

TECHNOEnvironment

Teacher Guide

Lessons for Middle & High School Students: Grades 6 - 12



Technology Project using Microsoft Publisher

Research an environmental issue. Create pamphlets, posters, and brochures to raise awareness.

In this project, students become Earth Keepers. They raise environmental awareness about a current issue. To start, they use the Internet to research facts and organize the information under headings in a Microsoft Word document. Next, they learn how to use the tools in Microsoft Publisher to create a postcard and a poster as a call to action. To inform people further about the importance of this issue, students use Microsoft Publisher to produce a pamphlet that describes the harmful effects and offers solutions. Optional activities have students prepare for an Environmental Conference by creating a calendar, banners, and invitation to the event.

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Project Overview

In this project, students become Earth Keepers. They raise environmental awareness about a current issue. To start, they use the Internet to research facts and organize the information under headings in a Microsoft Word document. Next, they learn how to use the tools in Microsoft Publisher to create a postcard and a poster as a call to action. To inform people further about the importance of this issue, students use Microsoft Publisher to produce a pamphlet that describes the harmful effects and offers solutions. Optional activities have students prepare for an Environmental Conference by creating a calendar, banners, and invitation to the event.

- In session 1, students research an environmental issue. To start, they learn about the importance of stewardship. Next, they select a topic and then design an outline in Microsoft Word with headings to organize facts. The Internet is used to locate information about the issue, including effects on the environment and solutions to the problem. Students record the source and gather pictures related to the topic. This research will provide the content for the publications they create in the following sessions.
- In session 2, students send a postcard to a friend asking them to become involved in protecting Earth. To prepare for this task, they are introduced to Microsoft Publisher. Once familiar with the parts of the window, a template is opened in the program. Students learn how to draw and format a shape to create a background for the front of the postcard. Next, they include a catchy title using a text box. To attract attention to the issue, a picture illustrating damage to the environment is inserted with a caption. A message is then written on the back of the postcard.
- In session 3, students create a help wanted poster to explain what people can do to protect Earth using facts collected during their research. To start, students insert a saved picture that illustrates the harmful effects of an environmental issue and apply their formatting skills. Next, they add an image from an online source and arrange it by adjusting the object order, alignment, grouping, and orientation. Afterwards, they use a Page Part to describe the problem and a solution that is achievable by students. A border is then inserted and an advertisement building block used to request help. To complete the poster, a WordArt title is used to attract attention to the publication.
- In session 4, students begin to create a pamphlet to educate the public about an environmental issue. Using a template, students apply design elements including frames to accent each panel, a Page Part to create an attractive front cover, and text boxes to hold information. Once the layout of the pamphlet has been established, students apply their knowledge to produce the first panel in the publication.
- In session 5, students continue working on the pamphlet by proposing solutions to the environmental issue. The three panels of the second page of the pamphlet are completed using bulleted text, pictures, captions, and predesigned attention getters. On the third panel, students learn to add and format a table to compare the advantages and disadvantages of a solution to the environmental problem.
- In session 6, students complete the pamphlet. To inspire active involvement, the back of the pamphlet has a quiz. As viewers read the questions and answer them, they will remember information about the environmental issue and possibly even read the facts over again. The pamphlet will have achieved its aim of informing others and gathering support to face a very important challenge for Earth.

Technology Integration Ideas

TechnoEnvironment is a cross-curricular unit that integrates technology into curriculum. In this project, students become environmental stewards. They raise awareness about an environmental issue. The activities blend technology into geography, science, language arts, and visual arts. Lessons are ideal for middle and high school students.

Below are some suggestions for implementing TechnoEnvironment:

- *Microsoft or Computer Applications Course:* Teach this project as part of a technology course. The activities target Internet research and desktop publishing skills. Students gain expertise with creating publications such as postcards, posters, and pamphlets using Microsoft Publisher. Extension activities extend learning to produce a calendar, banner, and greeting card.
- *Environmental Curriculum Unit:* This project integrates into any geography, science, or social studies unit related to conservation, endangered species, or natural resources. By creating a series of publications about an environmental topic, students explore the connection between human activity and the natural world. They summarize information about the cause, harmful effects, and solutions to a problem. This investigation fosters an understanding of the importance of stewardship and sustainability.
- *Earth Day Workshop:* TechnoEnvironment includes 15 fact cards. Use them to quickly research a topic. Afterwards, select one of the activities such as the postcard or poster to complete. Alternatively, select an extension activity from Sessions 3-5 to learn about plastic pollution, fuel emissions, or water conservation.
- *Environmental Conference:* Host an event. In this project, students gain expertise about an environmental topic. Have them produce one or all the publications: postcard, poster, and pamphlet. Afterwards, they can share their knowledge in a brief presentation using a TED talk format using their publications as a visual aid. Consider using the Session 3-5 Extension Activities to promote the event (calendar banner, card).
- *Language Arts Class:* An emphasis in TechnoEnvironment is on research and communication skills. Support is given to boost students' search strategies, ability to organize data, and persuasive writing techniques. Interwoven throughout the activities are hints to convey a simplified message by combining text and images effectively.
- *Visual Arts Class:* Target visual arts learning outcomes with TechnoEnvironment. Graphic design is an important element of the lessons. Students apply their creativity to organize information and arrange content.

