EXPERTS IN EDUCATIONAL PUBLISHING, ASSESSMENT
AND PROFESSIONAL DEVELOPMENT

Beyond the Textbook:

Cultivating Global Citizens Through Leadership, Sustainability and Inclusivity

YORK PRESS

Trainer Biography

Patrick Prendergast, B.Ed, PgDp, MSc.
Educational Consultant – York Press

Patrick Prendergast is an educational consultant with expertise in teacher training, curriculum reform, and Technical Vocational Education and Training (TVET). He brings a unique blend of experience from the education sector and engineering industries, having collaborated with Ministries of Education and organizations in Engineering, Manufacturing, Defence, and Oil and Gas.

Patrick has led major projects in STEM education, digital learning, and Education for Sustainable Development (ESD), driving innovation in teaching and training across diverse sectors.

Three-Part Workshop Breakdown

Turning Classroom Chaos into Curiosity

How **active learning and differentiation** can create **an inclusive** and engaging **learning environment.**

Key Soft Skills for Tomorrow's Leaders

Identifying **essential soft skills for future leaders** and exploring practical strategies to help students develop them.

Sustainability in Education

Understanding what **sustainability** means and how **to embed it effectively into the curriculum**.

Three-Part Workshop Breakdown

Turning Classroom Chaos into Curiosity

How **active learning and differentiation** can create **an inclusive** and engaging **learning environment.**

Key Soft Skills for Tomorrow's Leaders

Identifying **essential soft skills for future leaders** and exploring practical strategies to help students develop them.

Sustainability in Education

Understanding what **sustainability** means and how **to embed it effectively into the curriculum**.

Three-Part Workshop Breakdown

Turning Classroom Chaos into Curiosity

How **active learning and differentiation** can create **an inclusive** and engaging **learning environment.**

Key Soft Skills for Tomorrow's Leaders

Identifying **essential soft skills for future leaders** and exploring practical strategies to help students develop them.

Sustainability in Education

Understanding what **sustainability** means and how **to embed it effectively into the curriculum**.

‘Beyond the Textbook’

‘Beyond the Textbook’

🧠 *A recent* ***Forbes*** *report revealed that the most successful leaders aren’t just skilled - they’re the ones who embrace* ***curiosity*****.**

Those who ask ***insightful questions****,* ***challenge assumptions****, and* ***actively seek knowledge*** *are the ones who stand out and thrive.*

(February, 2025) Forbes

‘From Chaos to Curiosity’

- *Does your classroom **feel like chaos instead of curiosity**?*

‘From Chaos to Curiosity’

- *Are your students **passively receiving information**, or **actively discovering new ideas**?*

‘From Chaos to Curiosity’

- *How can differentiation turn **classroom confusion** into **engagement** and **deeper learning**?*

‘From Chaos to Curiosity’

❖***In Section 1 of this 3-part workshop, we’re tackling exactly that***

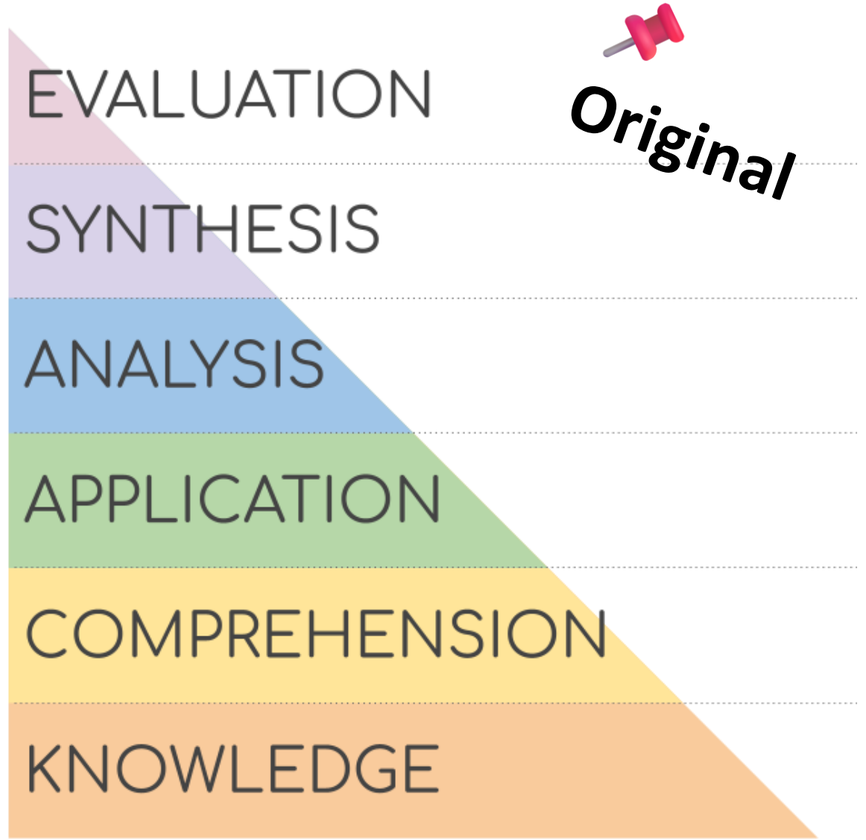
*- how **active learning and differentiation** can transform classrooms “**From Chaos to Curiosity**.”*

Prior Knowledge Check

To rethink learning,
we need to start with the foundation,
how we structure thinking itself.

Prior Knowledge Check

“Do You Recognize This?”

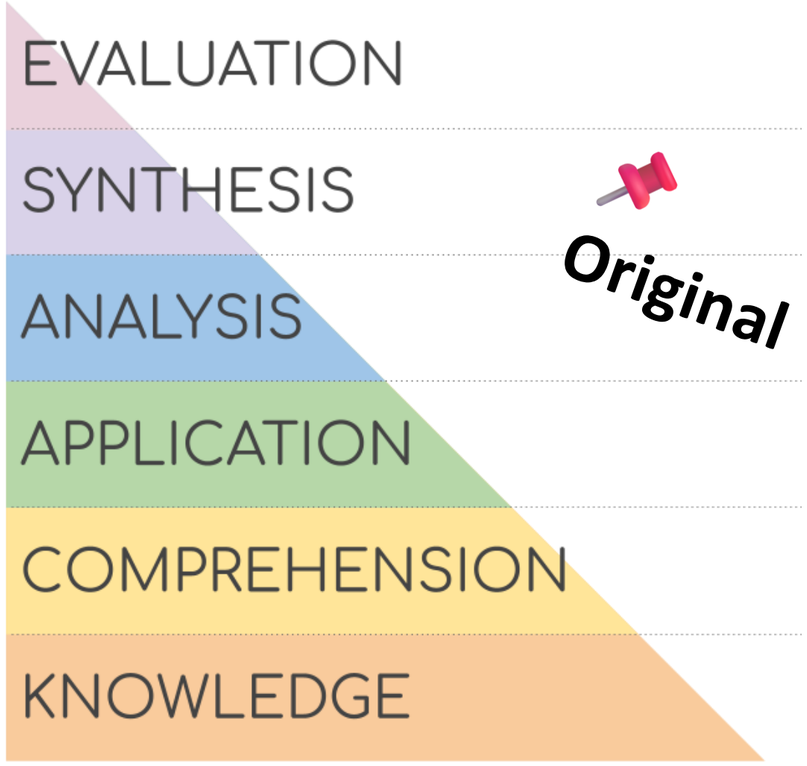


Prior Knowledge Check ✓

The 'original' Bloom's Taxonomy developed in 1956,

*to classify **educational objectives** into levels of cognitive complexity.*

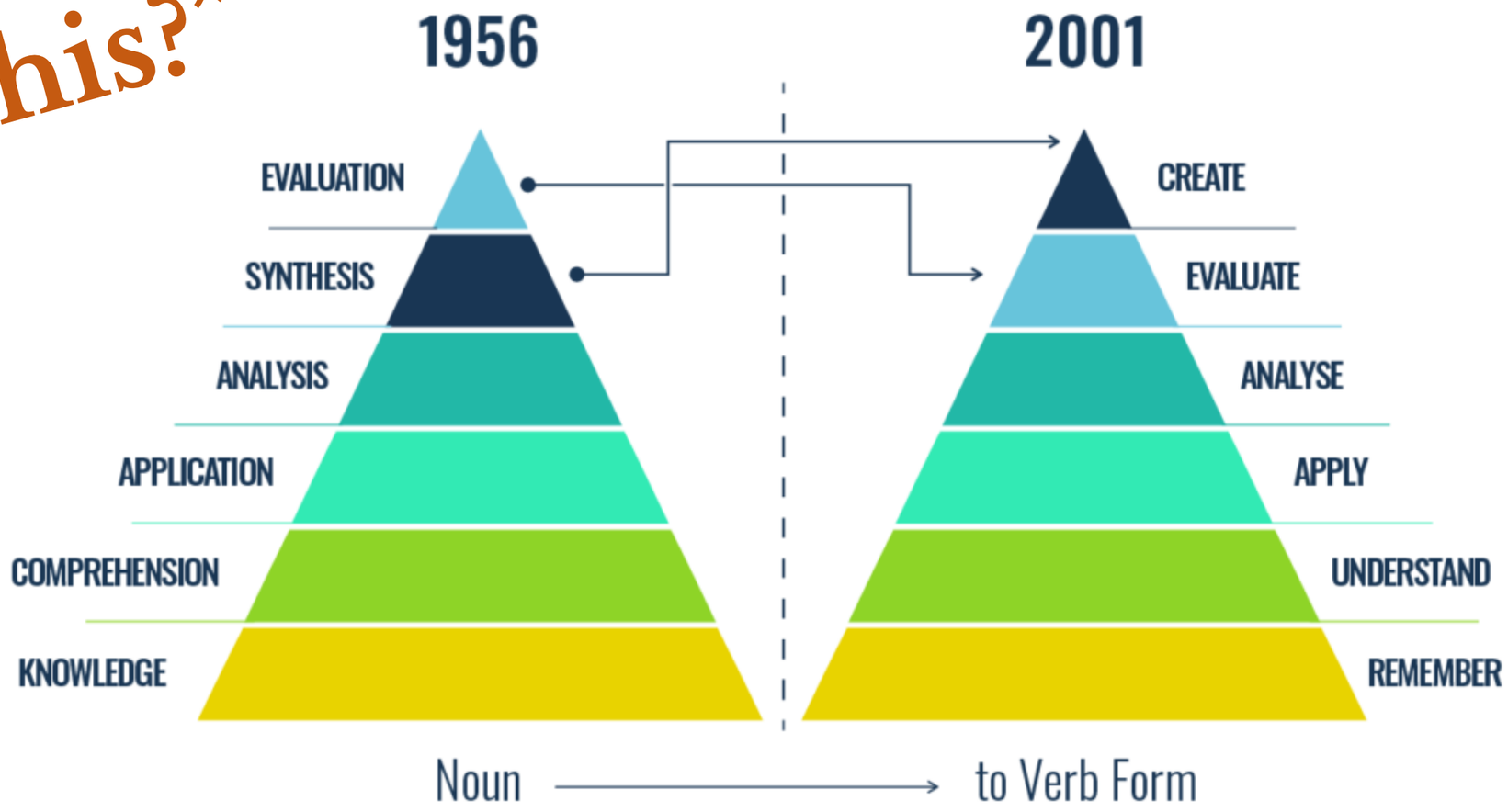
The goal was to help teachers structure learning experiences that **move students from basic knowledge recall to higher-order thinking.**



📖 **Reference:**
Bloom, B. S. (1956). *Taxonomy of Educational Objectives: The Classification of Educational Goals.*

Prior Knowledge Check

"How about this?"

