



BRAIN
JUICE
BE THE CHANGE

**SUSTAINABLE
DEVELOPMENT
GOALS**



About Brain Juice

The world is more interconnected than ever, so it becomes ever more important to be a responsible, creative, and well-informed world citizen. **Brain Juice** has been designed with this belief in mind.

English is now a world language, and therefore students should have not only the grammar, but also the knowledge to converse with people from all over the globe. Students will be exposed to international issues, perspectives, and accents so that they can not only converse easily with a wide range of people, but to better understand their place in a truly globalized society.

As they work through interconnected components, students will develop English not for its own sake, but to take part in conversations that will shape their adulthoods—addressing issues of social justice, environmental responsibility, empathy, and artistic response.



Approach

In order to ensure that **Brain Juice** is addressing the most important international issues and developing the skills that growing children need, reference has been made to both **United Nations Sustainability Goals and UNICEF's Global Framework on Transferable Skills**.

At the end of each unit, students will be asked to complete a group project inspired by one of these two guidelines and engaging with the topics addressed in that unit. This allows students to have a concrete product as a result of their learning, and will also show them the real-world applications of what they have learned on a broader scale. Students collaborating to do just that in their local communities acts as an example of what they could do in the future. The goal is for students to see English as not only a requirement at school, but a tool with which they are empowered to change the world.



Brain Juice Themes

Self-Awareness
Personal Autonomy
Artistic Expression



Brain Juice Themes

Community Life
Financial Education
Global Awareness
Social Justice
Health
Environmental Awareness

Methodology

As schools' needs and demographics change, instructional practices must be adapted to meet the challenges of every classroom. Brain Juice offers an **eclectic, blended methodology** that allows teachers to integrate their own teaching style into each lesson. **Brain Juice** has an inductive approach to teaching language that benefits students' interaction as well as deeper understanding of the language. This approach allows students to acquire English naturally through contact with relevant topics.

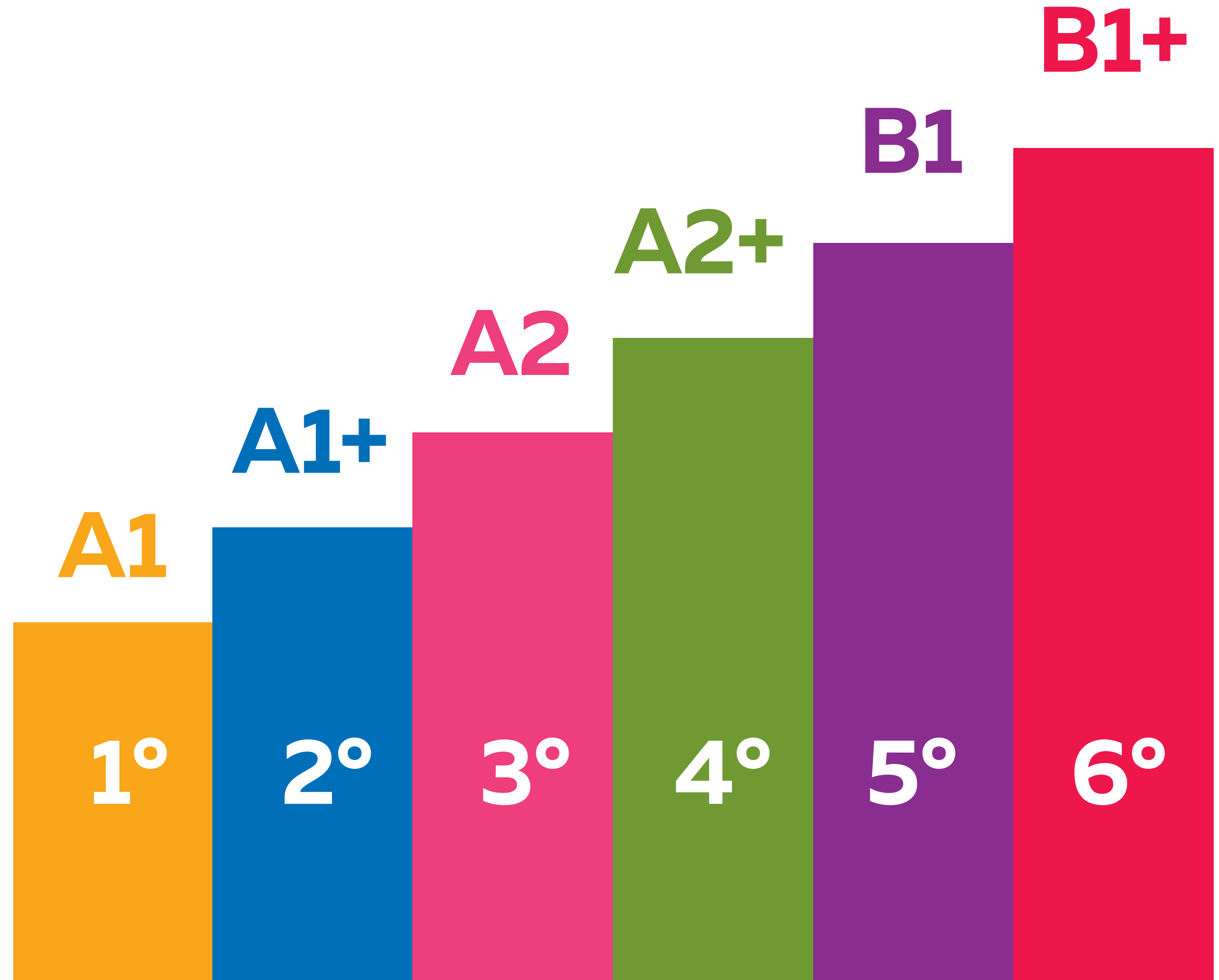
The methodology of Brain Juice is based on **ESA (Engage, Study, Activate)**. The learning stages of this methodology consider that students need exposure, motivation, and opportunities to use the language they are acquiring. The content is designed to allow flexibility and to go back and forth between stages if needed, and has a strong emphasis on students' engagement in each topic. Each unit focuses on developing the **four language skills** by carrying out age-appropriate activities that lead to meaningful output.