Tips for selecting activities:

In this project, students raise awareness about an environmental issue. They create several publications including a postcard, poster, and pamphlet. If you do not have time to complete all the tasks follow these suggestions:

- *Beginner or Expert?* The first two tasks introduce Microsoft Publisher features. To start, students create a postcard. This is an exploratory activity that introduces formatting techniques. Next, students design a poster. This task emphasizes the wide range of objects and design elements that can be included into a publication. If your students already possess these skills, you may wish to exclude them from your curriculum unit.
- *Simplify the Task:* The pamphlet is a tri-fold brochure with six panels. To reduce the work, only complete Assignments 9-11. Students will describe the cause, harmful effects, interesting facts, and solutions. Omit the comparison table (Assignment 12) and quiz (Assignment 13) as they are more complex tasks.

- *Environmental Conference Volunteer*: For those students that complete their design tasks quickly, have them become volunteers. They can create calendars (Session 3 Extension Activity), banners (Session 4 Extension Activity), and invitations (Session 5 Extension Activity) to promote the Environment Conference event (Session 6 Extension Activity). This is a great way to keep everyone engaged.



Session 4

Educate the Public

In this session, students begin to create a pamphlet that will educate the public about an environmental issue. To start, they review a sample to gain an understanding of the content and design of the publication. Once familiar with the task, they open a template, insert a border, and set the color scheme. Text boxes are then inserted into specific panels in preparation of information being added in the following session. Once the layout of the pamphlet has been established, students use a Page Part to create an attractive front cover and add content to the first panel.

Together we can save the Earth. Plan to spread the word.

Assignment 9: Design the Layout for a Pamphlet

Assignment 10: Explain the Environmental Issue

Session 4 Skill Review: Stand Up to Drive Less

Session 4 Extension Activity: Create a Banner

Session 4 Getting Started

Overview

In this session, students begin to create a pamphlet that will educate the public about an environmental issue. To start, they review a sample to gain an understanding of the content and design of the publication. Once familiar with the task, they open a template, insert a border, and set the color scheme. Text boxes are then inserted into specific panels in preparation of information being added in the following session. Once the layout of the pamphlet has been established, students use a Page Part to create an attractive front cover and add content to the first panel.

Materials

- Microsoft Publisher
- Environment Folder
 - Pamphlet Sample
 - Pamphlet Template
 - Workbook folder - Assignments 9 -10
- Research sheet created in Session 1
- Pictures saved in Session 1
- Assessment
 - Pamphlet Marking Sheet (Optional)
- Session 4 Skill Review (Optional)
 - Fuel Emissions folder
 - Standing Pamphlet Template
 - Emissions Pamphlet sample file

Teacher Preparation

(Refer to the *Preparing to Teach* section of this guide for instructions)

- Download the Tool Summary and/or Flashcards from [TechnoHub](#). (Optional)

Teaching Strategy

In this session, students start to create a pamphlet about the environmental issue. Explain scenario to students.

In this session, you will begin to design a pamphlet to inform others about an important environmental issue. The pamphlet is a single sheet, double sided pamphlet that tells people about the problem, its harmful effects, and possible solutions. The words and pictures in the pamphlet urge people to get involved. In this session, you will set up the layout of the panels, choose a predesigned border, create the cover, and write the information on the first panel.

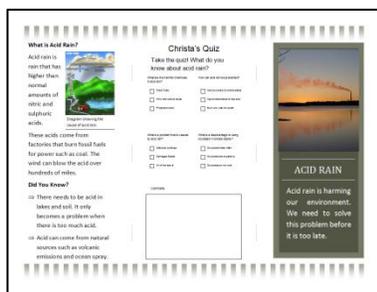


Assignment 9: Design the Layout for a Pamphlet

In this assignment, students begin to design an information pamphlet about an environmental issue. To start, they review a sample publication to gain an understanding of the task. Next, they insert a border, set the color scheme, and arrange text boxes to layout the framework. Once this is complete, students use a *Page Part* to produce the front cover.