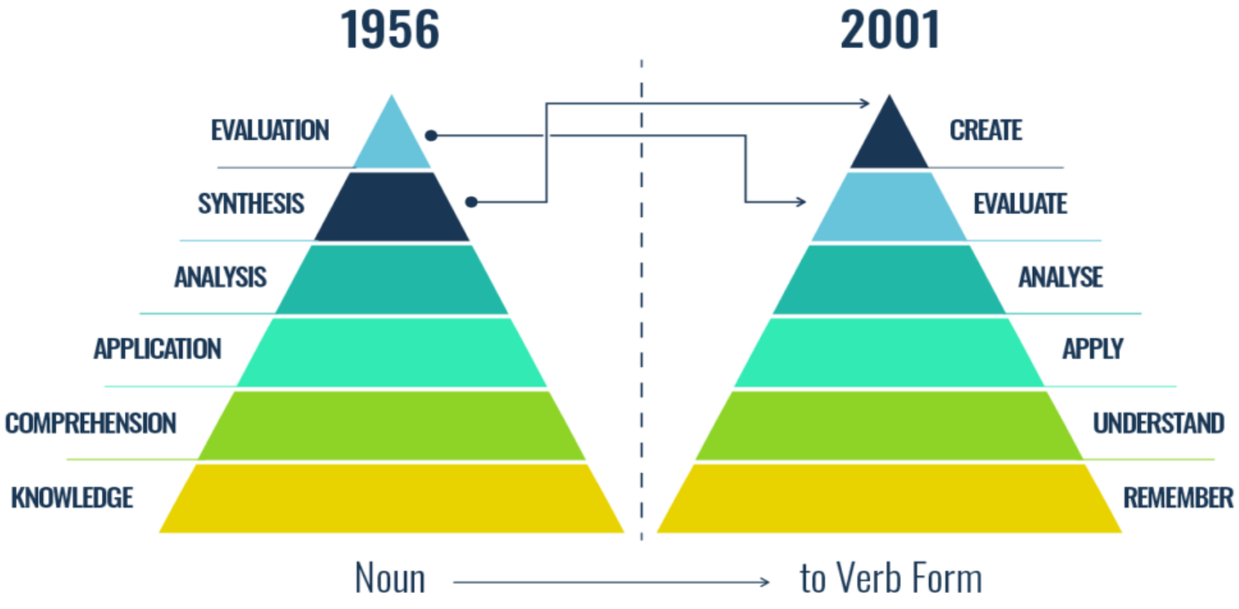


Prior Knowledge Check

Modernization
(2001 Update)

Revised Bloom's Taxonomy to better reflect modern learning approaches.

***Greater emphasis on creativity and problem-solving**, like project-based learning, STEM, digital literacy).*



📖 **Reference:**

•Anderson, L. W., & Krathwohl, D. R. (Eds.). (2001). *A Taxonomy for Learning, Teaching, and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives.*

1. ***Nouns to Verbs to emphasize learning as an active process.***
2. ***Placing "Creating" at the top to reflect the importance of higher-order thinking.***

“Why Is This Relevant to Active Learning?”

“Why Is This Relevant to Active Learning?”

Higher-Order Thinking

- Active Learning moves beyond memorization

Student-Led Learning

- Encourages engagement and ownership.

Real-World Application

- Learning goes beyond the classroom. Active learning teaches students skills they can use.

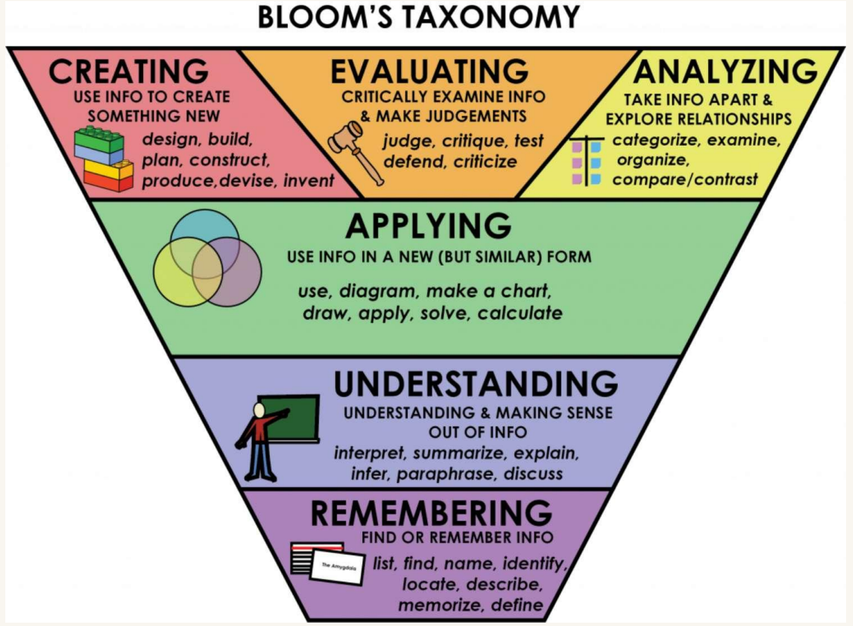
Remember	Understand	Apply	Analyze	Evaluate	Create
Retrieving relevant knowledge from long-term memory.	Determining the meaning of instructional messages, including oral, written, and graphic com-munication.	Carrying out or using a procedure in a given situation.	Breaking material into its constituent parts and detecting how the parts relate to one another and to an over-all structure or purpose.	Making judgments based on criteria and standards.	Putting elements together to form a novel, coherent whole or make an original product.
Example verbs: *Recognizing* *Recalling*	*Example verbs:* *Interpreting* *Exemplifying* *Classifying* *Summarizing* *Inferring* *Comparing* *Explaining*	*Example verbs:* *Executing* *Implementing*	*Example verbs:* *Differentiating* *Organizing* *Attributing*	*Example verbs:* *Checking* *Critiquing*	*Example verbs:* *Generating* *Planning* *Producing*

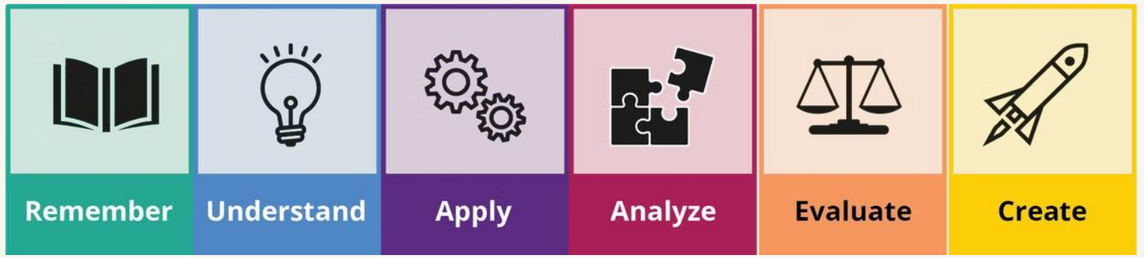
“Why Is This Relevant to Active Learning?”

Active learning thrives in the higher levels…

“Apply, Analyze, Evaluate, Create.”

“So, how do we make sure all students reach those levels?”



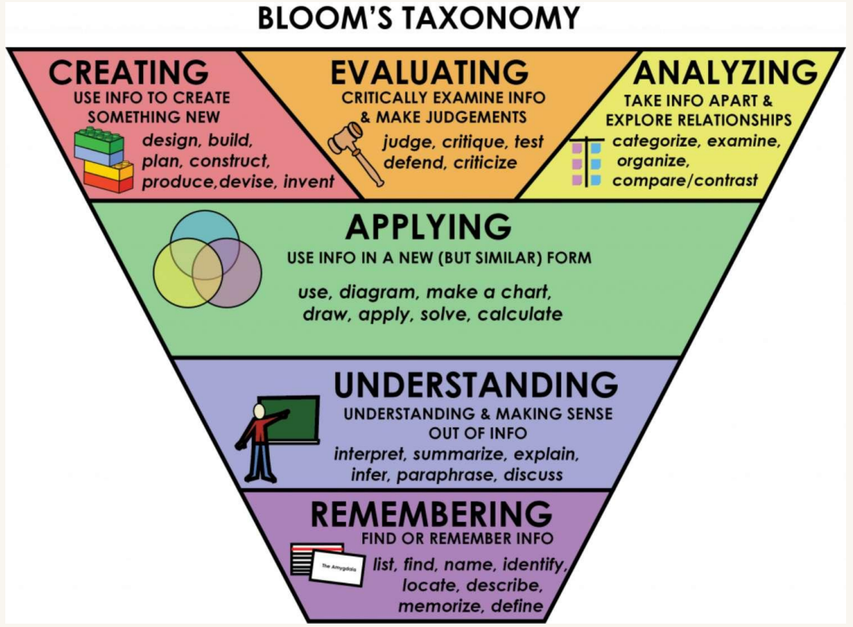


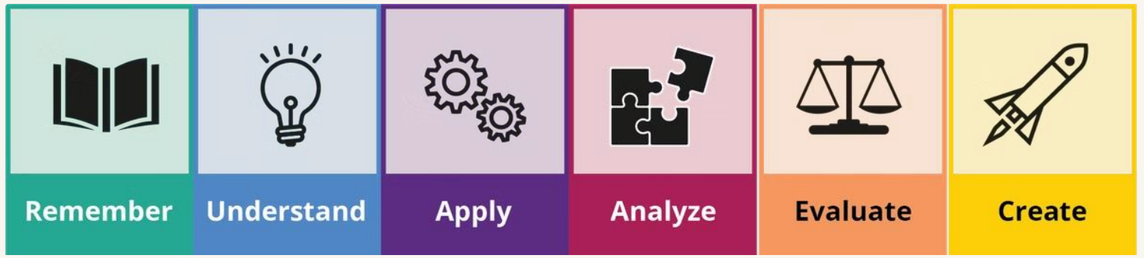
“Why Is This Relevant to Active Learning?”

Active learning thrives in the higher levels…

“Apply, Analyze, Evaluate, Create.”

This is where the
Zone of Proximal Development
comes in





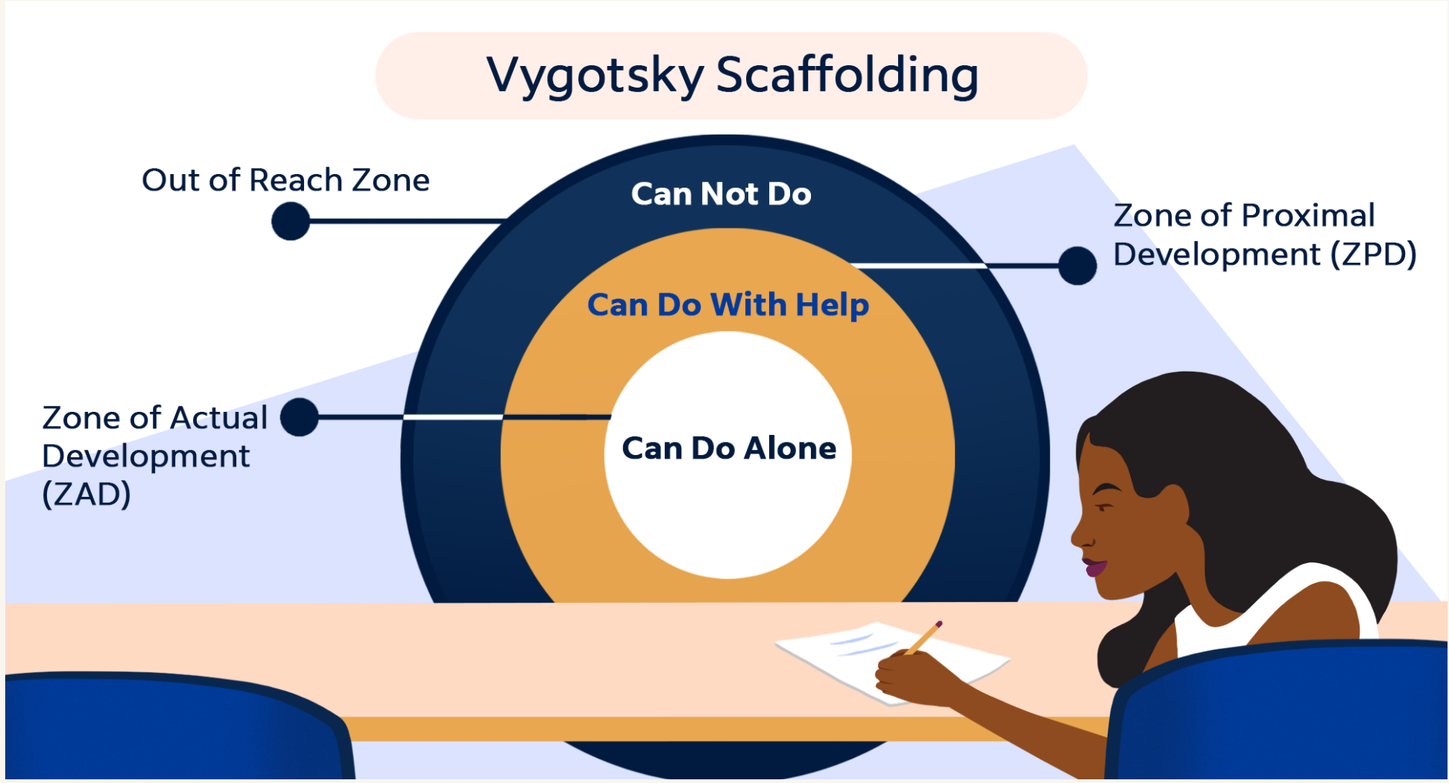
“How Do We Challenge Students at the Right Level?”