Each unit of **Brain Juice** begins with an appealing **magazine-style** input where the topic is introduced in meaningful contexts. Students will develop their analytic skills and end up working on one of four 21st Century Skills: **Communication, Collaboration, Critical Thinking**, and **Creativity**. To encourage the development of these skills, Brain Juice offers activities that give students the opportunity to take ownership of their learning. These four skills will help students to fully participate in a growing global community by sharing what they think, working together to reach a goal, looking at problems in new ways, and trying approaches to reach their goals.

Students will also develop their literacy and reading comprehension skills in the **Language Arts** section. The variety of texts included in the **Reader** will help students to explore the main topic and language in a literary context, culminating in a guided writing activity. The *Everyday English* section provides a presentation of **authentic language in everyday situations**, giving a valuable opportunity for students to communicate orally.

Brain Juice and the CEFR

Language learning is an active process in which each student progresses at a different speed. **Brain Juice** offers a carefully structured syllabus that allows students to engage in significant learning time. **Listening, speaking, reading, and writing activities** will help students to develop the skills needed to be prepared for **international exams**. The syllabus follows six levels of the Common European Framework of Reference (CEFR), ensuring success at the end of primary education.



Components



Student's Book



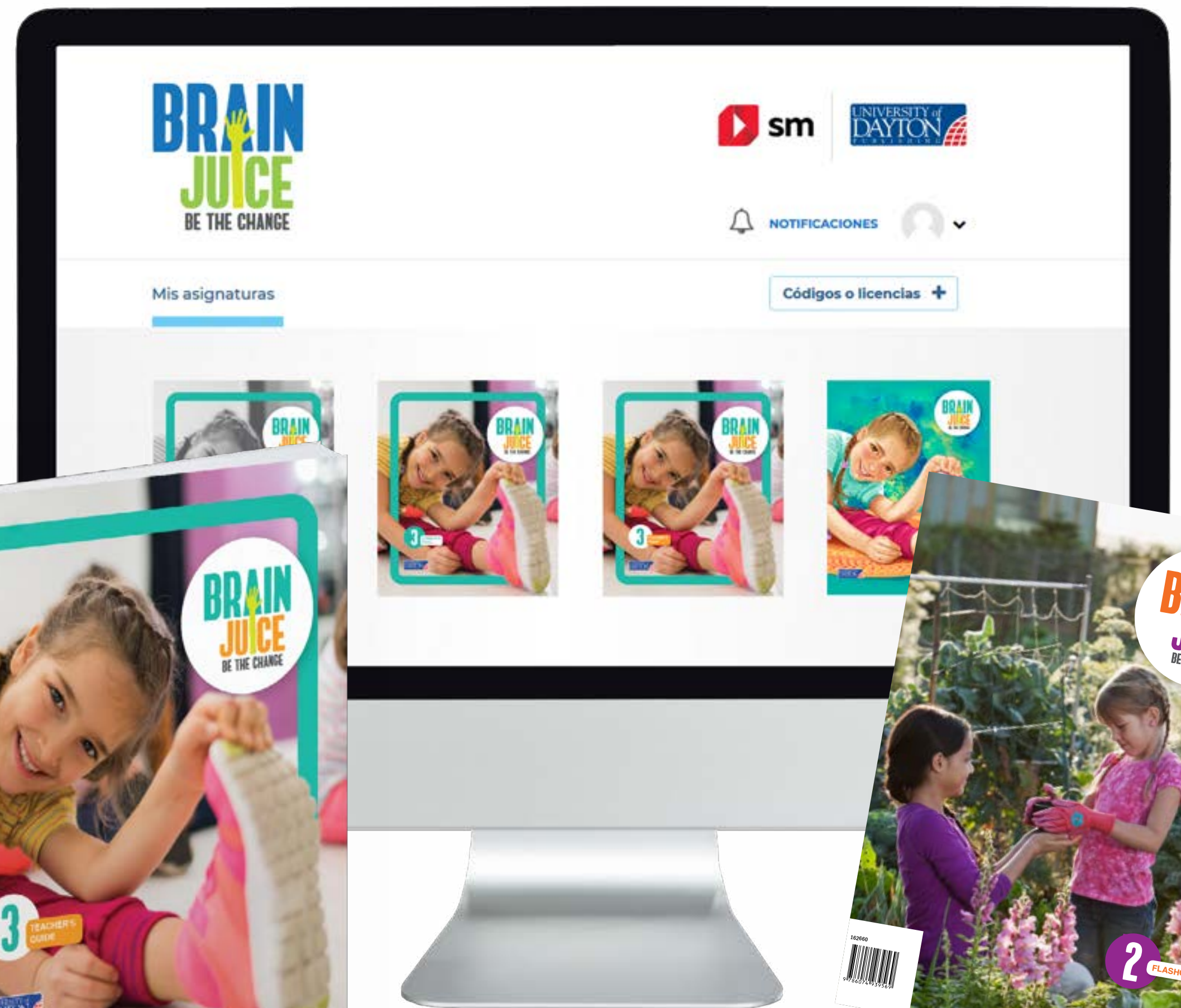
Reader



Learning Extension



Teacher's Guide



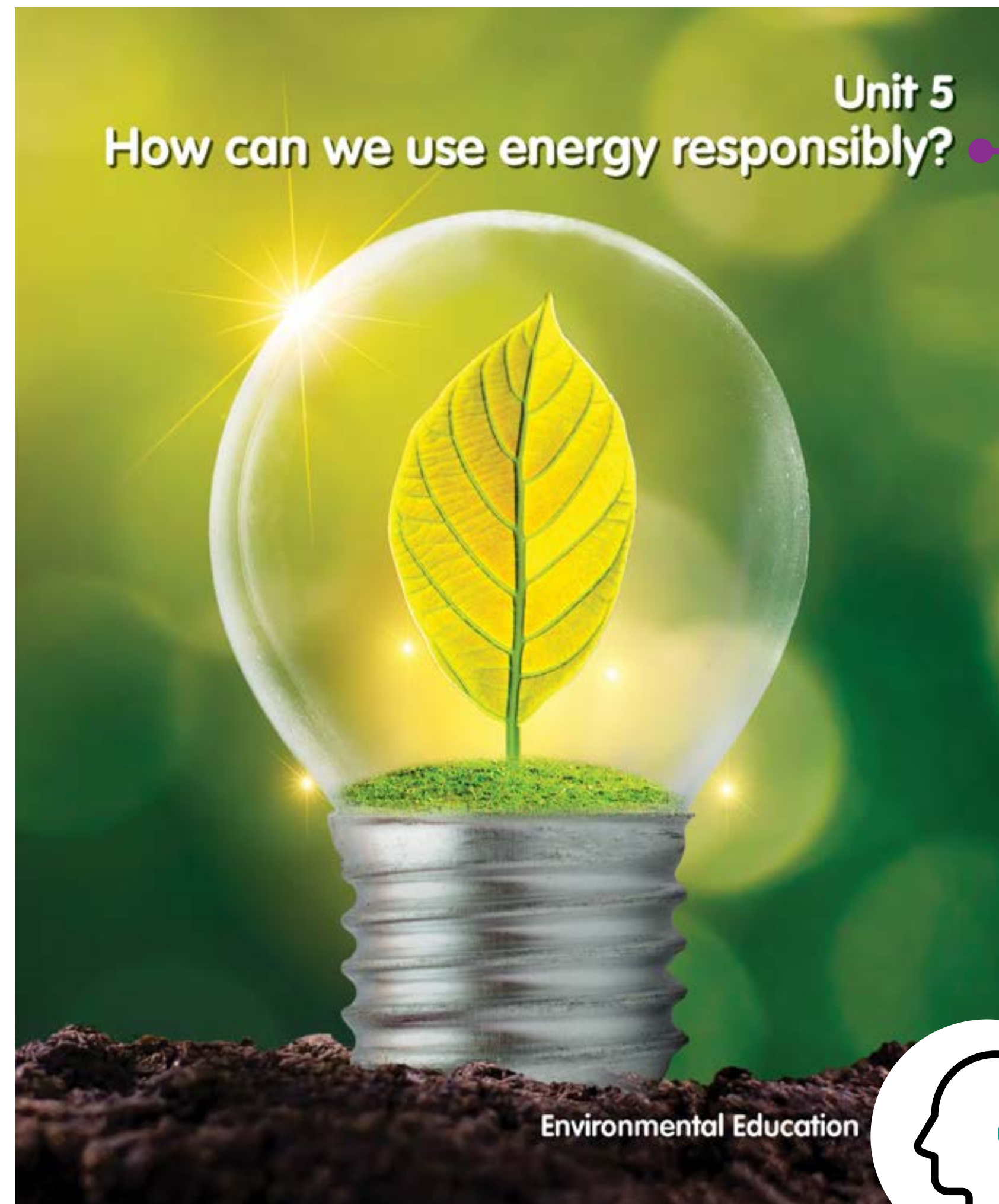
SM aprendizaje



Flashcards
(levels 1 and 2)

Walkthrough for Level 5, Unit 5

Introduce the
topic of the unit.



Big question to start a class discussion about the topic.

Knowing the theme of the unit helps students to be aware of their own learning process.



Topic Presentation

Lesson 6 and 7

Animated video to introduce the topic



Watch the video to learn about energy.

Inspirational images to make the topic more attractive to students

The magazine spread is titled "SOURCES OF ENERGY" in large green letters. It is divided into two pages, 66 and 67.

Page 66: RENEWABLE ENERGY SOURCES
Renewable energy sources are natural resources which do not run out because they regenerate in short periods of time.

- Hydropower:** Water that falls from a dam or ocean waves that spin turbines produce mechanical energy. Then we can produce electricity using this energy. (Accompanied by an image of a dam.)
- Wind:** Wind makes the blades of the wind turbines to turn and generate mechanical energy. Then we can use this energy to produce electricity. (Accompanied by an image of wind turbines.)
- Solar:** We use solar cells to collect the energy from the sun and then convert it into electricity or heat. (Accompanied by an image of solar panels.)
- Biomass:** We burn biomass—the wood, crop residues, garbage, and waste—to produce heat or electricity. (Accompanied by an image of a biomass plant.)