About the Pamphlet:

Page 1
Outside of Pamphlet

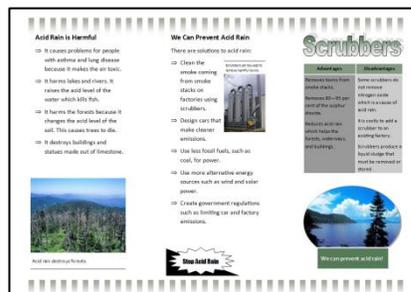


Causes and
Interesting Facts
Assignment 10

Quiz
Assignment 13

Cover Page
Assignment 9

Page 2
Inside of Pamphlet



Harmful Effects
Assignment 11

Solutions
Assignment 11

Advantages and
Disadvantages of a Solution
Assignment 12

Tips:

- **Print a Sample Pamphlet:** Print a copy of the sample pamphlet so the students can see and understand how a threefold pamphlet is constructed. Print the two pages of the publication and glue or tape them with the blank sides together. (If you have a printer that is capable of printing on both sides of the paper, choose this option to print the entire publication on one page and omit the taping step). Next, fold the pamphlet. Using the dashed guidelines on the outside of the template, fold the right panel first and then fold the left panel to place the cover on the front of the pamphlet.
- **Verify the Page:** Caution students to check the Page Navigation pane to ensure that they are working on the correct page and corresponding panel for each element added so the pamphlet prints and folds correctly when completed.
- **Simple Design:** Encourage students to use a simple frame or bar when applying a border. This will give them more room to add information and pictures.

Adjust Content Based on Time: If time is an issue follow these guidelines...

- o Complete Assignments 9-11 only. In these assignments, students describe the cause, harmful effects, interesting facts, and solutions.
- o Assignment 12 is a table that compares the advantages and disadvantages of one solution. It is a more complex task. On this panel have students use their creativity to include other facts or images instead.
- o Assignment 13 is a quiz. This can be challenging as some students struggle to generate questions. On this panel have students write their name, class name, and other relevant details. Alternatively, have them list the top three sources of information they recommend to readers based on their research in Assignment 2.

Assignment 10: Explain the Environmental Issue

In this assignment, create the first panel of the pamphlet. It includes a description and cause of the environmental issue, bulleted list of interesting facts, and a picture with a caption. Encourage students to use their skills to format the text and pictures to create a professional-looking publication.

Stand Up to Drive Less: If your instructional time is limited consider completing this task in place of the tri-fold pamphlet designed in Assignments 9-14. This activity is also ideal if learning about fuel emissions in a science or social studies class.

Create a Banner: If you plan on sharing student work in an Environmental Conference at the end of the unit, hang banners to decorate the room.

Lesson Plan

Assignment 9: Design the Layout for a Pamphlet

- View a sample pamphlet and answer questions.
- Open the pamphlet template.
- Insert a border to frame each panel and align the frames or bars.
- Group the border and copy it to the second page of the pamphlet.
- Apply a color and font scheme to the pamphlet.
- Insert text boxes with a heading to design a template.
- Create the front cover of the pamphlet:
 - Insert a Page Part on the right panel of Page 1.
 - Replace the picture in the Page Part with a saved picture.
 - Replace the title with the Environmental Issue Topic.
 - Replace caption text with a call to action.
- Save the pamphlet and exit Microsoft Publisher.

Assignment 10: Explain the Environmental Issue

- Open the saved pamphlet.
- Describe the issue:
 - In the left panel of Page 1, replace *Heading* with *What is Environmental Issue?*
 - Describe the environmental issue and causes.
- List interesting facts:
 - In the left panel of Page 1, type the heading *Interesting Facts*.
 - Use *Format Painter* to copy formatting from the first heading to the second heading.
 - Type interesting Facts.
 - Select the facts. Apply a bullet style.
- Insert a picture and format the picture.
- Insert a caption describing the picture.
- Save the pamphlet and close Microsoft Publisher.

Learning Objectives

Content Knowledge:

- understand a pamphlet promotes interest in an issue and advocates action
- demonstrate an understanding of the parts of a two-sided threefold pamphlet
- identify effective design elements on a sample pamphlet
- communicate the causes of an environmental problem
- communicate the harmful effects of an environmental issue using words and pictures

Operating Environment

- open and close a program
- open a saved publication
- save a publication
- use the navigation pane to view pages in a publication

Graphics

About Objects

- align objects relative to guidelines, boundaries, or another object
- scale, move, or skew an object
- group objects
- copy and paste objects

About Pictures

- insert a picture from a file or online
- apply a picture style
- customize the color, weight, and dash style of the picture border
- add a caption to a picture

About Building Blocks

- insert a page border
- insert a Page Part
- change the picture in the Page Part and customize the text
- insert an Advertisement that grabs attention

About Page Design

- apply a color scheme

Desktop Publishing

- illustrate the environmental issue using appropriate pictures
- insert a caption that explains the picture
- format objects with color and design elements that suit the topic
- arrange elements to create an appealing and balanced layout
- format the title to attract attention and make it easy to read
- apply a border to frame the information
- list information using bullets to improve readability
- divide information into logical sections
- organize information using headings

Word Processing

- draw a text box
- enter, select, and delete text in a text box
- format the font, style, and size
- automatically resize text to fit the size of the text box
- copy formatting from a selection of text to another
- bullet a list

Applied Technology

- use a template to create the front cover and first panel of a pamphlet about an environmental issue