Introducing the Zone of Proximal Development

✅ ***What I can do alone***
(Independent learning)

🔵 ***ZPD – What I can do with support***
(Best learning zone)

❌ ***What I can’t do (Yet!)***
(Too difficult)



“How Do We Challenge Students at the Right Level?”

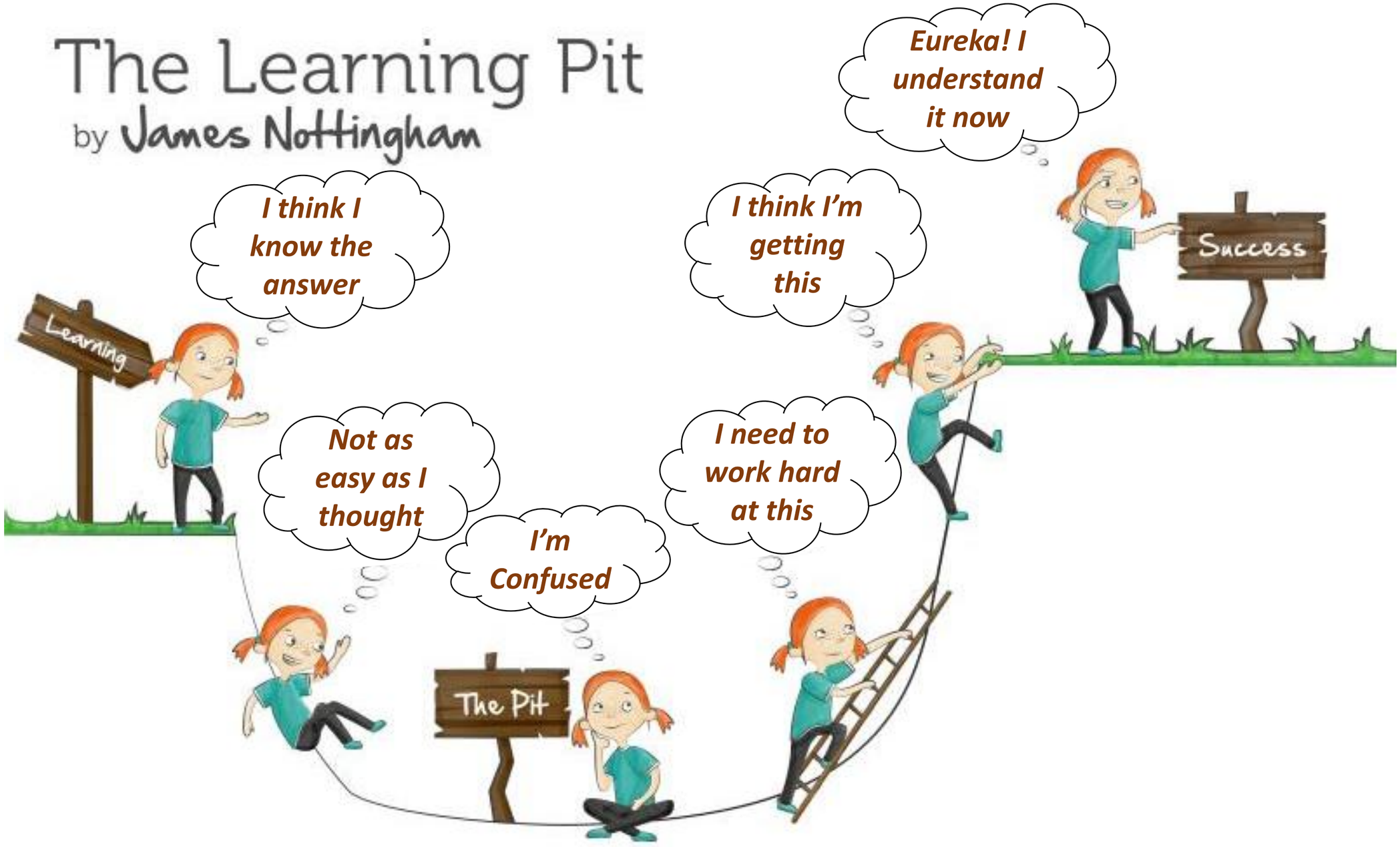
The best learning happens when students are in the ZPD, ***challenged, but with the right level of support.***

But what does this learning process actually feel like for students?

that brings us to the ‘Learning Pit’

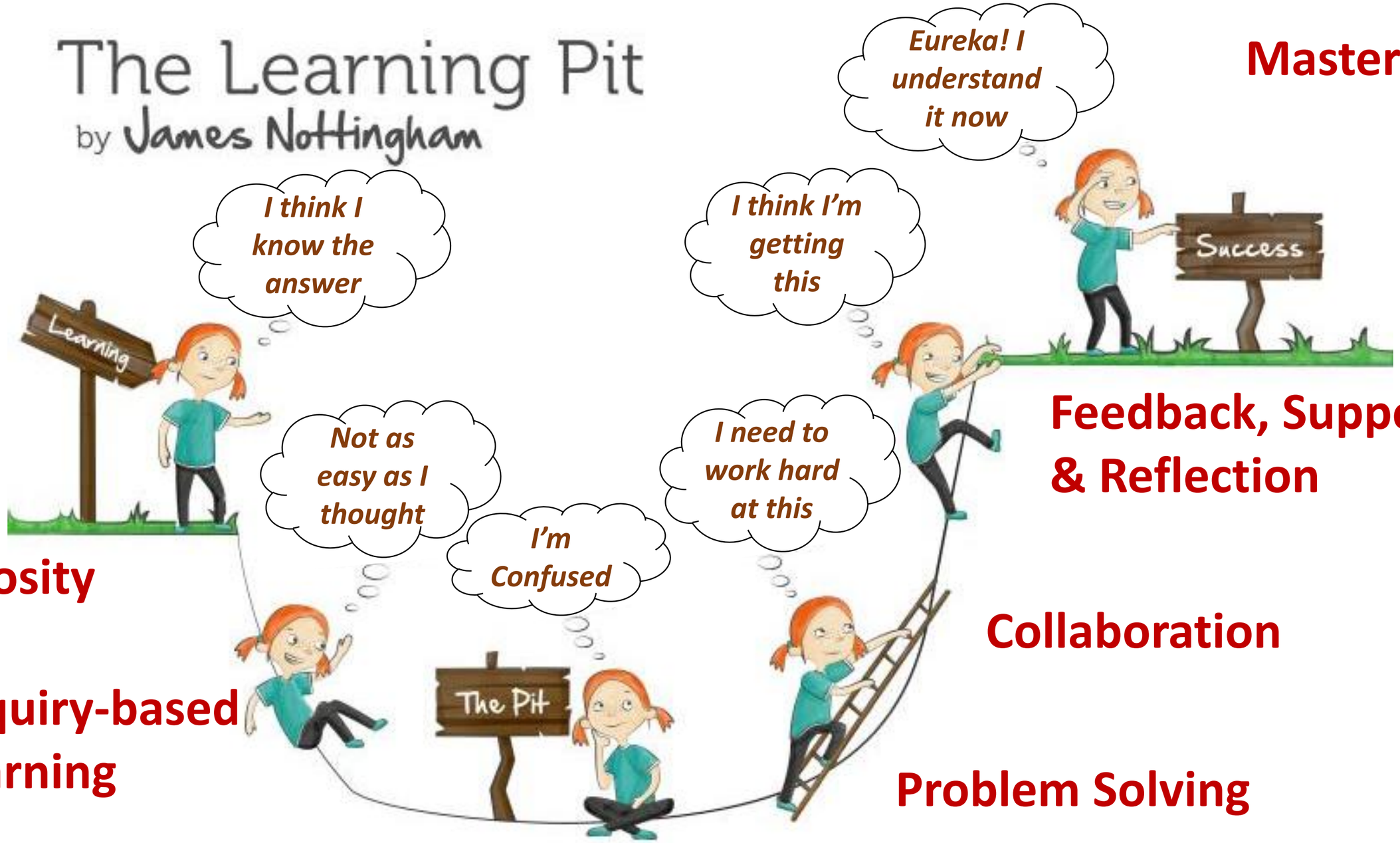
The Learning Pit

by James Nottingham



The Learning Pit

by James Nottingham



Mastery

Feedback, Support & Reflection

Collaboration

Problem Solving

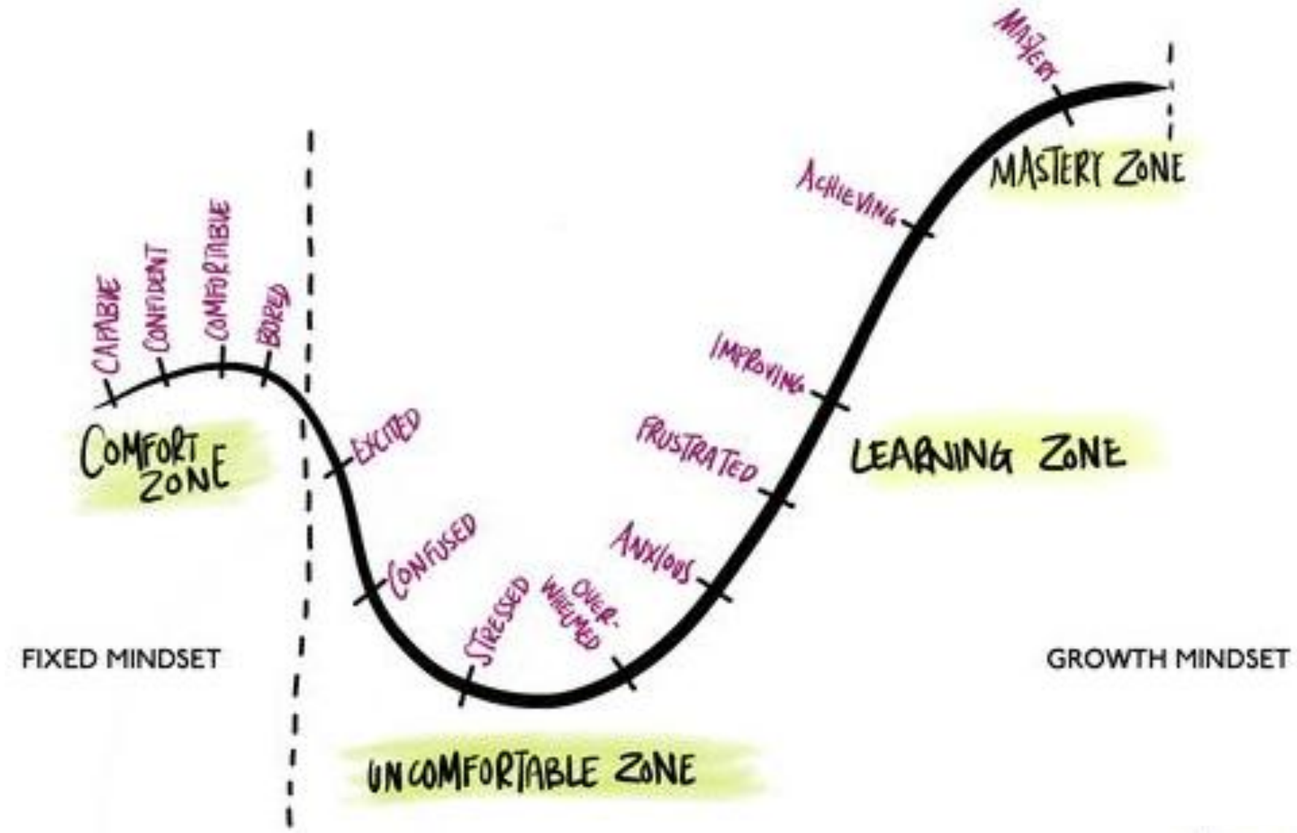
Inquiry-based learning

Curiosity

“The Learning Pit – Why Struggle is Necessary”

“Students don’t push through the struggle because we tell them to. They move forward when they’re curious, engaged, and actively involved in their own learning.”