Page 67: NON-RENEWABLE ENERGY SOURCES
Non-renewable energy sources are natural resources which will run out because we are consuming them faster than they replenish.

- Nuclear:** In nuclear power stations we split uranium atoms, which release heat. Then we use this heat to produce electricity. (Accompanied by an image of a nuclear power plant.)
- Fossil Fuels:** We burn fossil fuels—coal, oil, and natural gas—and then we convert this energy into electricity and heat in power plants. Fossil fuels are the most used source of energy, because it is cheaper than other alternatives. (Accompanied by an image of an offshore oil rig.)

Clean Energy and Energy Efficiency
Although we depend on and need energy, we need to use it in a responsible way. Fossil fuels are produced through methods that release greenhouse gases or other pollutants. Energy from renewable sources is mostly clean, but can have negative consequences. For example, creating dams for hydropower energy can damage ecosystems. We need to find ways to reduce the amount of energy that we consume, for example, using lightbulbs that save energy.

Challenge
In groups, discuss the questions.
1. Why do we need to reduce the use of energy?
2. What can we do to reduce it?

Magazine presenting the theme

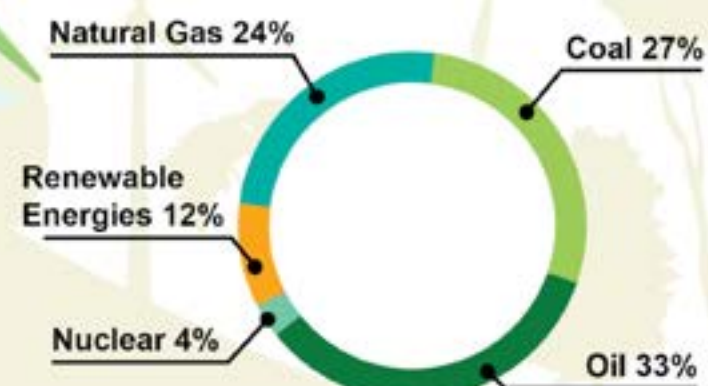
Relevant questions to discuss in groups

Each unit develops one of the four skills: Critical Thinking, Collaboration, Creativity, Communication

21st Century Skills

Critical Thinking

- 1 Look at the data on world energy consumption reserves from 2019. Then, in pairs, discuss the questions.



- a. What percentage of the energy that we use comes from fossil fuels?
b. What percentage comes from renewable energy sources?

- 2 In pairs, look at the information on the table. Analyze the table and calculate which fossil fuel will run out first.

Fossil Fuels	Reserves at current rate of consumption
Oil	Between 60 and 140 years
Gas	Between 200 and 250 years
Coal	Between 150 and 300 years

- 3 Compare your answers with another pair of students. Then discuss the questions in groups.

- a. Which energy sources should we use more or less? Why?
b. What would happen to the world without electrical energy?

- 4 In groups, present your ideas to the rest of the class.



We think we should... because...

Brain Juice promotes group work and class discussions.

Learning Extension

Interactive activity as input

A short project to develop collaborative work

The Resourceful Island

Task
Imagine you are an energy efficiency expert and you are stuck on a desert island. You are going to use your knowledge of energy sources to charge your phone and call for help.

1 Watch the presentation. Then look at the illustration and list all the forms of energy on the island.

Renewable Energy	Non-Renewable Energy

Heads Together
Step 1 In groups, discuss what forms of energy you found.
Step 2 Discuss how you can charge your phone and call for help.
Step 3 Create a presentation to show your conclusions to the class.

Source of Energy
Insert a picture illustrating the type of energy you want to use.

Renewable? Non-Renewable?
Say whether your source of energy is renewable or non-renewable.

Difficulties
Insert a picture that shows the difficulties in using your source of energy.

Positives
Insert a picture that shows the positive things about your source of energy.

Process
Describe the process to charge your phone.