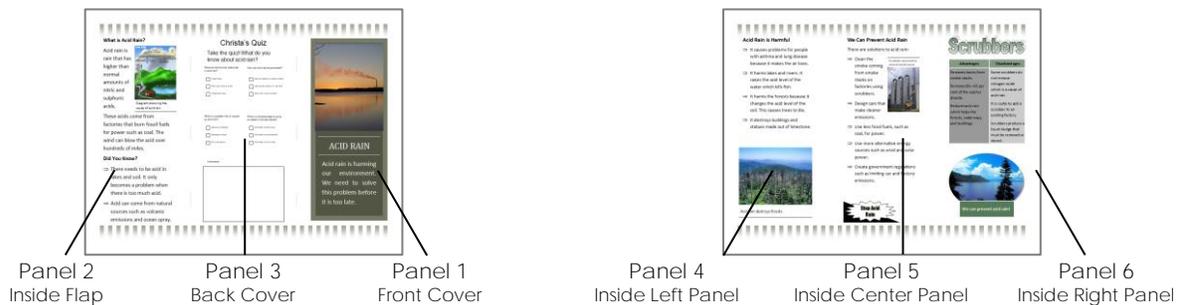
Assignment 9 Design the Layout for a Pamphlet

People need to be informed about environmental issues. To raise awareness, you will make a pamphlet to educate others. The pamphlet will contain a description of the issue, causes, harmful effects, and solutions. To start, you will study a sample to get ideas. Afterwards, you will begin construction of your own publication by laying out the design.



View a Sample Pamphlet and Answer the Questions

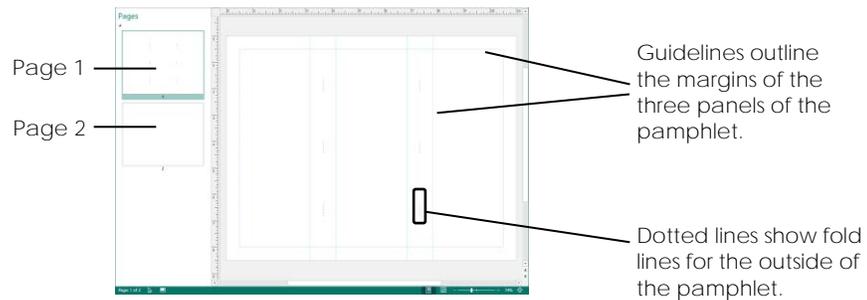
- Open the *Pamphlet Sample*. (Ask your teacher where this is located.)
 - The pamphlet is divided into panels.
 - Each panel holds different types of information.
 - In Publisher, the pamphlet is organized on two pages.
 - The pages are to be glued together and folded to make a tri-fold pamphlet.



- About Page 1:
 - Panel 1* is the front cover of the pamphlet. It uses a Page Part to describe the environmental issue.
What is the title of the pamphlet?
Acid Rain
 - Panel 2* is the inside flap of the pamphlet. It is what people will read first. It includes a description of the issue, causes, and interesting facts. It also has a picture.
What is the caption for the picture?
Diagram showing the cause of acid rain.
 - Panel 3* is the back cover of the pamphlet. It includes a quiz about the topic.
Why is it a good idea to include a quiz?
A quiz makes people read the information in the pamphlet and think about it.
- About Page 2:
 - Panel 4* is the inside left panel. What information is on this panel?
Harmful effects
 - Panel 5* is the inside center panel. What information is on this panel?
Solutions
 - Panel 6* is the inside right panel. It describes in detail a solution using a table.
List the table headings.
Advantages **Disadvantages**
- Close the pamphlet sample.

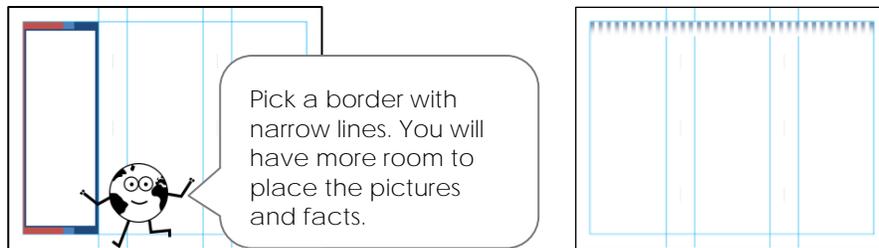
Open the Pamphlet Template

5. ▷ Open the Pamphlet Template. (Ask your teacher where this is located.)
- ▷ If you cannot see the guidelines, from the View tab, tick the *Guides* check box.



Select a Border to Frame the Pamphlet

6. a. Pick a border:
 - ▷ From the Insert tab, select *Borders & Accents*. 
 - ▷ Select a bar or frame from the gallery.
 - ▷ Use the guidelines to place the frame:
 - If using a frame, resize the border to fit inside the guides for the LEFT panel.
 - If using a bar, stretch it between the left and right boundaries. Align the bar to the TOP blue guide across all panels.