“But what fuels the students' journey through the pit?"



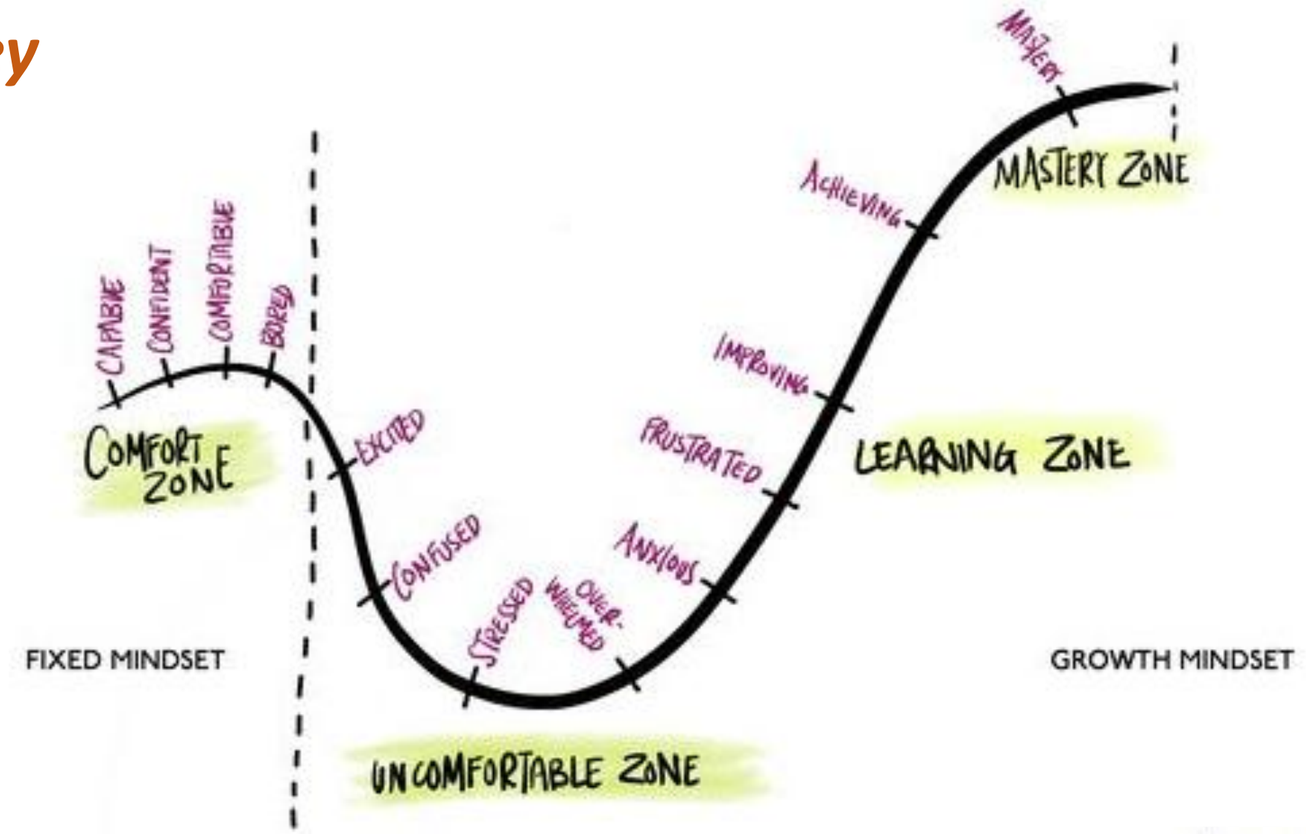
“The Learning Pit – Why Struggle is Necessary”

“Students don’t push through the struggle because we tell them to. They move forward when they’re curious, engaged, and actively involved in their own learning.”

“But what fuels the students' journey through the pit?"

It’s not memorization.

*It’s **active learning.** It’s **exploring, questioning, discussing, experimenting.”***

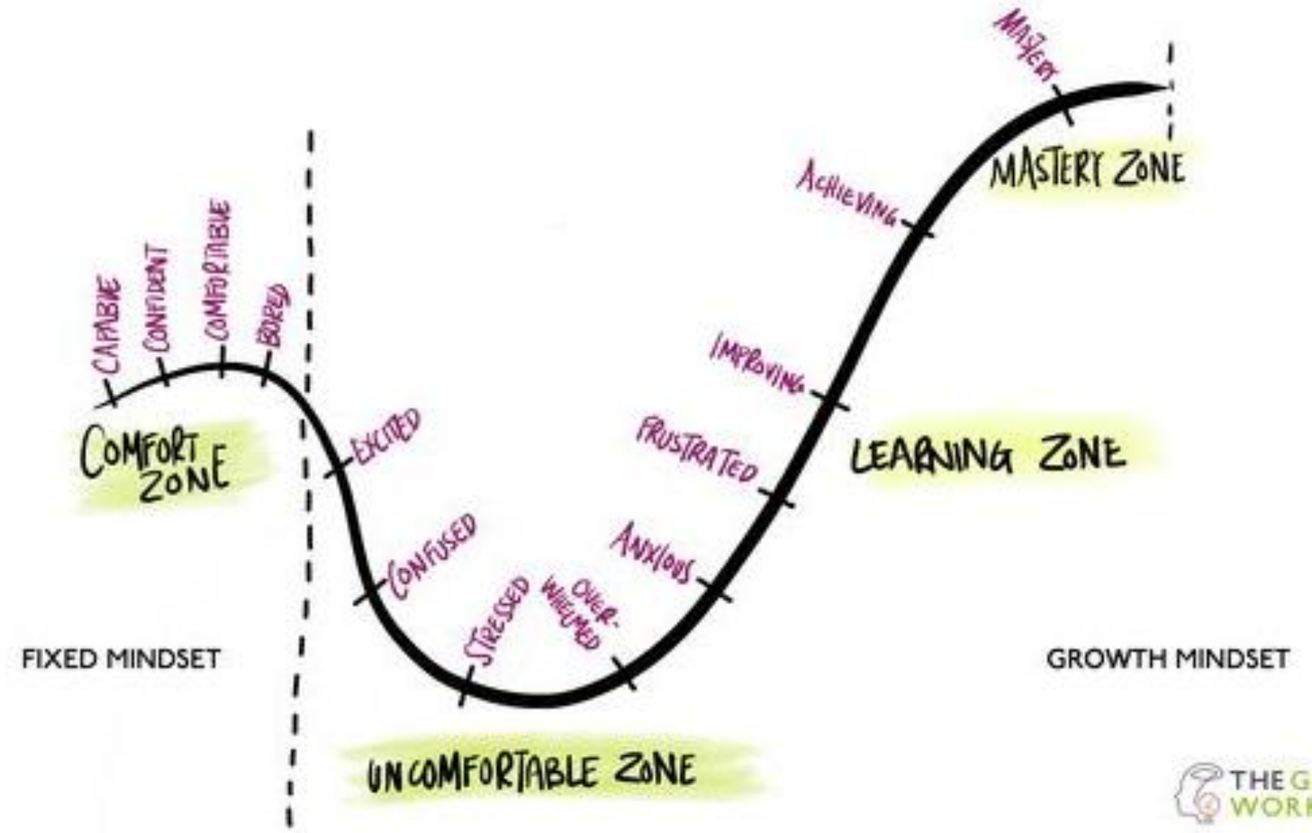


“The Learning Pit – Why Struggle is Necessary”

Active Learning as the Bridge

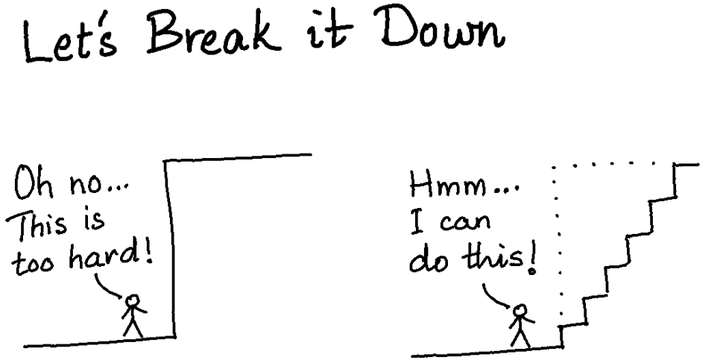
And if active learning is what helps students move from chaos to curiosity,

then differentiation is what helps us guide them at their own pace.



Active Learning

What exactly is it?



What is Active Learning?

Engaged Learners

Active learning puts students at the **center of the learning process** instead of passively listening to lectures.

Collaborative Activities

Group work, discussions, and hands-on activities that promote **collaboration** and **critical thinking.**

Teacher as Facilitator

Teachers act as facilitators, **guiding students to explore ideas and solve problems** allowing students to take ownership of their learning.

Why Active Learning Matters in Primary Education

why is it so important?

Why Active Learning Matters in Primary Education

Engagement

Active learning keeps young children **engaged and excited about learning**. Their brains thrive on movement and interaction!

Collaboration Skills

Through active learning, students learn to **work together and communicate effectively**. They develop critical social skills that will benefit them throughout their lives.

Deeper Understanding

Active learning allows students **to go beyond rote memorization**. They experience the material firsthand, leading to **deeper understanding** and lasting knowledge.

Why Active Learning Matters in Primary Education

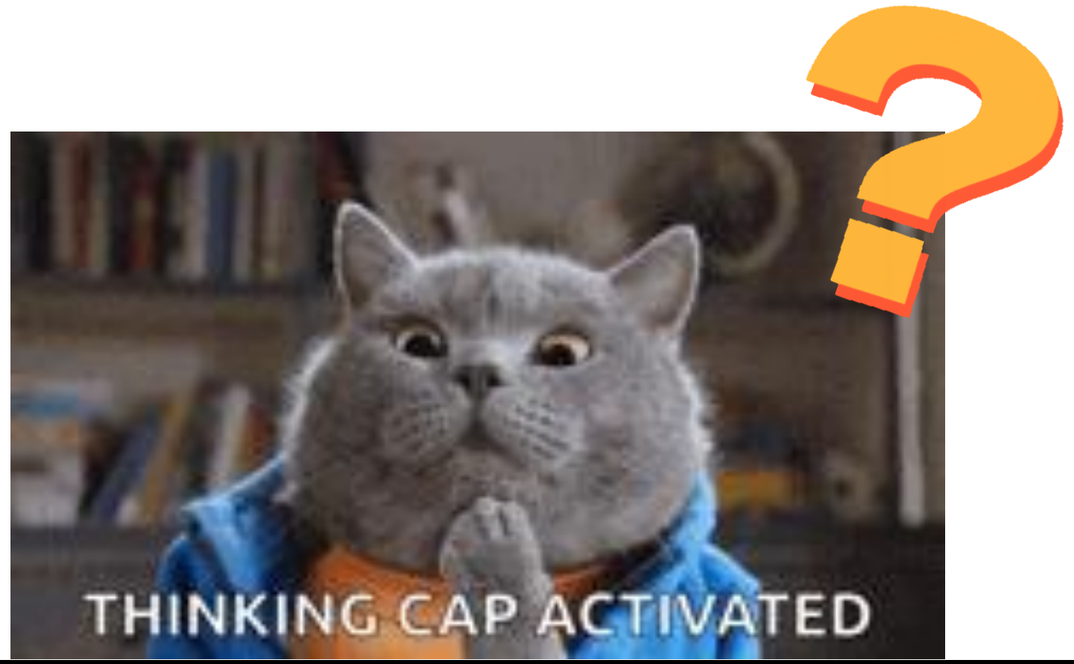
Sensory Development

Active learning methods, such as hands-on activities, **stimulate senses, enhancing motor skills and cognitive development**.