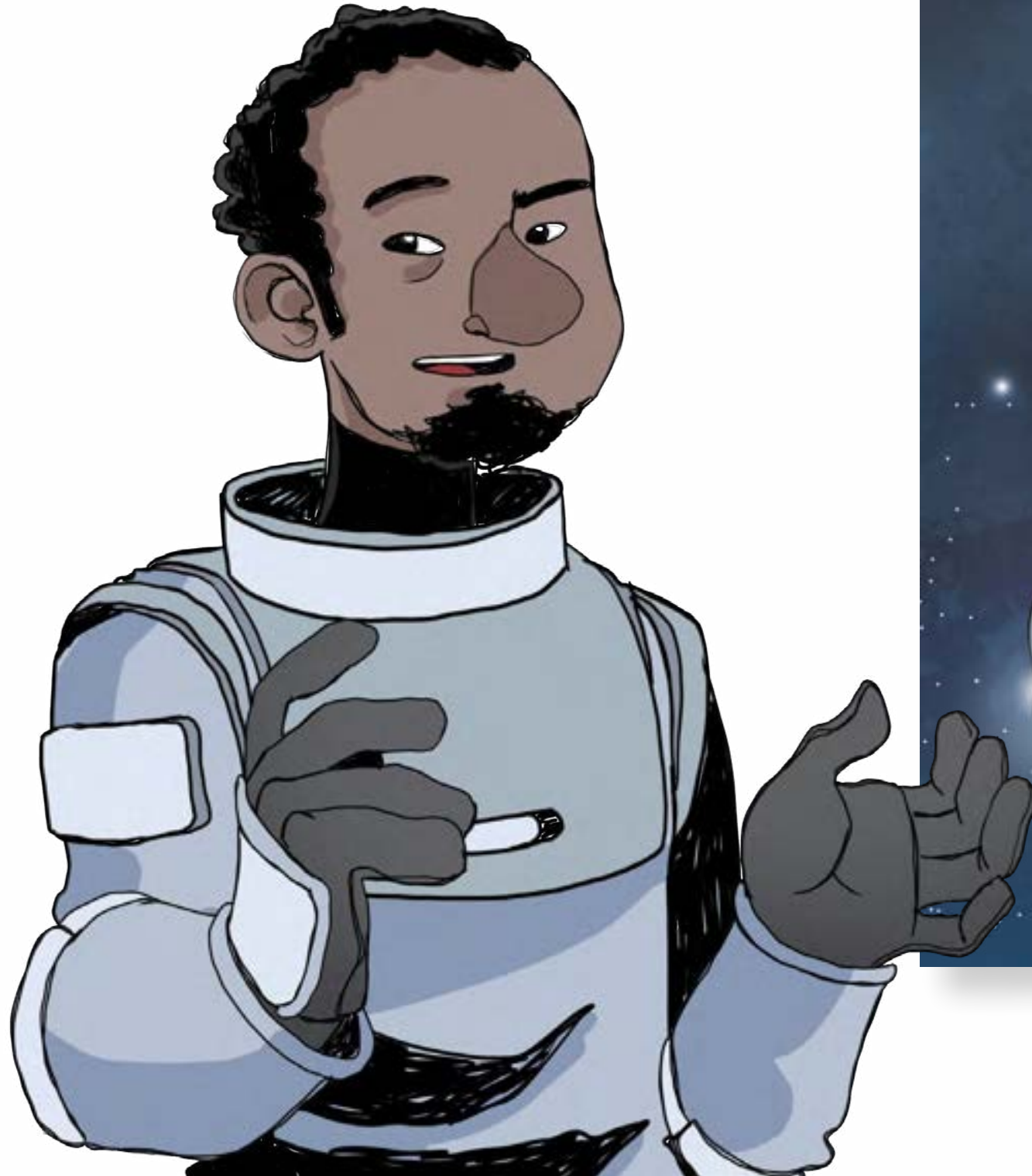
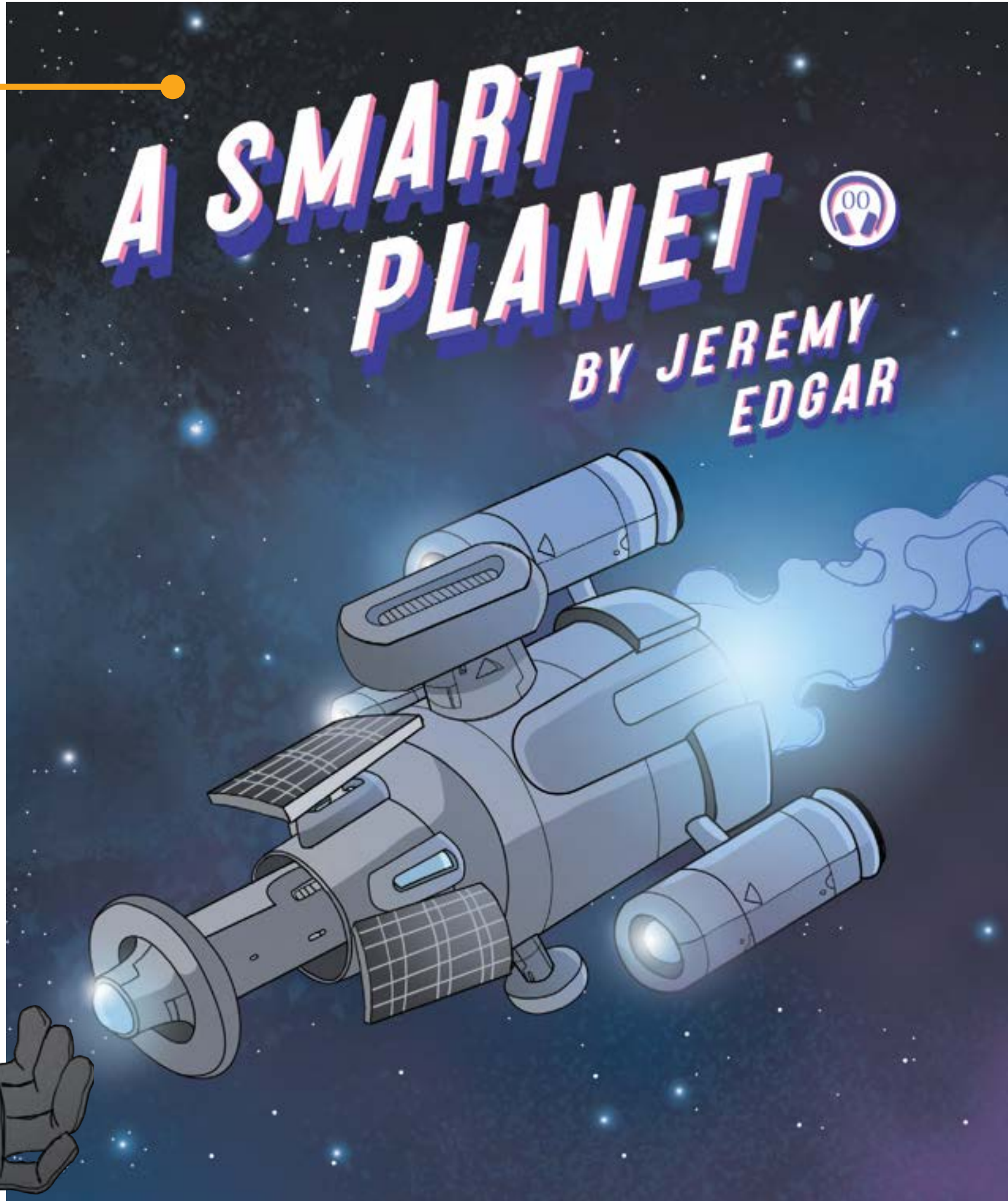
Getting Off the Island
Insert a picture that shows the process of charging your phone.