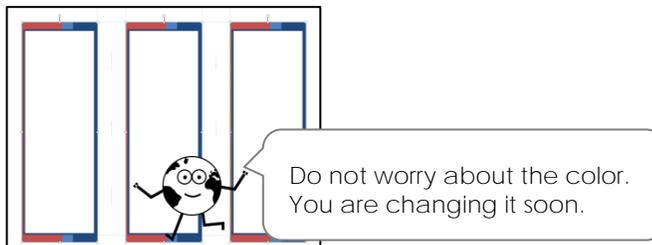
- b. Copy the border to frame each panel:
 - ▷ Select the border. Right click on the border and select *Copy*. 
 - ▷ Right click again and select *Paste*. 
 - If using a frame, drag the border into the CENTER panel. Select *Paste* again to insert a third panel into the RIGHT panel.
 - If using a bar, drag the object to align it to the bottom blue boundary.



Arrange the Border on Each Page

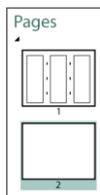
7. a. Align the borders:

- ▷ Select all borders on the page by holding the SHIFT key and clicking on each object.
- ▷ From the Drawing Tools Format tab select *Align Objects*.
- ▷ If the options are greyed out, select *Relative to Margin Guides*.
- ▷ Click *Align Objects* again.
 - Select *Align Top* if there are three frames.
 - Select *Align Center* if there are two bars.



b. Group the border and copy to Page 2:

- ▷ Select all borders on the page by holding the SHIFT key and clicking on each object.
- ▷ From the Drawing Tools Format tab, select *Group*.
- ▷ Right click on the grouped object and select *Copy*.
- ▷ Click *Page 2* in the Page Navigation pane.

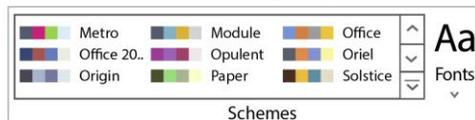


- ▷ Right click the mouse and select *Paste*.
- ▷ Apply your skills to align the borders on the page.

Apply a Color and Font Scheme

8. a. Pick a color scheme to set the palette:

- ▷ Click the *Page Design* tab.
- ▷ Select a color palette from the *Schemes* group.



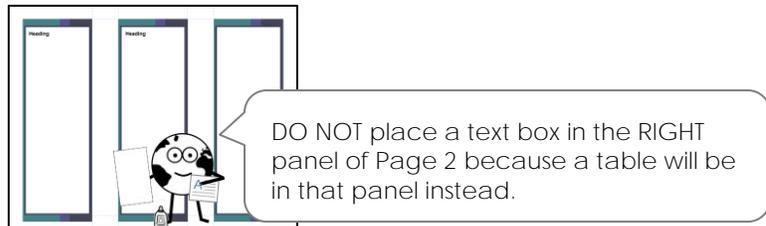
The font scheme sets the typeface for objects such as Page Parts.

b. Click *Scheme Fonts* and pick an option that is easy to read. **Aa**

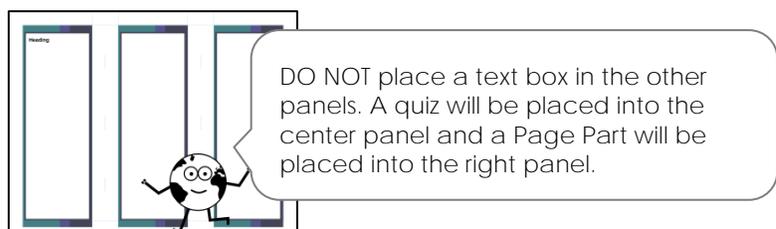
Add Text Boxes onto Each Page to Design a Template

You will use text boxes to add content to the pamphlet. You will create one text box and then copy and paste it to fill other panels. This is a quick way to create a consistent layout.

9. a. Make a text box that you will copy into each panel:
 - ▷ View Page 2.
 - ▷ Draw a text box that fills the LEFT panel. 
 - ▷ Type **Heading**. Press ENTER.
 - ▷ Use the commands on the Text Box Tools Format tab to format the heading:
 - o Select a font.
 - o Apply a bold style. **B**
 - o Set the font size to 14.
- b. Copy the text box into each panel to create a template:
 - ▷ Right click the text box and select *Copy*. 
 - ▷ Right click again and select *Paste*. 
 - ▷ Position the text box in the CENTER panel.



- c. Align the text boxes to each other:
 - ▷ Click on one text box. Hold the SHIFT key and click on the other text box.
 - ▷ From the Drawing Tools Format tab click *Align Objects*. 
 - ▷ Deselect *Relative to Margin Guides*. 
 - ▷ Click *Align Objects* again. 
 - ▷ Select *Align Top* 
- d. Paste a text box onto Page 1:
 - ▷ View Page 1.
 - ▷ Right click and select *Paste*. 
 - ▷ Position the text box in the LEFT panel.