Science in Action

Active learning helps children make **connections between concepts and real-world examples**. For example: Classifying animals

Key Components of an Active Learning Lesson



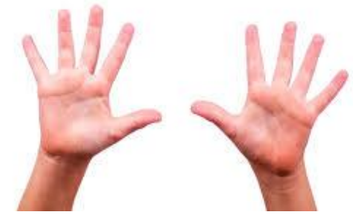
Key Components of an Active Learning Lesson

Inquiry-Based Learning

Engage students in a **quest for knowledge**! **Pose questions that spark curiosity** and encourage them to seek answers through research and exploration.

Student Collaboration

Learning thrives in collaboration! Encourage students to **work together in pairs or groups**, sharing ideas and supporting each other.



Hands-On Activities

Active learning is all about doing! **Incorporate manipulatives, experiments, or physical models** to make learning tangible and memorable.

Reflection and Feedback

Help students process their learning! Provide time for reflection on the learning process and encourage them to share feedback with peers.

Let's BRAINSTORM

Examples of Active Learning Techniques

Examples of Active Learning Techniques

1

1. Think-Pair-Share

Students think individually, discuss with a partner, and share ideas as a class.

Examples of Active Learning Techniques

1

1. Think-Pair-Share

Students think individually, discuss with a partner, and share ideas as a class.

2

2. Role-Playing

Students act out scenarios, building empathy and understanding.

Examples of Active Learning Techniques

1

1. Think-Pair-Share

Students think individually, discuss with a partner, and share ideas as a class.

2

2. Role-Playing

Students act out scenarios, building empathy and understanding.

3

3. Jigsaw

Students become experts, sharing their knowledge with peers.

Examples of Active Learning Techniques

1

1. Think-Pair-Share

Students think individually, discuss with a partner, and share ideas as a class.

2

2. Role-Playing

Students act out scenarios, building empathy and understanding.

3

3. Jigsaw

Students become experts, sharing their knowledge with peers.

4

4. Case Studies

Students analyze real-world situations, developing critical thinking skills.

How to Use Think-Pair-Share

1

Present a Question

Pose a thought-provoking question.

2

Think Time

Give students time to consider their answers.

3

Pair Up & Discuss

Encourage students to share and refine ideas.

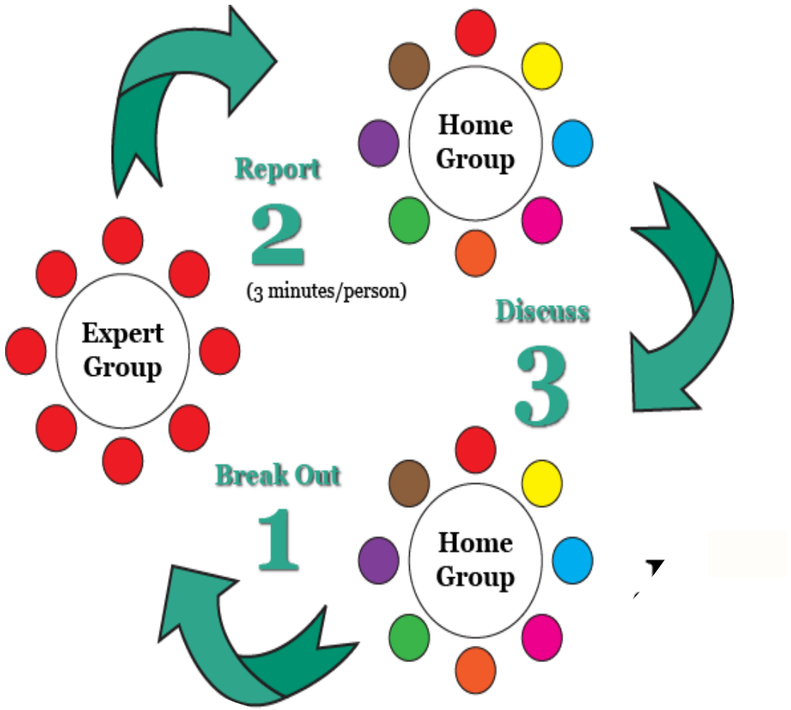
4

Share with the Class

Have pairs share their ideas with the class.

*Think-Pair-Share is a valuable strategy for **fostering student engagement** and participation. It allows students to **develop their ideas independently** before discussing and sharing them with their peers. This collaborative approach builds confidence and **encourages critical thinking**.*

Jigsaw for Collaborative Learning



1

Form Expert Groups

Divide the class into groups, each **studying a different specific area** or topic.

2

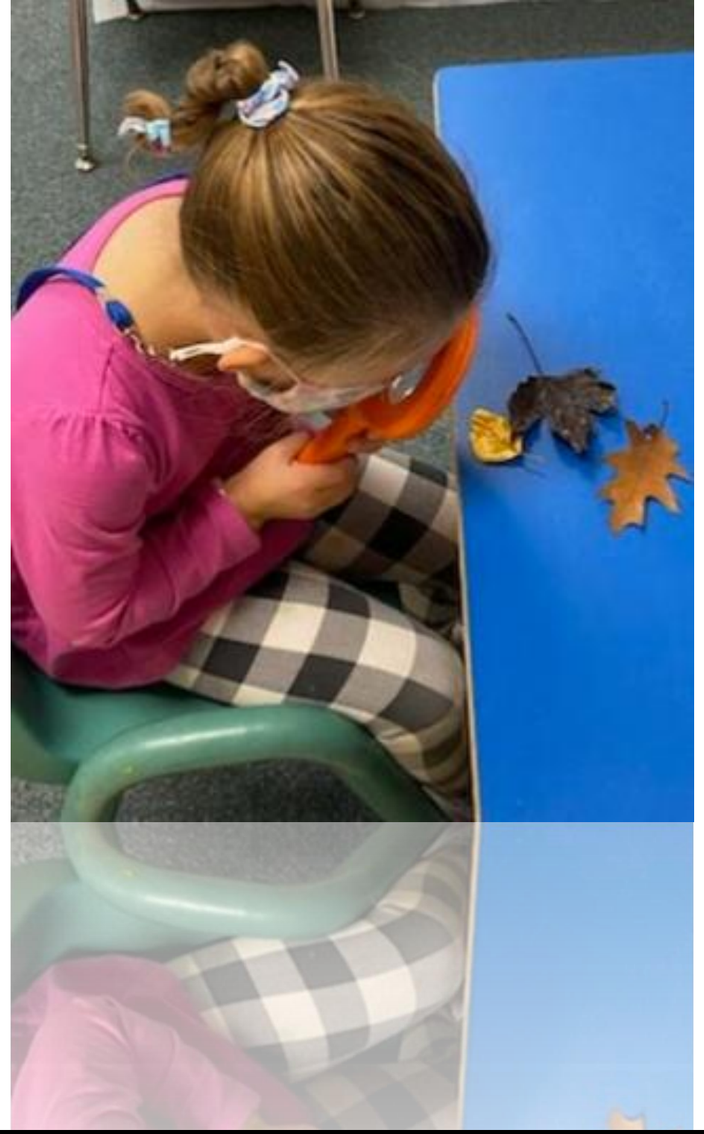
Become the Experts

Each group researches their area or topic, focusing on factors related.

3

Share Your Expertise

Groups re-form, with one **"expert"** from each area teaching their new group.



Real-World Projects for Early Learners

1

1. Math Project

Gather and count objects from nature, like leaves or rocks, and make a bar graph to represent the data.

2

2. Science Project

Plant seeds of native plants, observe the growth process, and record any changes in a journal.

3

3. Localization

Introduce local plants and their growth needs to encourage cultural awareness and environmental stewardship.

Setting the Stage for Active Learning

What is an Active Learning Environment?

Setting the Stage for Active Learning

Flexible Seating

Arrange desks or chairs in different ways to **encourage collaboration** and movement.

Use of Visual Aids

Incorporate maps, charts, and other visuals to engage students and **make learning more dynamic**.

Interactive Technology

Engage students with **smart boards**, **tablets**, or **online platforms** to enhance **digital interaction & learning.**

”The Active Learning Environment Challenge”

"The Active Learning Environment Challenge"

Time to envision - Teaching Hats on!

1. **How do you keep control within an active learning environment?**

2. **How do you keep track of learning during Active learning activities?**

Managing an Active Learning Environment

Establish Clear Expectations

Set clear guidelines for active participation and behavior. This will create a **structured high expectations environment for learning**.

Use Structured Group Roles

Assign **specific roles to each student**, like leader, note-taker, or timekeeper. This promotes teamwork and responsibility. **Demonstrate exemplars where possible**

Monitor and Support

Circulate around the classroom, offering guidance and support. Encourage students to participate actively and address any challenges they face. This supports a **well managed learning environment**

Time Management

Use timers or structured time blocks to keep activities on track. This ensures that the lesson plan stays focused and productive.

Checking Understanding in Real Time

1 **Exit Tickets**

Students **write a brief reflection** about what they learned.

2 **Quick Quizzes**

A short quiz checks **key concepts**. Spot checks

3 **Peer Feedback**

Students provide **constructive feedback on each other's work**.

4 **Reflection**

Students **write about their learning process and what they learned**.

Overcoming Common Obstacles

Off-task behavior during group work

Students may get **distracted** or lose focus during collaborative tasks. Make sure to **assign clear roles** for each student and set time limits for each task.

Some students dominate discussions

One or two students may take over the conversation while others remain silent. Implement **"talking sticks"** or give each student a set time to speak to ensure everyone has a chance to share their ideas.

Time management

Active learning lessons require careful time planning. **Break tasks into smaller, time-bound activities** to ensure that all components of the lesson are covered within the allotted time.

Overcoming Common Obstacles

Off-task behavior during group work

Students may get **distracted** or lose focus during collaborative tasks. Make sure to **assign clear roles** for each student and set time limits for each task.

Some students dominate discussions

One or two students may take over the conversation while others remain silent. Implement **"talking sticks"** or give each student a set time to speak to ensure everyone has a chance to share their ideas.

Time management

Active learning lessons require careful time planning. **Break tasks into smaller, time-bound activities** to ensure that all components of the lesson are covered within the allotted time.

Overcoming Common Obstacles

Off-task behavior during group work

Students may get **distracted** or lose focus during collaborative tasks. Make sure to **assign clear roles** for each student and set time limits for each task.

