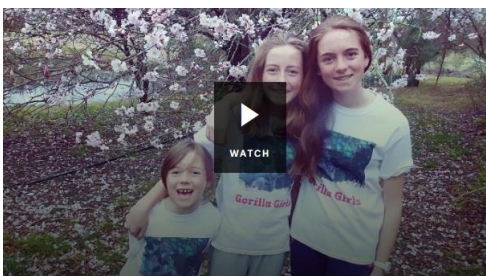
[Plastic Bag Ban](#)



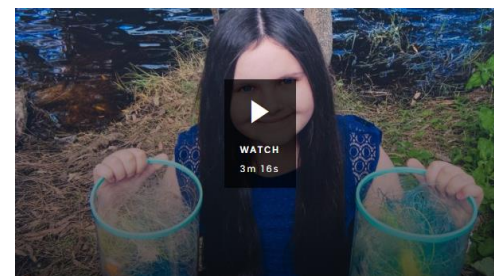
[War on Waste School](#)



[Climate Change Protests](#)



[Gorilla Girls Recycling](#)



[Storm Girl](#)

Discuss with students' ways they can present the information. Some ideas include:

- Make a news report. Visit the [BTN Rookie Reporter page](#) for some ideas.
- Create a website using [Wix](#)
- Create a podcast using [PodOmatic](#), [Buzzsprout](#) to share with the school community.

## Useful Websites

BTN – Young Inventors

<https://www.abc.net.au/btn/classroom/young-inventors/10523760>

STEMSEL – Inventors Club

<http://www.stemsel.com/index.php>

BTN – Composting Awareness

<https://www.abc.net.au/btn/classroom/composting-awareness/10489162>