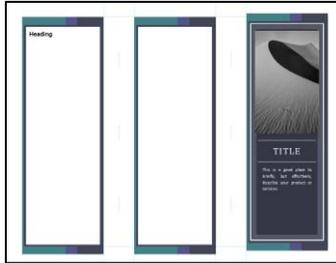


Create the Front Cover of the Pamphlet

You are going to use a Page Part to create the front cover of the pamphlet. It will include a title, call to action, and picture.

10. a. Insert a Page Part:

- ▷ View Page 1.
- ▷ From the Insert tab, select *Page Parts*. 
- ▷ Pick an option that has a picture, title, and caption.
- ▷ Place the Page Part on the RIGHT panel of Page 1. Resize it to fit inside the guides.



b. Add a title:

- ▷ In the *Title* box, type **Topic Name**.
- ▷ Resize the text to fit the box. 
- ▷ If there is a *Subtitle*, replace the text with **Be an Earth Keeper**.

c. Replace the *Caption* text with a message that will draw interest. For example:

- We need to solve this problem before it is too late.
- Learn more about this important environmental issue.
- You can make a difference!

- ▷ Resize the text to fit the box.  Adjust the alignment. 

d. Change the picture(s):

- ▷ Double click on a picture to select it.
- ▷ From the Picture Tools Format tab, click *Change Picture*.  Select *Change Picture*.
- ▷ Go to the place where you saved your pictures in Assignment 4.
- ▷ Select the picture you want. Click *Insert*.
- ▷ Repeat the steps if there are additional pictures in the Page Part.

HINTS AND TIPS

- To change the part of the picture in view, click *Crop*.  Drag the image inside the frame. 
- If a picture is cropped, but you want the whole image, click *Fit*. 
- To swap an image, you can drag a picture from the Scratch Area into a picture placeholder.



Save the Pamphlet and Exit Publisher

Assignment 10 Explain the Environmental Issue

Once you have the viewers' attention with a powerful pamphlet cover, you must educate them about the environmental issue. Do this on the next panel they will see as they unfold the pamphlet.

Use the skills you have learned making the postcard and poster, as well as the facts on your research sheet, to inform viewers about the problem.



Describe the Environmental Issue

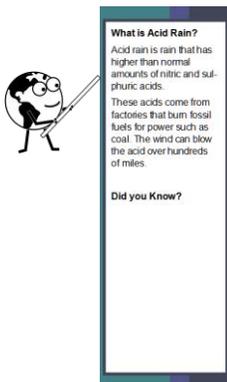
1. Open the pamphlet into Microsoft Publisher.
2.
 - ▷ View Page 1.
 - ▷ Replace *Heading* on the LEFT panel of Page 1 with *What is Environmental Issue?*
 - ▷ Below the heading, *describe the environmental issue.*



- ✓ Refer to the *Definition* and the *Causes* sections of the research sheet to explain the issue.
- ✓ Use words that will be easy for a fellow student to understand.
- ✓ Be sure to change the information into YOUR OWN WORDS.

Add Interesting Facts Heading

3. a. Add a heading in the LEFT panel:
 - ▷ Position the cursor below the paragraph describing the environmental issue.
 - ▷ Type *Interesting Facts* or *Did you Know?* Press ENTER.
- b. Copy the formatting from one heading to another:
 - ▷ Place the cursor in the heading *What is Environmental Issue?*
 - ▷ On the Home tab, click Format Painter. 
 - ▷ When the cursor turns into a brush , drag across *Interesting Facts*.



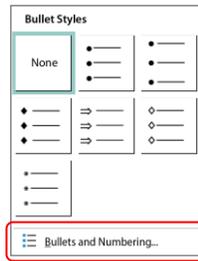
Are there hyphens in the text?
To remove the hyphen:

1. Select the text.
2. From the Text Box Tools Format tab, click *Hyphenation*.
3. Remove check from *Automatically hyphenate this story*.
4. Click OK.

a-
bc

List Interesting Facts using Bullets

4. a. Add interesting facts:
 - ▷ Refer to the research sheet to locate interesting facts.
 - ▷ In your own words, type at least two **Interesting Facts**. Press ENTER after each fact.
- b. Bullet the list:
 - ▷ Select the facts.
 - ▷ On the Home tab, click Bullets. 
 - ▷ Pick a bullet style.



To see more styles:

1. Select *Bullets and Numbering*.
2. Click *Character*.
3. Click the *Font* arrow. Pick *Wingdings* or *Webdings*.
4. Pick a symbol. Click OK. Click OK again.

Insert a Picture with a Caption

5. a. Insert a picture:
 - ▷ From the Insert tab, click *Pictures*. 
 - ▷ Select a picture about the environmental issue you saved in Assignment 4.
 - ▷ Place the picture in the LEFT panel.
 - ▷ Format the picture style. 
- b. Add a caption:
 - ▷ From the Picture Tools Format tab, click *Caption*. 
 - ▷ Select an option from the gallery.
 - ▷ Type a **description of the picture**.