Some students dominate discussions

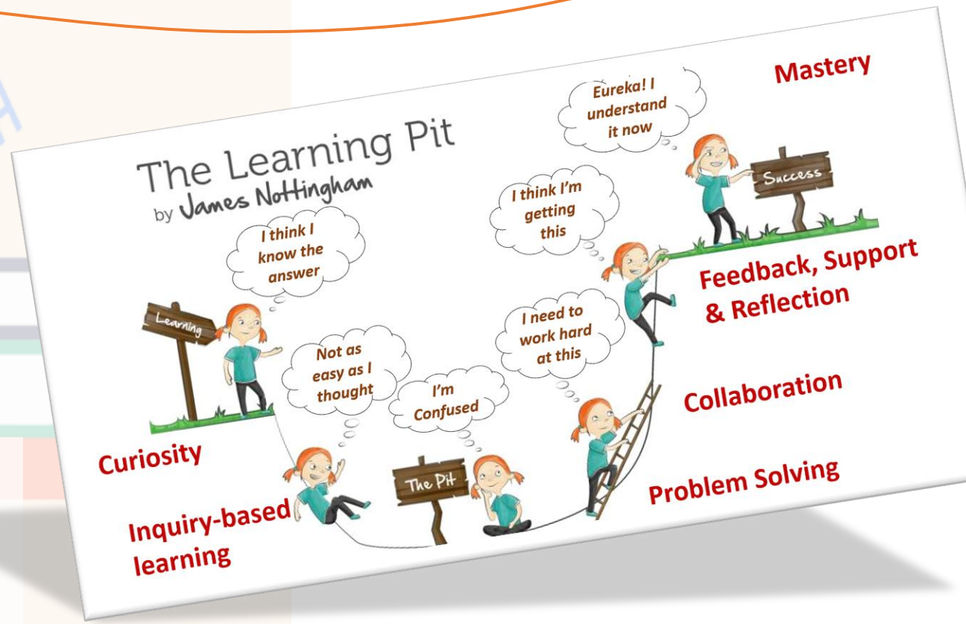
One or two students may take over the conversation while others remain silent. Implement **"talking sticks"** or give each student a set time to speak to ensure everyone has a chance to share their ideas.

Time management

Active learning lessons require careful time planning. **Break tasks into smaller, time-bound activities** to ensure that all components of the lesson are covered within the allotted time.

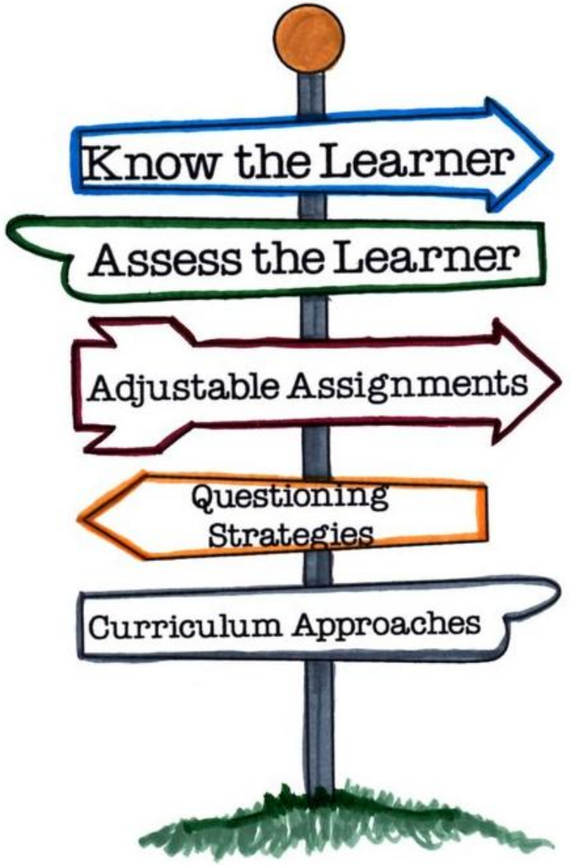
*"As we integrate active learning strategies **to fuel curiosity,** it's common to see some students **frustrated**, even **withdrawing** **when becoming confused.***

"Thinking back to the Learning Pit, how can we support students with the right strategies?"



Differentiation

What is Differentiation?



What is Differentiation?

Meeting Students Where They Are

Differentiation is a proactive approach to teaching that involves planning and executing various approaches to **content, process,** and **product** based on students' readiness levels, interests, and learning profiles.

Tailored Learning Experiences

Differentiation aims to provide **tailored learning experiences** that meet the unique needs of each student.

The Importance of Differentiation

Why is it important?

The Importance of Differentiation

Unique Learners

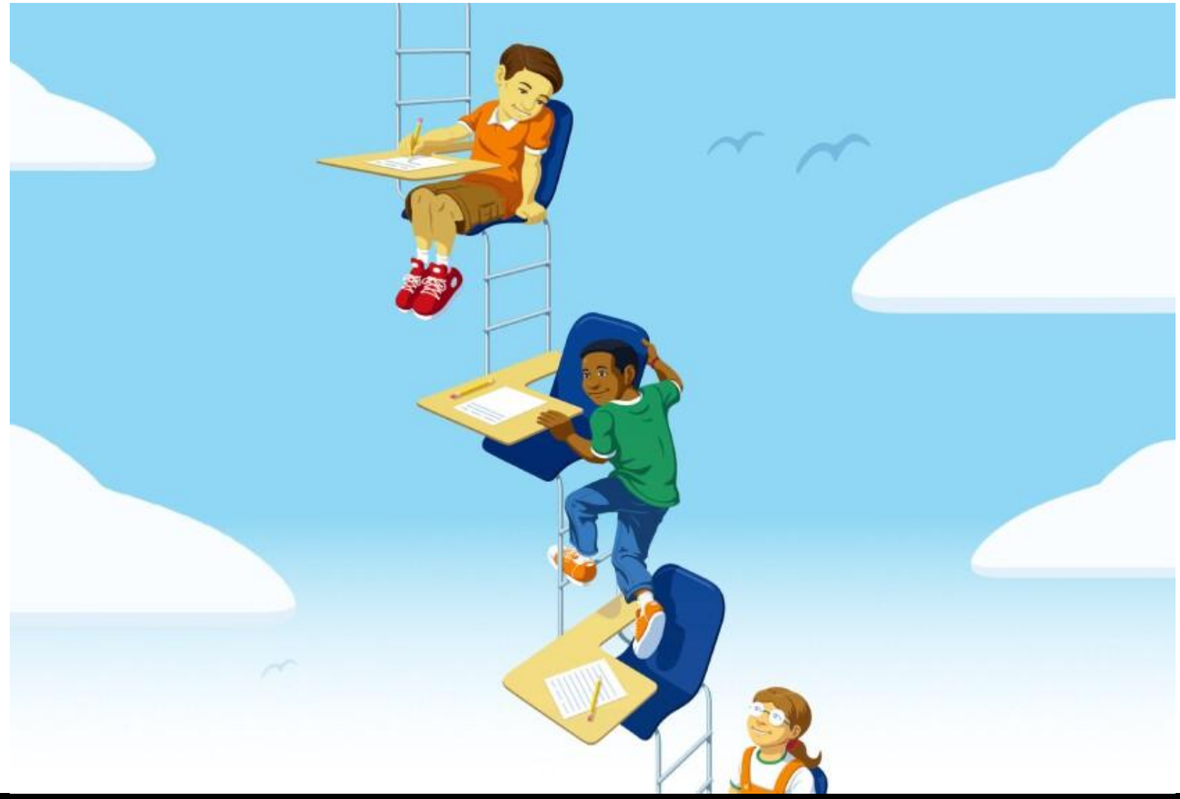
Differentiation **acknowledges the diversity of learners**.

Engagement

Adapts lessons to student interests and **abilities**.

Growth

Tailors' instruction to help every student achieve success.



What is Differentiation, Really?

Content Differentiation

Content differentiation focuses on **what students are learning**. Teachers adjust the complexity of the material based on student needs.

This could mean providing extra support for struggling learners or offering more challenging material for advanced learners.

Process Differentiation

Process differentiation focuses on **how students learn**. Teachers adjust their teaching methods to cater to different learning styles and preferences.

Some students may benefit from hands-on activities, while others might prefer visual aids or audio recordings.

Product Differentiation

Product differentiation focuses on **how students demonstrate their learning.** Teachers provide students with a variety of options for showing what they know.

This might include writing a report, creating a presentation, or participating in a debate.

Principles of Differentiated Instruction

1 Respectful Tasks

Assignments should be challenging, engaging, and appropriate for students' needs.

We need to create an **Equitable Learning Environment**

2 Flexible Grouping

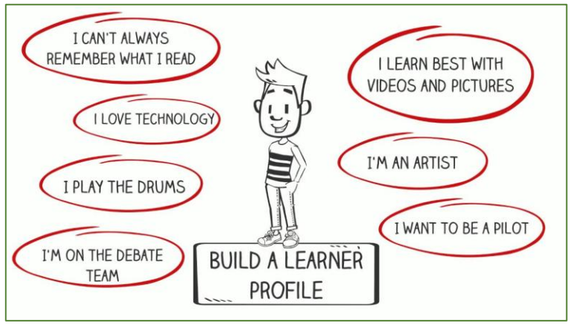
Use different grouping strategies based on activity goals and student needs.

Ensure the students are in a **Supportive Learning Environment**

3 Ongoing Assessment

Use formative assessments to inform and adjust instruction as needed.

This will support with **Progress Monitoring and Feedback**



Differentiation vs. Individualization & Personalization

What is the difference?

Differentiation vs. Individualization & Personalization

Differentiation

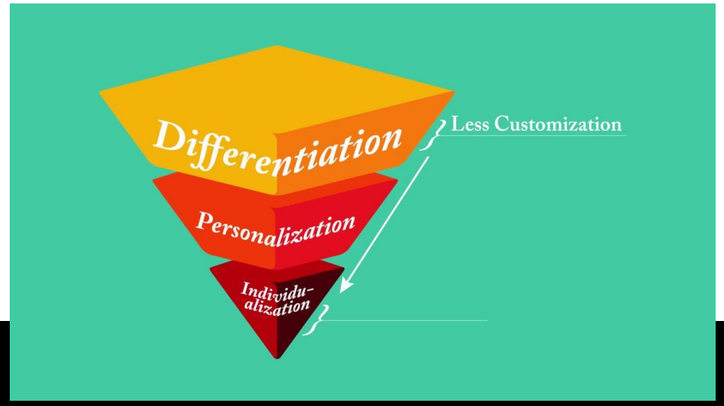
Teachers modify **content, process, and product** to help all students succeed.

Individualization

Tailoring **the pace of learning to an individual student's needs.**

Personalization

Students have **a voice and choice in their learning paths.**



Adjusting What Students Learn

Varied Resources

Use texts, videos, visual aids, and **manipulatives**.

Reading Materials

Provide leveled books or articles.

Learning Contracts

Set **personalized goals** for students to work on.

Adjusting How Students Learn

Flexible Group Work

Use small groups based on similar needs.

Interactive Strategies

Include discussions, think-pair-share, and hands-on activities.

Scaffolding Activities

Break down complex tasks and gradually build up to independent practice.

Adjusting How Students Demonstrate Learning

Choice Boards

Offer students **a selection of projects** or activities.

Multimodal Assessments

Projects, essays, presentations, or digital storytelling.

