

## **Lesson Prep & Curriculum Alignment**

Prep time: 10 – 15 minutes

Students will apply a circular design strategy to solve a linear business model problem. They will learn what the circular business model canvas tool is and how to use one to create their own circular business model. They will work in teams to solve an existing waste challenge using the circular business model canvas. They will sketch their final business model to give a visual of how their business idea is circular, and then share with the rest of the workshop.

- Display the workshop slides for the class and create a discussion about what they already know about circular business models and introduce the tool to them. Ask students the guiding questions in the PowerPoint slide notes.
- **Print out the following handouts:** 1) Circular Business Model Canvas; 2) 5 Business Models of Circularity; 3) Circular Lifecycle Map; 4) Areas of Circularity; and 5) Waste Challenge.
- Follow the instructions in the workshop slides on how to fill in each section of the circular business model canvas. The slide notes at the bottom of each slide will have instructions on how to fill in each section.

## **Lesson Prep & Curriculum Alignment**

Prep time: 10 – 15 minutes

### **Key Learning Outcomes and Curriculum Alignment:**

- Science Earth and Human Activity: Communicate solutions that will reduce the impact of humans on the land, water, air, and/or other living things in the local environment. Things that people do can affect the world around them. But they can make choices that reduce their impacts on the land, water, air, and other living things.
- English Language Arts and Literacy: Participate in collaborative conversations with diverse partners about topics and texts. Follow agreed-upon rules for discussions. Use words and phrases acquired through conversations, reading and being read to, and responding to texts. Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning.
- Social Studies People, Places, and Environments: The study of people, places, and environments enables us to understand the relationship between human populations and the physical world.

### **SDG Alignment**









### Flexible and adaptive lesson

Lesson plans are designed to be flexible and responsive to the evolving needs of your classroom. Lessons are editable and customizable to meet the different individual student and classroom contexts. A PowerPoint version with teacher instructions and a printable PDF lesson are available for download.

### The Lesson

**Lesson duration: 45 - 60 minutes** 

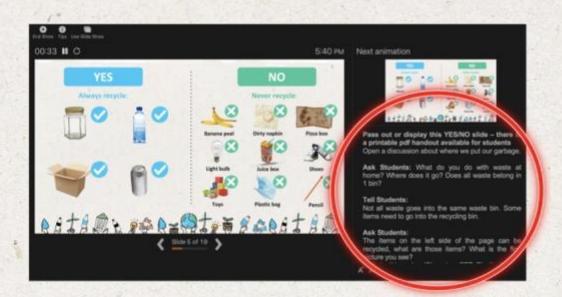
- Split into groups of 3-5 and prepare a posterboard or use the "Circular Business Model Canvas" handout for the exercise. Using sticky notes on a large posterboard is recommended.
- Read the "Waste Challenge" handout and select a problem aspect for the circular business model canvas exercise or continue with the topic from Workshop 1 or 2 (recycling, waste workers, collection and sorting, etc.).
- Fill out the "Circular Business Model Canvas" in your group and apply one or more circular design models to your linear business model. Use the 5 business models of circularity cards and the circularity map as a reference guide.
- When finished with the canvas, groups can sketch out their circular business model and share their circular innovations with the workshop.

## **Prepare the PowerPoint presentation**

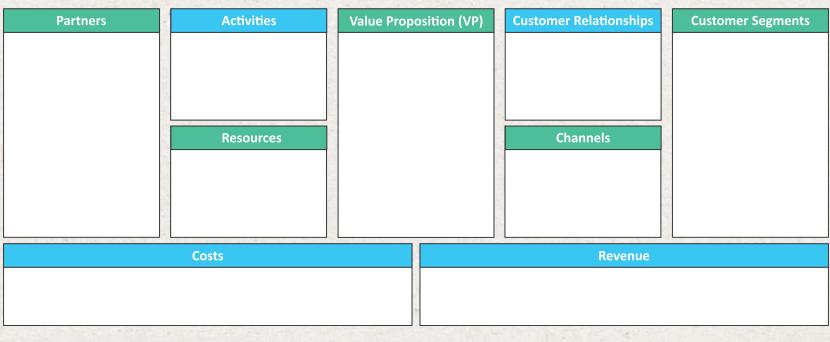
When you are ready to present the lessons to your class click on **Slide Show** on the top menu bar then select **Presenter View.** In Presenter view, you can see your notes as you present while the audience see only your slides.