- c. Move  or resize  the picture to place it in the LEFT panel.

HINTS AND TIPS

- Press ENTER to create white space and divide information.
- Click *Text Fit* and pick *Best Fit* to resize text to fit in the box. 
- Keep the caption brief.
- If you do not like the caption style, pick another one.  The existing text will be placed into the new caption box.
- Use a different picture then you used on the front cover. If you do not have one, search online. 

What is Acid Rain?

Acid rain is rain that has higher than normal amounts of nitric and sulphuric acids.

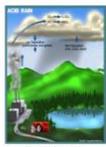


Diagram showing the cause of acid rain

These acids come from factories that burn fossil fuels for power such as coal. The wind can blow the acid over hundreds of miles.

Did you Know?

- There needs to be acid in lakes and soil. It only becomes a problem when there is too much acid.
- Acid can come from natural sources such as volcanic emissions and ocean spray.

Save the Pamphlet and Exit Publisher

Session 4 Skill Review: Stand Up to Drive Less

Read the information and then follow the instructions on the next page to create a pamphlet. Before getting started you will need the *Standing Pamphlet Template* and the *Fuel Emissions* folder. Ask your teacher for these files.

What are Fuel Emissions?

Cars and trucks use fuel to drive. A car engine burns the fuel to produce energy to make the car move. This process produces emissions. Fuel emissions are fumes released into the air from a car's exhaust. The emissions contain harmful chemicals such as hydrocarbons, carbon monoxide, carbon dioxide, and nitrogen oxides.



Fuel emissions contain harmful chemicals such as hydrocarbons, carbon dioxide, and nitrogen oxides.

Harmful Effects

- **Smog:** Emissions from cars contribute to smog. Smog is smoky fog that becomes visible when sunlight shines on polluted particles. Smog can cause asthma attacks, headaches, burning eyes, itchy throat, and cough.
- **Respiratory Illness:** Car emissions pollute the air we breathe. Polluted air can contribute to diseases such as asthma, bronchitis, and emphysema.
- **Global Warming:** Carbon dioxide emitted from cars is a greenhouse gas that contributes to global warming. Global warming is an increase in the temperature of the Earth's atmosphere.
- **Climate Change:** Fuel emissions contribute to global warming. It is believed that global warming will alter weather patterns. Climate change will cause rising sea levels, flooding, melting of polar ice caps and glaciers, heat waves, forest fires, and increased rain or drought.

Solutions

- **Be Active:** Walk, bicycle, skateboard, or rollerblade.
- **Mass Transit:** Take transportation that carries many people such as the bus, trolley, subway, or ferry.
- **Carpool:** Arrange to drive with someone, instead of taking two separate vehicles.
- **Clean Automotive Technology:** Develop new engine and drive train technologies that reduce emissions.
- **Electric Car:** Drive battery powered cars that plug into an electric outlet to recharge.
- **Hybrid Car:** Drive cars that use both electric and petroleum fuel as a power source.
- **Alternative Fuels:** Develop new fuel sources such as biodiesel, ethanol, hydrogen, or natural gas. Ethanol is a biofuel made from plants. Plant sources include hemp, soya, corn, sugar cane, wheat, and sugar beets.

Interesting Facts

- There are hundreds of millions of cars on the world's roads.
- Cold engines pollute up to five times more than warm ones. Link errands together in one trip to minimize "cold starts".
- Car exhaust creates pollution at ground level where people are walking.
- Car idling pollutes the air. Turn off the car when it is not being driven in traffic.
- The more fuel efficient a vehicle the less carbon dioxide it emits.
- Fuel emissions produce ground-level ozone.

Biofuel	
An examination of an alternative solution to reduce fuel emissions.	
Advantages	Disadvantages
Fuel comes from crops that are grown by local farmers.	Risk food shortages if grow crops for fuel instead of food.
The source of the fuel is renewable.	Fertilizer used to grow crops can leak into the water and cause algae blooms.
Produce less harmful emissions.	Water is used to grow the crops, which can stress water supply.
Biofuels can run a car with little or no change to the engine or fuel system.	More petroleum fuel is used to farm and transport the crop than is created into biofuel.
Biofuel refineries are more environmentally friendly than oil refineries.	

Create a pamphlet that informs others about fuel emissions.