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Language Arts

Lesson 8 and 9

Original and classic stories with illustrations to motivate students to read



A Smart Planet is a science fiction story. Science fiction deals with futuristic aspects of technology and science. Look through the story in your Reader and find examples of futuristic elements on the pictures.

Watch and predict.
Read A Smart Planet on pages 49-60.

A The story happens in three different settings. Look up the page numbers on your Reader and complete the first column on the table.

Page	Place	Characters	Situation
50	Spaceship	The crew wakes up and discover that the spaceship is nearly out of fuel.	The crew wakes up and discover that the spaceship is nearly out of fuel.
52	The Planet	Captain Anderson, Lieutenant Wong, Perkins	The crew lands in a planet, but it looked deserted. It was dry, and with big holes.
56	City in the island	Captain Anderson, Lieutenant Wong, Perkins, the leader of the island, other people form the town	The crew meets the people of the island. The leader explains that there is no more uranium because the people from the planet didn't take care of the resources.

B In a story there are main and secondary characters. Complete the second column on the table.

C Summarizing a situation is a way of showing reading comprehension. On the last column on the table, summarize the situation happening on those pages.

D In pairs, answer the following questions.

1. What type of fuel does the crew need?
2. Why did they land on that planet?
3. What happened to the natural resources on the planet?
4. How do the people on the planet survive?
5. How does the spaceship fly at the end of the story?
6. How does the crew survive at the end of the story?

How is what happens to the planet in the story similar or different to what is happening in our world?

Think questions help students.

Model text for students to identify and use as a sample for their own writing

Writing

1 Read the research report. Then label the parts of the text.

a. conclusion b. author c. introduction d. title e. body

Can we run out of non-renewable energy sources? d

by Ana Quintero b

After reading the story *A Smart Planet*, I had a question on my mind: Can a planet really run out of fossil fuels? We all know fossil fuels are non-renewable, but how many reserves are there in the planet? c

Fossil fuels are coal, petroleum, and natural gas. They formed 360-300 million years ago. Different plants died and were crushed under seabed, rocks and earth. They eventually turned into fossil fuels. Since the Industrial Revolution, man has found and exploited reserves. Fossil fuels are inexpensive to use and transport. However, they pollute the environment and the supply is finite. Less and less reserves are being found. e

In conclusion, yes, our planet can run out of fossil fuels because there are not many reserves left. Countries should use renewable energy sources, like solar and wind power. They do not pollute and we will never run out of them. a

Sources

<https://www.nationalgeographic.org/encyclopedia/non-renewable-energy/>

<https://prezi.com/dst9gudmwbv/what-happens-when-we-run-out-of-non-renewable-resources/>


<https://www.ecotricity.co.uk/our-green-energy/energy-independence/the-end-of-fossil-fuels>

2 Match the parts of the text with their definition.

a. Introduction c. Summary of most important points

b. Body a. Topic and reasons for writing

c. Conclusion b. Main ideas and details



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Learning Extension

Lesson 12 and 13

C Use your graphic organizer to write your research report. Drafting

D Go through your text to improve it.

Introduction	Does it mention the topic? <input type="checkbox"/>
	Does it say why you are writing about the topic? <input type="checkbox"/>
Main Body	Does it have a paragraph per idea? <input type="checkbox"/>
	Do the paragraphs express a main idea and details? <input type="checkbox"/>
	Is the information factual? <input type="checkbox"/>
Conclusion	Does it include a summary of the most important points? <input type="checkbox"/>
	Does it give a conclusion? <input type="checkbox"/>
Sources	Does the text have sources consulted? <input type="checkbox"/>
	Are they written clearly? <input type="checkbox"/>

E Check.

- ✓ Title in capital letters
- ✓ All sentences start with a capital letter and end in a period
- ✓ No contractions

F In your notebook, rewrite a final draft.

Research Report
A research report is an informative text that gives facts and details about a topic.

A Write three topics you would like to do research on. Brainstorming

Topic	Reasons for Writing about the Topic
1	
2	
3	

B Choose one of the topics, do research, and complete the graphic organizer. Planning

```

graph TD
    Topic[Topic] --- Reason1[Reason]
    Topic --- Reason2[Reason]
    Reason1 --- Detail1[Detail]
    Reason1 --- Detail2[Detail]
    Reason2 --- Detail3[Detail]
    Reason2 --- Detail4[Detail]
  
```

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Writing steps so students can write a quality final product on their own

An interactive grammar game to introduce topic

Pre, while, and post-listening activities related to the topic

Grammar input taken from the story in the Reader or the listening in the Everyday English section

A In groups, discuss which of these are good examples of saving energy at home.