Rubrics & Clear Criteria

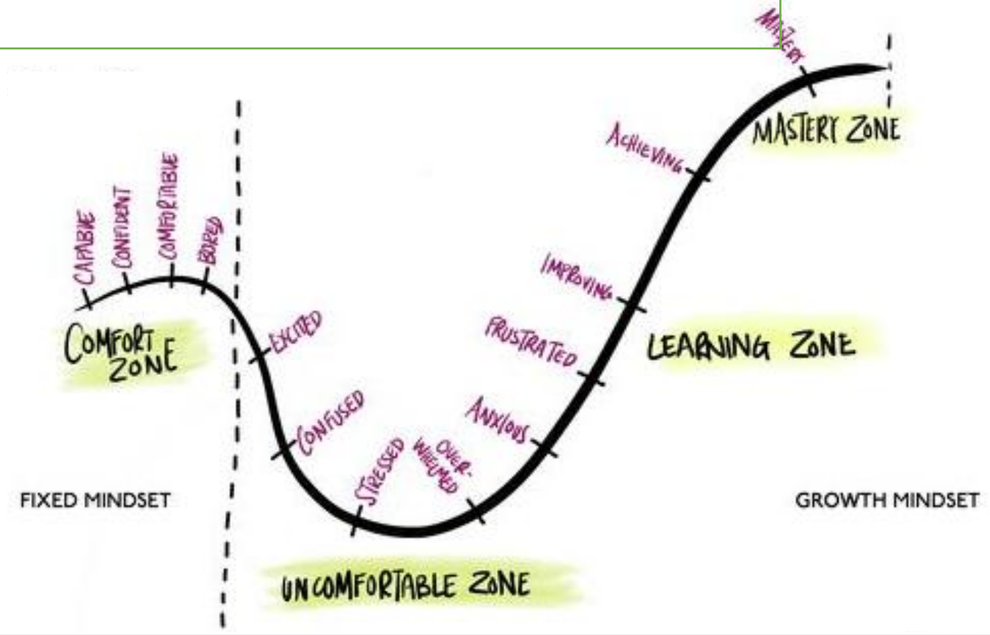
Use **rubrics for assessing** student products **to ensure fairness and clarity.**

All Differentiation Should Have a Purpose

All Differentiation Should Have a Purpose

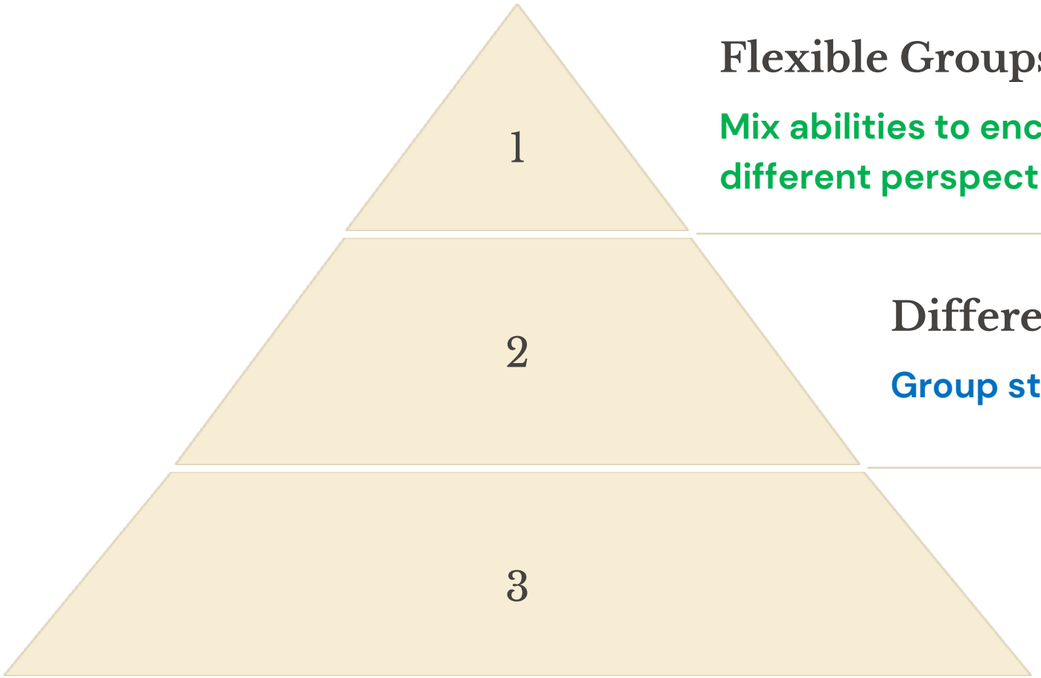
Effective differentiation isn't about implementing strategies simply for the sake of it.

It's about **adapting and responding to students' needs**.
The goal of differentiation is to create **a learning environment that helps each student thrive, not just survive.**



Using Flexible and Differentiated Groups

Grouping is a powerful tool for creating a **differentiated learning environment**. When applied thoughtfully, grouping strategies can effectively address the diverse needs of learners in a classroom setting.



Flexible Groups (Heterogeneous)

Mix abilities to encourage collaboration, peer teaching, and exposure to different perspectives.

Differentiated Groups (Homogeneous)

Group students with similar needs to provide targeted support or extensions.

Individual Work

Offer individualized learning experiences to address specific student needs or learning styles.

This dynamic approach allows educators to tailor instruction to the individual needs of each student, fostering a more equitable and engaging learning experience for all.

Why Small Groups Aren’t Always the Answer

1

Common Misconception

Small groups are often seen as the magic formula for addressing learning gaps. However, this isn't always the case, especially **when students share similar challenges.**

2

The Power of Whole-Group Instruction

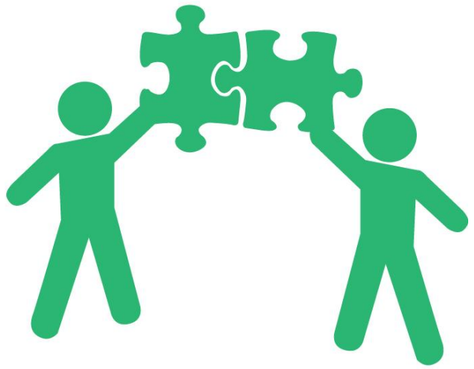
Sometimes, **whole-group instruction is the most effective way** to reach all students. It allows for a shared learning experience and **builds a foundation for future differentiation.**

3

Addressing Specific Needs

While small groups can be beneficial for targeted support, they're not always the best approach. It's **crucial to understand the root cause of learning gaps and select the most appropriate intervention.**

The Importance of Building a Culture of Growth and Inclusion



Foster Collaboration

Use your Active Learning strategies to build community.

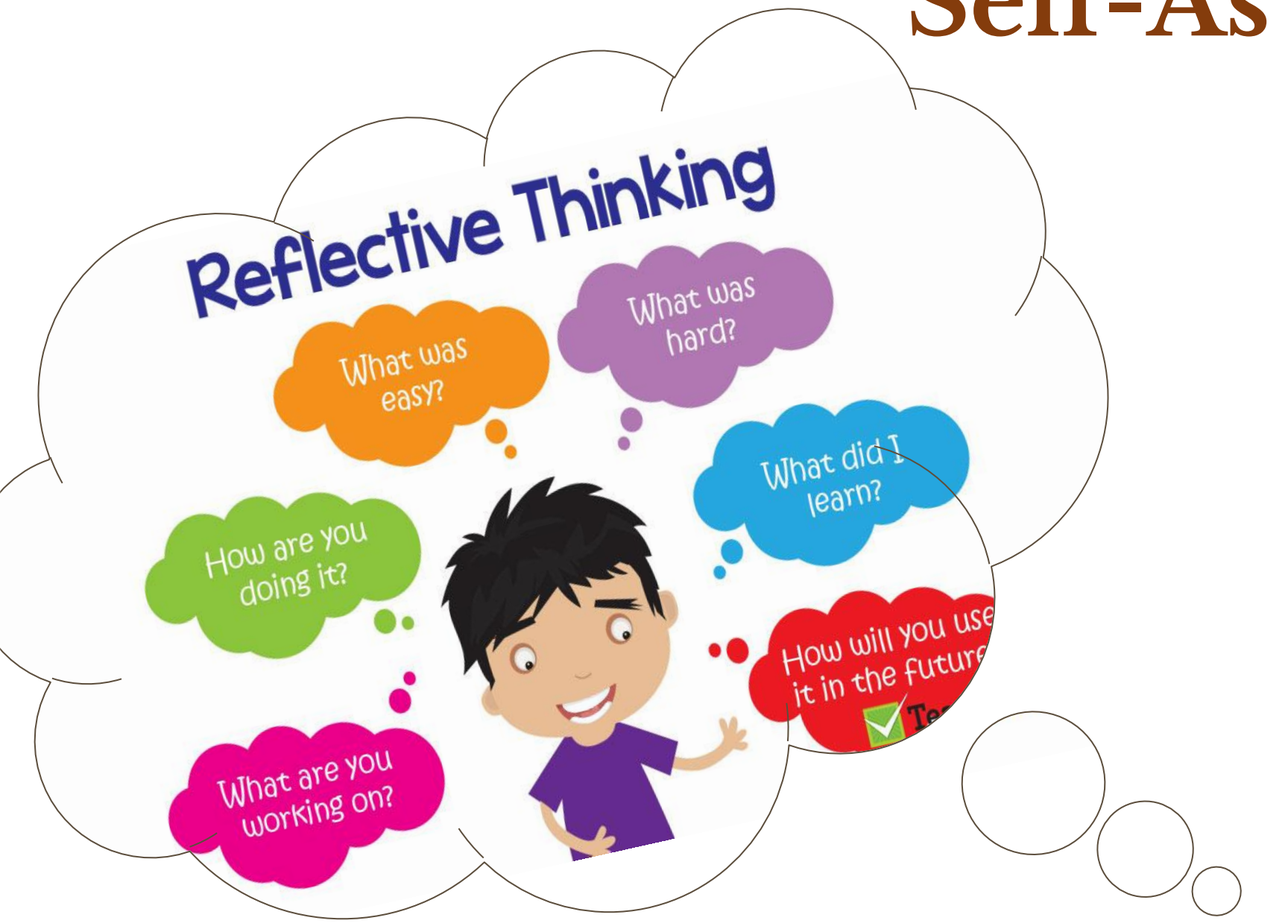
Promote Growth Mindset

Encourage "I can" attitudes and effort.

Celebrating the Wins

Celebrate different learning styles and achievements.

Self-Assessment and Reflection



Reflection Journals

Students write about what they learned.

Peer Feedback

Students review each other's work.

Self-Checklists

Students use checklists to monitor progress.

Practical Steps for Teachers

Start Small

Introduce **one or two active learning techniques** in your next lesson. Don't try to overhaul your entire teaching style at once.

Build Up

Gradually **add more activities as you and your students get comfortable**. This allows for a smooth transition and learning curve.

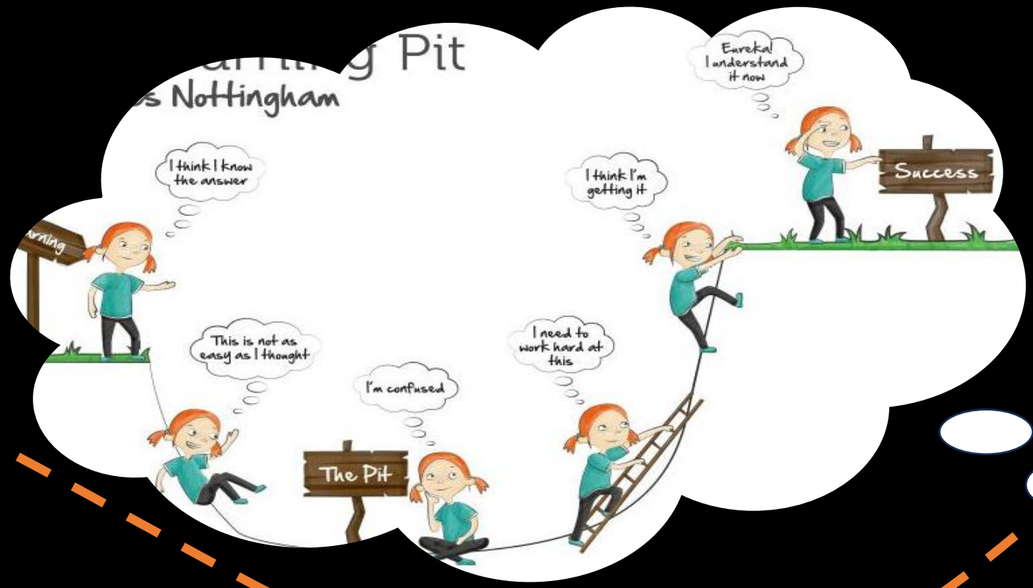
Reflect and Adjust

After each lesson, **take time to reflect on what worked and what didn't.** Ask your students for feedback on their experience.

Collaboration

Work with fellow teachers to share strategies and activities. Collaborative learning can lead to new and innovative ideas.

Reflection Time!
What Have We Learned?



Curiosity ignites the journey

Feature Spread
Cryptography

How often do you use the internet?

Do you ever buy things on the internet?

If yes, then you are very likely to have given your name, address and a form of payment (for example a credit card number).