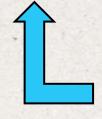


The notes appear in a pane on the right. The text should wrap automatically, and a vertical scroll bar appears if necessary. You can also change the size of the text in the Notes pane by using the two buttons at the lower left corner of the Notes pane.



## **Business Model Canvas**









## **Example Business Model Canvas: Home Sharing Platform**

#### **Partners**

Photographers, insurance companies

#### **Activities**

Platform dev, customer support

#### Resources

Online platform, properties listed

#### Value Proposition (VP)

Make money with unused rooms, and stay in unique places conveniently

#### **Customer Relationships**

Self-service, customer support

#### Channels

Website & App

#### **Customer Segments**

**Hosts & Guests** 

#### Costs

Employees, tech platform, marketing and customer support

#### Revenue

**Hosting fees & guest fees** 

| Pa | Partners Activities Val                   |           | Value Propo | osition (VP) | Customer Relationships | Customer Segments |  |
|----|---|-----------|-------------|--------------|------------------------|-------------------|--|
|    |   | Resources | Circula     | ar (VP)      | Channels               |                   |  |
|    | N. C. | Costs     |             |              | Revenue                |                   |  |
|    |   |           |             |              |                        |                   |  |
|    | Circular Innovation                       |           |             | End-of-Life  |                        |                   |  |
|    |   |           |             |              |                        |                   |  |

# Resource Recovery: Ethically Sourced Plastic







| Partners | Activities       | Value Proposi | tion (VP) | Customer Relationships | Niche market, product manufacturers and |  |
|----------|------------------|---------------|-----------|------------------------|---|--|
|          | Resources        |               | VP)       | Channels               | recycling companies                     |  |
|          | Costs            |               |           | Revenue                |   |  |
| Cir      | cular Innovation |               |           | End-of-Life            |   |  |

| Partners | Activities        | Fight pove    | osition (VP) | Customer Relationships | Customer Segments  Niche market, product |
|----------|-------------------|---------------|--------------|------------------------|--|
|          | Resources         | Circular (VP) |              | Channels               | manufacturers and recycling companies    |
|          | Costs             |               |              | Revenue                |  |
| Ciı      | rcular Innovation |               |              | End-of-Life            |  |

| Partners            | Activities                           | Value Proposition (VP)                                 |            | Customer Relationships | Customer Segments                          |  |  |
|---------------------|--------------------------------------|--|------------|------------------------|--|--|--|
|                     |                                      | Fight poverty through plastic recycling  Circular (VP) |            | Channels               | Niche market, product<br>manufacturers and |  |  |
|                     | Resources                            |  |            |                        | recycling companies                        |  |  |
|                     | Ocean bou<br>diverted ar<br>into new |  | d recycled |                        |  |  |  |
|                     | Costs                                |  | Revenue    |                        |  |  |  |
|                     |                                      |  |            |                        |  |  |  |
| Circular Innovation |                                      |  |            | End-of-Life            |  |  |  |
|                     |                                      |  |            |                        |  |  |  |

| Partners | Activities        | Value Proposition (VP)                  |         | Customer Relationships        | Customer Segments   |
|----------|-------------------|---|---------|-------------------------------|---|
|          |                   | Fight poverty through plastic recycling |         | Dedicated personal assistance | Niche market, product<br>manufacturers and<br>recycling companies |
|          | Resources         | Circula                                 | ır (VP) | Channels                      |   |
|          |                   | Ocean bound diverted and into new pr    |         |                               |   |
|          | Costs             |   |         | Revenue                       |   |
|          |                   |   |         |                               |   |
| Ci       | rcular Innovation |   |         | End-of-Life                   |   |
|          |                   |   |         |                               |   |