Watch a presentation about saving energy at home.

- taking shorter showers
- turning off lights
- playing video games
- installing wind turbines
- taking baths
- installing solar panels
- using dish washing machines
- turning off electronic devices
- using energy-saving light bulbs
- not using air conditioning in the summer

B Listen and label the ways the family would like to save energy in the house.

C In pairs, discuss other ways of saving energy at home.

How much energy can a single family save?

74 LE p.52 ex. A

A Complete the ideas for saving energy at home.

Play a grammar game.

- We would save energy if we installed a wind turbine. (save, install)
- If we installed solar panels, the water would heat faster. (install, heat)
- If we washed the dishes once a day, we wouldn't waste so much water. (wash, not waste)

B In groups, discuss these problems. Take notes to present to the class.

- What would you do if there was no electricity in your city?
- What would you do if there was no gas or electricity to heat water?
- What would you do if fossil fuels were prohibited for transportation?
- What would you do if the only source of energy was biomass?
- What would you do if the planet ran out of non-renewable resources?

As a class, compare your ideas for each problem. Vote on the best solutions.

C Play a game: Consequence Chains.

- If the lights were always on, ...
- If people couldn't drive their cars at all, ...
- If there were power cuts every day at 7 p.m., ...
- If the electricity bill at home was too high, ...
- If all factories stopped working, ...
- If electricity fees were raised by 300%, ...

If the lights were always on, a lot of energy would be wasted.

If a lot of energy were wasted, energy would cost more money.

If energy were more expensive, we would...

Grammar: Second Conditional

If you **turned** the lights off, you **would save** a lot of energy. You **would reduce** the use of fossil fuels if you **walked** or **biked** to school.

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Model listening for the communicative activity

speaking

1 Listen to some students discussing what environmental campaign to do. Mark (✓) the campaign they choose.

• Listen again. Complete the advantages of their campaign.

If people didn't print everything, they would save trees.

If we saved paper, we would also save natural resources.

If we saved paper, there would be less trash.

If we didn't use paper, we would save trees, water, and power.

If we didn't use paper, we would save money.

2 In groups, discuss and decide what environmental campaign to do.

Think of...

✓ Why to choose that campaign	✓ What to say
✓ Advantages	✓ What to do
✓ Disadvantages	

Present your decision to the rest of the class. Talk about the benefits and advantages of the campaign.

We are going to do an environmental campaign about... We think the advantages are... Other benefits for the community are...

• As a class, vote for the most interesting campaign.

LE p. 54 Challenge 77

Communicative product

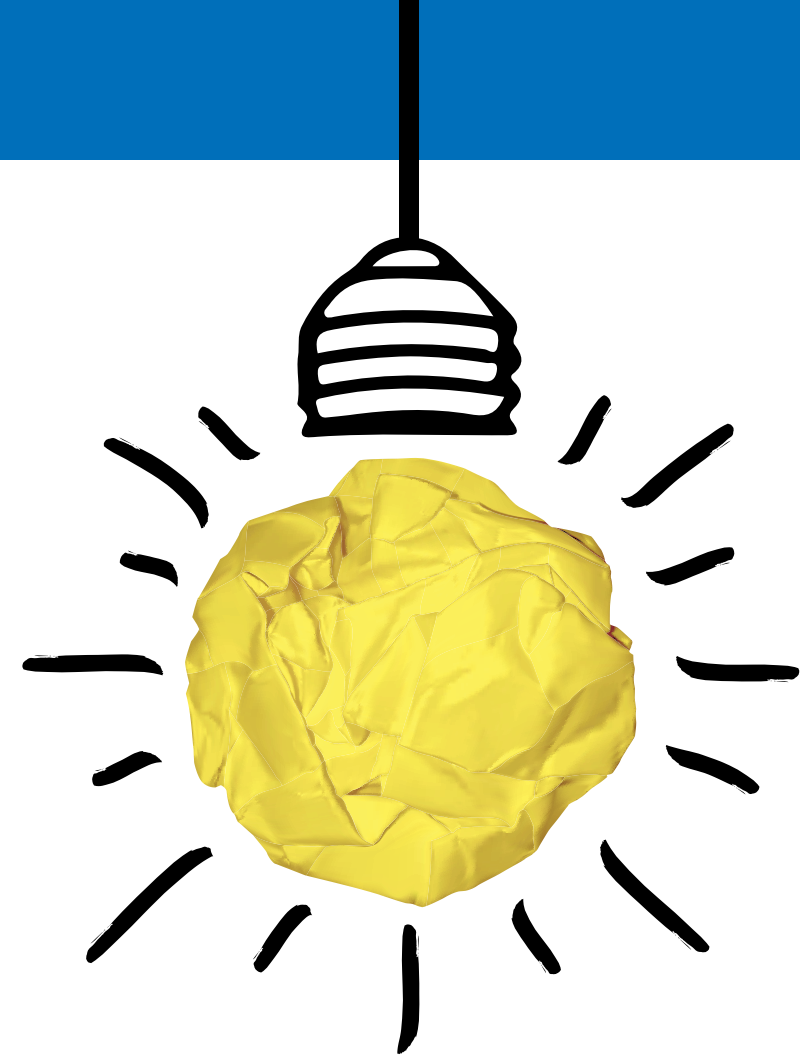


Did you Know? boxes with an interesting and related fact

Did you know?