1. Open the Standing Pamphlet Template in Microsoft Publisher.
2. From the Page Design tab, select a color scheme.
3. Insert bars to frame the page:
 - a. From the Insert tab, choose *Borders & Accents* . Select a bar.
 - b. Resize the bar to stretch from one EDGE of the page to the other.
 - c. Position the bar to fit below the top blue boundary.
4.
 - a. Select the bar. Right click and select *Copy*. 
 - b. Right click on the page and select *Paste*. 
 - c. Position the bar to fit above the bottom blue boundary.
5. Introduce the topic in the LEFT panel:
 - a. Insert a *Page Part*.  Choose a Page Part that has a picture and text.
 - b. Change the picture(s) using pictures in the *Fuel Emissions* folder. 
 - c. Replace the *Title* with *Drive Less*.
 - d. If there is a *Subtitle*, change it to *Save the Planet*.
 - e. Replace the *Caption* with *By Student Name*.
6. Describe the issue in the CENTER panel:
 - a. Insert a text box. 
 - b. Type the heading *What are Fuel Emissions?*
 - c. Format the text to make it look good.   **B I A**
 - d. Read the fact sheet. Type a *brief description about fuel emissions*.
7.
 - a. Type the heading *What Can You Do to Help?*
 - b. Refer to the *Solutions* section on the fact sheet. List two *solutions*.
 - c. Create a bulleted list .

Tip: To select a custom bullet, select *Bullets and Numbering* at the bottom of the Bullets gallery. Click *Character*. Click the *Font* arrow and select *Webdings* or *Wingdings*. Pick a symbol. Click *OK* twice.
 - d. To format the text, click *Text Fit*.  Select *Best Fit*.
8. List interesting facts in the RIGHT panel:
 - a. Insert a text box.  Type the heading *Interesting Facts*. 
 - b. Refer to the *Interesting Facts* section on the fact sheet. List two *facts*.
 - c. Create a bulleted list .
9.
 - a. Insert a picture  from the *Fuel Emissions* folder.
 - b. Add a caption that describes the picture. 
10. Save the file as *drive less*. Print the pamphlet. Exit Microsoft Publisher.
11. Fold along the dotted lines. Tape the ends together to make it stand up.



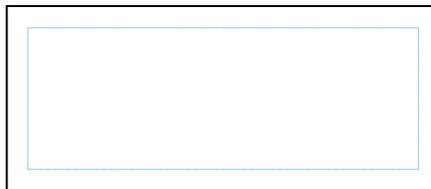
Session 4 Extension Activity: Create a Banner

Another way to draw attention to your environmental issue and ask for help is to make a banner. Use your skills to design a sign that stretches over two pages. Glue or tape the sheets together and hang it in a place where people will notice it.

Before getting started you will need the *Banner Template*. Ask your teacher for this file.



1. Open the Banner Template in Microsoft Publisher.

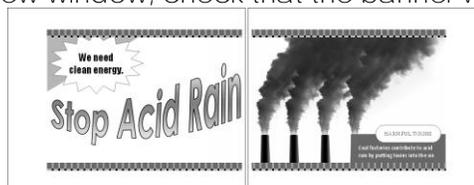


The banner shows as one page on the screen. The design will be cut in the middle to print onto two pages.

2. Pick a color scheme from the Page Design tab.
3. Draw a text box  or use WordArt  to write a Title or Call to Action.
4. Decorate the banner using your skills:
 - Add pictures such as photos or clip art.  
 - Insert *Page Parts* to include text. 
 - Frame the banner with a *Border & Accents*. 
 - Grab attention with *Advertisements*. 
5. Save the document as **banner**.
6. Click *File* and select *Print*:
 - a. Under Layout Options, choose *Letter* and *Landscape*.



- b. In the Print Preview window, check that the banner will print on two pages.



Check where the break will be when the banner prints. If it divides a word or image, you may want to move the object on the page.

- c. Click *Print*.
7. Cut the margin off one sheet and fasten the two pages together to form a banner.

Complete the Pamphlet Checklist

3. Check each item in the list to make sure your pamphlet is ready to print.

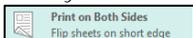


Pamphlet Content	
	front cover attracts attention and introduces the environmental issue
	information includes causes, harmful effects, solutions, and interesting facts
	pictures have captions that describe the image
	comparison table outlines advantages and disadvantages of a solution
	quiz includes four multiple choice questions about the topic
	facts have been put into your own words
	text is free of spelling errors
Pamphlet Design	
	information is divided logically onto separate panels
	borders frame the information
	images and other design elements relate to the text
	page parts, WordArt, and attention getters emphasize facts and attract attention
	headings clearly identify the information and are formatted to stand out
	bullets are used to list facts and the symbol suits the information
	color scheme suits the topic
	text and image formatting are consistent and enhance the message

Print the Pamphlet

- 4. ▷ From the File tab, click *Print*.
- ▷ Check that *Print All Pages* is selected under Settings.

TIP: If you have a printer that can duplex print, choose *Print on Both Sides*.



- ▷ Click *Print*. 

Assemble the Postcard

- 5. ▷ Using tape or glue, fasten the two blank sides of the printed pamphlet together.
- ▷ Fold the pamphlet:
 - With Page 2 facing you, fold the RIGHT panel over the CENTER panel.
 - Use the dotted lines on Page 1 as a guide to folding.
 - Now fold the LEFT panel over top.
 - The cover of the pamphlet should be at the front or facing you.

Save the Pamphlet and Exit Publisher