| Partners            | Activities | Value Propo                         | osition (VP)  | Customer Relationships                                 | Customer Segments                       |  |
|---------------------|------------|-------------------------------------|---|--|---|--|
|                     |            |                                     | poverty through astic recycling Dedicated personal assistance |  | Niche market, product manufacturers and |  |
|                     | Resources  | Circula                             | r (VP)  | Channels   | recycling companies                     |  |
|                     |            | Ocean bou<br>diverted a<br>into new |   | Owned channels in-<br>house sales/outreach,<br>network |   |  |
|                     | Costs      |                                     | Revenue   |  |   |  |
|                     |            |                                     |   |  |   |  |
| Circular Innovation |            |                                     |   | End-of-Life  |   |  |
|                     |            |                                     |   |  |   |  |

| Partners | Activities   | Value Prop | customer Relationships  Try through ecycling  Dedicated personal assistance |  | Customer Segments   |
|----------|--|------------|---|--|---|
|          | Collect and sort plastic. Trace and track value chain, then sell plastic |            |   |  | Niche market, product manufacturers and recycling companies |
|          | Resources  | Circula    | ar (VP)   | Channels   | recycling companies   |
|          | diverted a   |            | nd plastics<br>nd recycled<br>products                                      | Owned channels in-<br>house sales/outreach,<br>network |   |
|          | Costs  |            |   | Revenue  |   |
|          |  |            |   |  |   |
| Cir      |  |            | End-of-Life   |  |   |
|          |  |            |   |  |   |

#### **Partners**

**Local logistics** companies, Ministry of **Natural Resources,** recycling partner, blockchain service provider

#### **Activities**

Collect and sort plastic. **Trace and track value** chain, then sell plastic

Resources

#### Value Proposition (VP)

Fight poverty through plastic recycling

#### Circular (VP)

**Ocean bound plastics** diverted and recycled into new products

#### **Customer Relationships**

**Dedicated personal** assistance

#### **Channels**

Owned channels inhouse sales/outreach, network

#### **Customer Segments**

Niche market, product manufacturers and recycling companies

Costs

Revenue

#### **Circular Innovation**

#### **Partners**

Local logistics
companies, Ministry of
Natural Resources,
recycling partner,
blockchain service
provider

#### **Activities**

Collect and sort plastic.
Trace and track value chain, then sell plastic

#### Resources

Waste workers, tracking platform, strategic corporate partners

### Value Proposition (VP)

Fight poverty through plastic recycling

#### Circular (VP)

Ocean bound plastics diverted and recycled into new products

#### **Customer Relationships**

Dedicated personal assistance

#### Channels

Owned channels inhouse sales/outreach, network

#### **Customer Segments**

Niche market, product manufacturers and recycling companies

Costs

Revenue

#### Circular Innovation

Value Proposition (VP)

Fight poverty through

plastic recycling

#### **Partners**

**Local logistics** companies, Ministry of **Natural Resources,** recycling partner, blockchain service provider

#### **Activities**

Collect and sort plastic. Trace and track value chain, then sell plastic

#### Resources

Waste workers, tracking platform, strategic corporate partners

#### Circular (VP)

**Ocean bound plastics** diverted and recycled into new products

#### **Customer Relationships**

**Dedicated personal** assistance

#### Channels

Owned channels inhouse sales/outreach, network

#### **Customer Segments**

Niche market, product manufacturers and recycling companies

#### Costs

Waste worker salaries and logistics costs

**Blockchain platform** management and auditing services

#### Revenue

**Circular Innovation** 

#### **Partners**

Local logistics
companies, Ministry of
Natural Resources,
recycling partner,
blockchain service
provider

#### Activities

Collect and sort plastic.
Trace and track value chain, then sell plastic

#### Resources

Waste workers, tracking platform, strategic corporate partners

Value Proposition (VP)

Fight poverty through plastic recycling

#### Circular (VP)

Ocean bound plastics diverted and recycled into new products

#### **Customer Relationships**

Dedicated personal assistance

#### Channels

Owned channels inhouse sales/outreach, network

#### **Customer Segments**

Niche market, product manufacturers and recycling companies

#### **Costs**

Waste worker salaries and logistics costs

Blockchain platform management and auditing services

#### Revenue

Manufacturers buy plastic

Corporations pay for cleanup projects

#### **Circular Innovation**

Value Proposition (VP)