There are many things families and communities can do to help the environment.

Learn more at:
e-udp.com/BJ5077



Projects are meant to have a social outcome. Students will acknowledge why helping others is important and will learn how to do it.

Unit Project

A campaign: Save energy!

Step 1 Discuss types of energy that are used in your community or country.

Step 2 Do research on the topic. Find information about what type of energy is more used and what are the impacts in the environment. You can interview people get data or do research on public pages on Internet.

Step 3 Brainstorm actions that would help reduce the use of energy in your community.

Step 4 In groups, design slogans to encourage people to do the actions that you brainstorm.

Step 5 Create signs to put on your school, your house, your neighborhood to make people aware of the importance of things like turning off lights.

Step 6 Make sure that people see the signs and commit to do the actions. To do that, you can promote your campaign in social media or by convincing your schoolmates, family, and neighbors to be part of the campaign.

Step 7 Keep an eye on the signs and on the behavior of the people in your community and see if something changes. If not, keep promoting the actions until you do. Remember that the best way to convince someone to do something is by setting the example.

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Reference to UN/UNICEF. Students are aware of the Sustainable Development Goal they are working on.

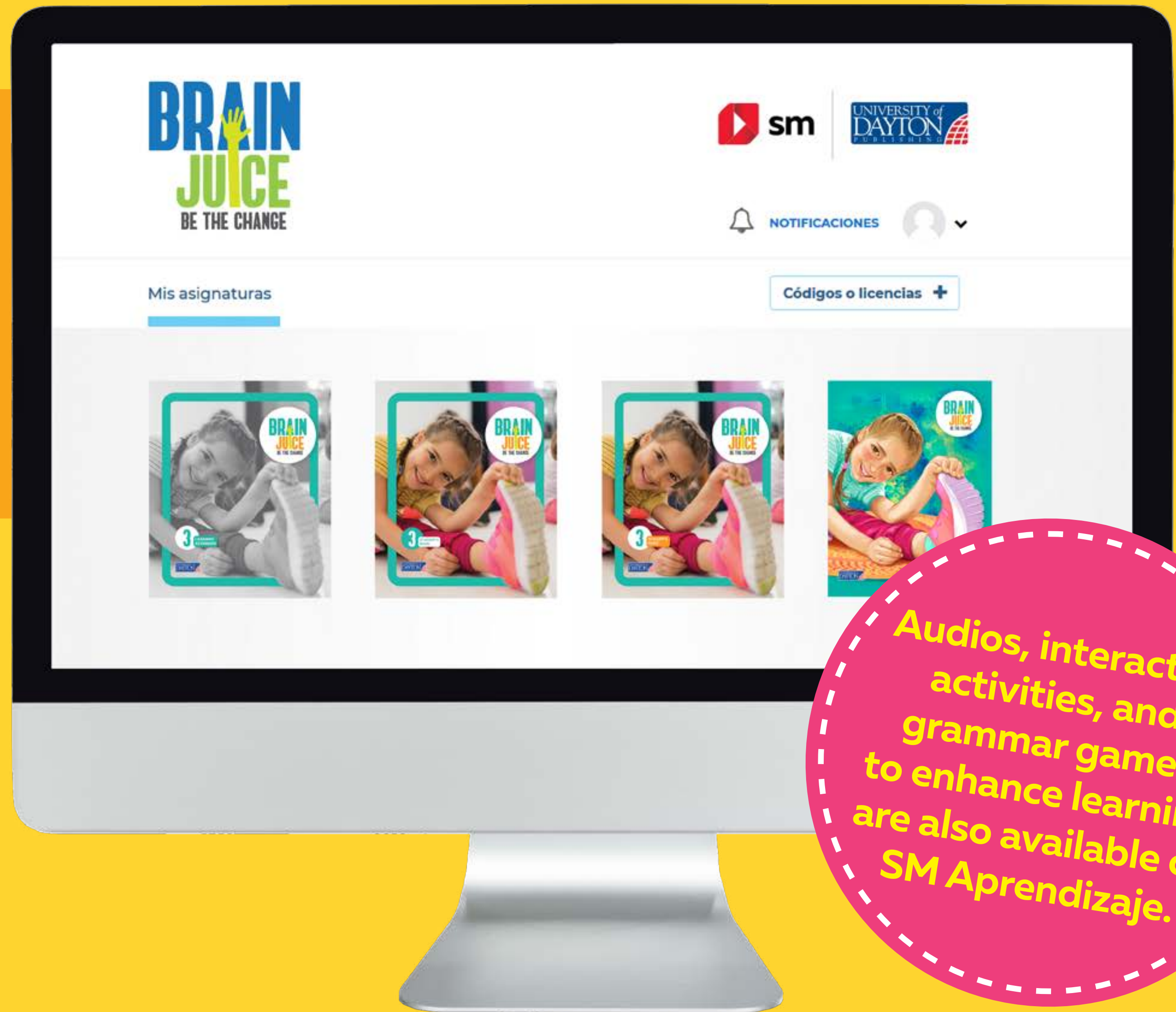


Digital

Digital resources include:

- Student's Book
- Learning Extension
- Reader
- Teacher's Guide

SM Aprendizaje is a virtual learning environment specially designed for language learners and teachers. That provides users with age-appropriate online resources on a completely safe, user-friendly learning ecosystem.



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