#### **Partners**

Local logistics
companies, Ministry of
Natural Resources,
recycling partner,
blockchain service
provider

#### Activities

Collect and sort plastic.
Trace and track value chain, then sell plastic

#### Resources

Waste workers, tracking platform, strategic corporate partners

#### s

Fight poverty through plastic recycling

#### Circular (VP)

Ocean bound plastics diverted and recycled into new products

#### **Customer Relationships**

Dedicated personal assistance

#### Channels

Owned channels inhouse sales/outreach, network

#### **Customer Segments**

Niche market, product manufacturers and recycling companies

#### **Costs**

Waste worker salaries and logistics costs

Blockchain platform management and auditing services

#### Revenue

Manufacturers buy plastic

Corporations pay for cleanup projects

#### **Circular Innovation**

**Resource Recovery** 

#### **End-of-Life**

20

Value Proposition (VP)

#### **Partners**

**Local logistics** companies, Ministry of **Natural Resources,** recycling partner, blockchain service provider

#### Activities

Collect and sort plastic. Trace and track value chain, then sell plastic

#### Resources

Waste workers, tracking platform, strategic corporate partners

Fight poverty through plastic recycling

#### Circular (VP)

**Ocean bound plastics** diverted and recycled into new products

#### **Customer Relationships**

**Dedicated personal** assistance

#### Channels

Owned channels inhouse sales/outreach, network

#### **Customer Segments**

Niche market, product manufacturers and recycling companies

#### **Costs**

Waste worker salaries and logistics costs

**Blockchain platform** management and auditing services

#### Revenue

Manufacturers buy plastic

**Corporations pay for cleanup** projects

#### **Circular Innovation**

**Resource Recovery** 

#### **End-of-Life**

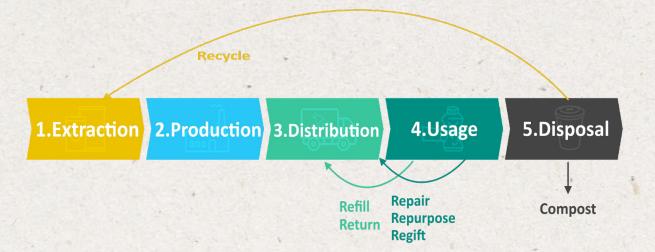
Plastic is recovered and reenters recycling loop

21

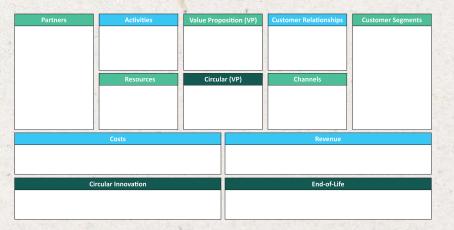
1. Choose an aspect from the "waste challenge" scenario



Identify the key areas of circularity your business model practices



2. Fill in the Circular Business Model Canvas



4. Sketch your business model in a visual way to present to the workshop



| Partners | Activities       | Value Propo | sition (VP) | Customer Relationships | Customer Segments |
|----------|------------------|-------------|-------------|------------------------|-------------------|
|          |                  |             |             |                        |                   |
|          |                  |             | 2           |                        |                   |
|          |                  |             |             |                        |                   |
|          | Resources        | Circula     | r (VP)      | Channels               |                   |
|          |                  |             |             |                        |                   |
|          |                  |             |             |                        |                   |
|          |                  |             |             |                        |                   |
|          |                  |             |             |                        |                   |
|          | Costs            |             |             | Revenue                |                   |
|          |                  |             |             |                        |                   |
|          |                  |             |             |                        |                   |
| Cir      | cular Innovation |             | End-of-Life |                        |                   |
|          |                  |             |             |                        |                   |
|          |                  |             |             |                        | 23                |
|          |                  |             |             |                        |                   |

## Circular Lifecycle Map