In order to keep this information private between you and the company you are buying from, a process called ryption is used to hide the letters and numbers.

ptography is the art of writing and decoding these ssage

cryption converts the original information (often led plaintext) into another form (often called phertext). Only you and the person you are sharing ur details with have the 'key' to translate the phertext back into plaintext.

he Caesar Cypher

e Caesar Cypher (sometimes called the shift cypher) is e of the simp chniques.

o convert plaintext to cyphertext using the Caesar Cypher, you repla ord with the letter that is a fixed number of positions further down th

or example, with a shift of five positions, A would become F, B woul become H, and so on.

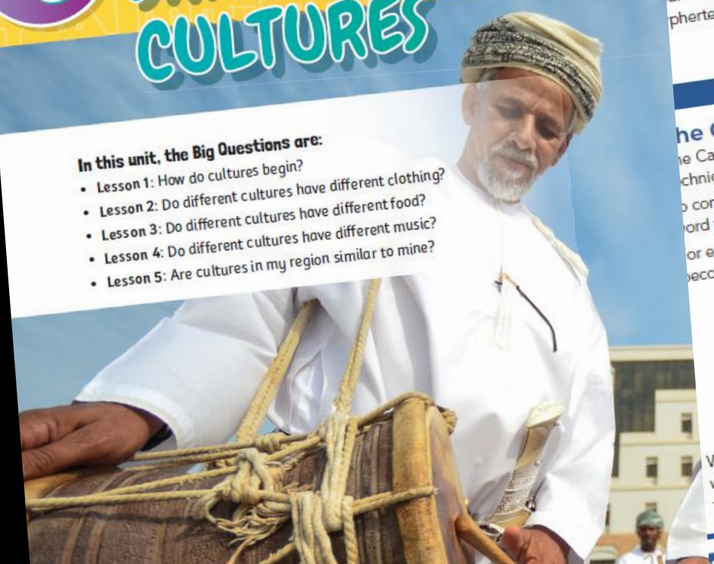
A B C D E F G H

A B C D E F G

When you reach the end of the alphabet, you start again at t would become E.

The word MATHEMATICS would be written RFYMJRFYNHX

UNIT 8
SHARING AMONG CULTURES



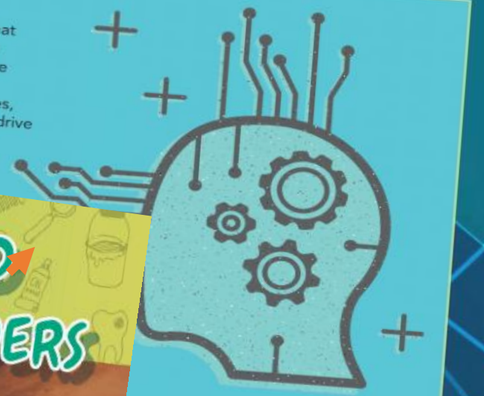
In this unit, the Big Questions are:

- **Lesson 1**: How do cultures begin?
- **Lesson 2**: Do different cultures have different clothing?
- **Lesson 3**: Do different cultures have different food?
- **Lesson 4**: Do different cultures have different music?
- **Lesson 5**: Are cultures in my region similar to mine?

Mathematics and Artificial Intelligence: the Big Picture

Artificial Intelligence

Artificial Intelligence, or AI, is the development of computer systems that undertake tasks that normally require human intelligence. Examples of these tasks include understanding human speech, translating between languages, analysing visual images, creating self-drive cars, using financial analyses to make investments and, in all cases, making ional decisions based on what the



UNIT 7
MIDDLE EASTERN AND NORTH AFRICAN LEADERS IN SCIENCE AND TECHNOLOGY

In this unit, the Big Questions are:

- **Lesson 1**: Who were our ancestors in science and technology?
- **Lesson 2**: How is technology developing in my region?
- **Lesson 3**: Who are our leaders in medicine today?
- **Lesson 4**: Who are our leaders in science today?
- **Lesson 5**: Who are our leaders in space and technology today?

Mathematics (or Statistics) and Future Careers

The many ways of collecting and storing numerical data have produced a huge need for people who can manipulate statistical data and use it to analyse the past and, by applying probability theories, comment on the future.

Here are a few descriptions of the work of statisticians.

Data Scientists and Big Data

The size of sets of data is growing rapidly as data is collected by an increasing number of devices. 'Big data' refers to the gathering, analysis and extraction of information from data sets too large to handle using earlier software. Governments, large businesses, health providers, financial institutions and scientists are just some with access to large data sets. Though off-the-shelf solutions may be sufficient to probe some big data sets, data scientists trained in statistics and IT are increasingly needed to develop in-house solutions that are tailor-made for particular situations. Now that 'big data' is with us, there is a growing need for data scientists.

Mathematics (or Statistics) and Future Careers

The many ways of collecting and storing numerical data have produced a huge need for people who can manipulate statistical data and use it to analyse the past and, by applying probability theories, comment on the future.

Here are a few descriptions of the work of statisticians.

Data Scientists and Big Data

The size of sets of data is growing rapidly as data is collected by an increasing number of devices. 'Big data' refers to the gathering, analysis and extraction of information from data sets too large to handle using earlier software. Governments, large businesses, health providers, financial institutions and scientists are just some with access to large data sets. Though off-the-shelf solutions may be sufficient to probe some big data sets, data scientists trained in statistics and IT are increasingly needed to develop in-house solutions that are tailor-made for particular situations. Now that 'big data' is with us, there is a growing need for data scientists.

Government Statisticians

Almost all governments have agencies that collect and process statistical data on all significant aspects of their citizens' lives, such as their living conditions, education, and social and economic standing. These official statistics inform a government's decisions, provide the means to assess changes over time, and improve a government's accountability to its citizens. Those civil servants who collect, analyse and report on the official statistics include not only statisticians but also economists, social scientists, IT experts and other specialists as well as government officials.

Medical Statisticians

Medical statisticians design, analyse and interpret research in issues of public health. By monitoring data on health issues, they identify factors linked with disease and so help to detect and prevent disease.

Their research can lead to changes in clinical practice that benefit public health. Their work supports epidemiologists who study the causes and distribution of disease, and virologists who seek to understand and combat infectious viruses.

Mathematics and Society

Inflation

If a country experiences a general increase in prices of goods over a period of time, the purchasing value of money falls. The country is experiencing a period of inflation. The costs of different goods, such as food and cars, are likely to have different rates of inflation. The general rate of inflation can be measured in different ways. One method, called the 'consumer price index' or CPI, is calculated from the change in the price of the same 'basket of goods' over time; say, every year. An annual rate of inflation about 2% is generally acceptable. For example, Lebanon's annual rate was 3% in 2019 but it rose to 85% in 2020.

ACTIVITY

If prices rise at a steady rate of r% each year, find how many years it takes for prices to double if:

a) r = 2%

b) r = 5%

c) r = 10%.

You will need a calculator or computer spreadsheet to help you. On the same axes, draw graphs of price against time for these three inflation rates. Comment on your results.

What are the disadvantages and advantag es of inflation?

Business Optimisation

This is the process of identifying and implementing the necessary changes to make a business more efficient with the aim of improving the quality of its product while keeping its costs down. For example, it may involve introducing new methods, changing the working practices of its employees or using its equipment more efficiently.

Computers can use the methods of linear programming (or linear optimisation) to increasingly complex problems. These methods use a mathematical model of linear relationships to achieve the best outcomes, such as minimum cost or maximum profit. The following activity, which can be solved graphically, provides an example of each.

ACTIVITY

a) A nutritionist mixes two kinds of food X and Y so that the mixture has at least 16 units of vitamin A and 20 units of vitamin C.

Each kilogram of X costs $25 and contains 4 units of vitamin A and 2 units of vitamin C. Each kilogram of Y costs $5 and contains 2 units of vitamin A and 4 units of vitamin C.

Use linear programming to find the minimum cost of 1 kg of mixture.

b) A company makes two products X and Y using three machines P, Q and R. The machines P and Q can each be used for 12 hours at most each day. Machine R must be used for at least 5 hours each day.

Each of product X needs 1 hour on machine P, 2 hours on Q and 1 hour on R. Each of product Y needs 2 hours on machine P, 1 hour on Q and 1h 15 min on R.

Product X earns $300 each and product Y earns $200 each.

Use linear programming to find the company's maximum daily profit.

The Population of the World

The world's human population in 1950 was 2.5 billion and in 2020 was 7.8 billion. A rising population has implications for the quality of human life on the planet. Predicting the likely future population is necessary.

ACTIVITY

This table gives the population from 1995 to 2020 with the years labelled 0 to 5.

Label, x	0	1	2	3	4	5
Year	1995	2000	2005	2010	2015	2020
Population, y (millions)	5735	6127	6520	6930	7380	7795

a) Plot the points (x, y) using a computer's graph-plotter. Calculate the equation of the straight line through the points where $x = 0$ and $x = 5$ and show that it is a reasonable fit for the other points.

b) A different fit can be found using the parabolic curve $y = ax^2 + bx + c$. Taking $x = 0$, 3 and 5, find the values of a, b and c and the equation of the parabola. Plot the parabola and decide whether it is a better fit than the straight line. (There are statistical methods for finding the best fit.)

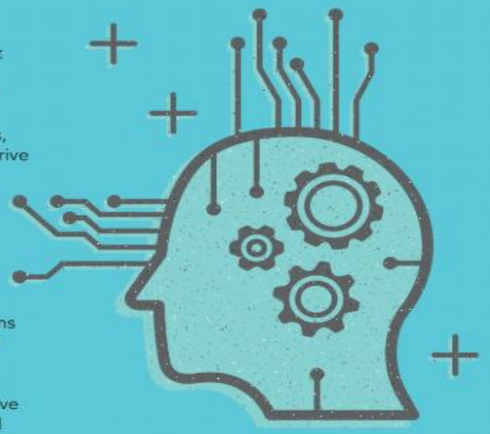
c) What predictions do this line and curve give for the world's population in 2030?

d) Does the data for 1950 fit these two models? What is needed to create an accurate model for the time span 1950 to 2030?

Mathematics and Artificial Intelligence: the Big Picture

Artificial Intelligence

Artificial Intelligence, or AI, is the development of computer systems that undertake tasks that normally require human intelligence. Examples of these tasks include understanding human speech, translating between languages, analysing visual images, creating self-drive cars, using financial analyses to make investments and, in all cases, making rational decisions based on what the software has 'learned'.



If robots are used in a task, they may be control-based with their inputs and outputs determining their actions, or they may be AI-based when their actions are also determined by what they have 'learned'. For example, robots that assemble and paint cars are control-based, but they are AI-based in self-drive cars as they learn from the current road conditions.

The computer systems required for AI are created by systems analysists, control engineers, computer programmers and coders. A systems analyst ensures that a client's business needs are satisfied by analysing and designing what the business requires and what type of IT is appropriate. If robots are needed, a control engineer or roboticist is involved. A programmer creates the structured logic that results from an analysis of the program's requirements, whereas a coder translates the logic into a language (or code) that the computer understands.

ACTIVITY 1

Make a list of IT applications in business that use AI, starting with the examples given above. Compare your list with others in the class and compile a class list for display.

Feature Spread

Cryptography

How often do you use the internet?

Do you ever buy things on the internet?

If yes, then you are very likely to have given your name, address and a form of payment (for example a credit card number).

In order to keep this information private between you and the company you are buying from, a process called encryption is used to hide the letters and numbers. Cryptography is the art of writing and decoding these messages.

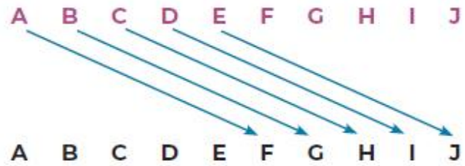
Encryption converts the original information (often called plaintext) into another form (often called cyphertext). Only you and the person you are sharing your details with have the 'key' to translate the cyphertext back into plaintext.

The Caesar Cypher

The Caesar Cypher (sometimes called the shift cypher) is one of the simplest encryption techniques.

To convert plaintext to cyphertext using the Caesar Cypher, you replace each letter in a word with the letter that is a fixed number of positions further down the alphabet.

For example, with a shift of five positions, A would become F, B would become G, C would become H, and so on.

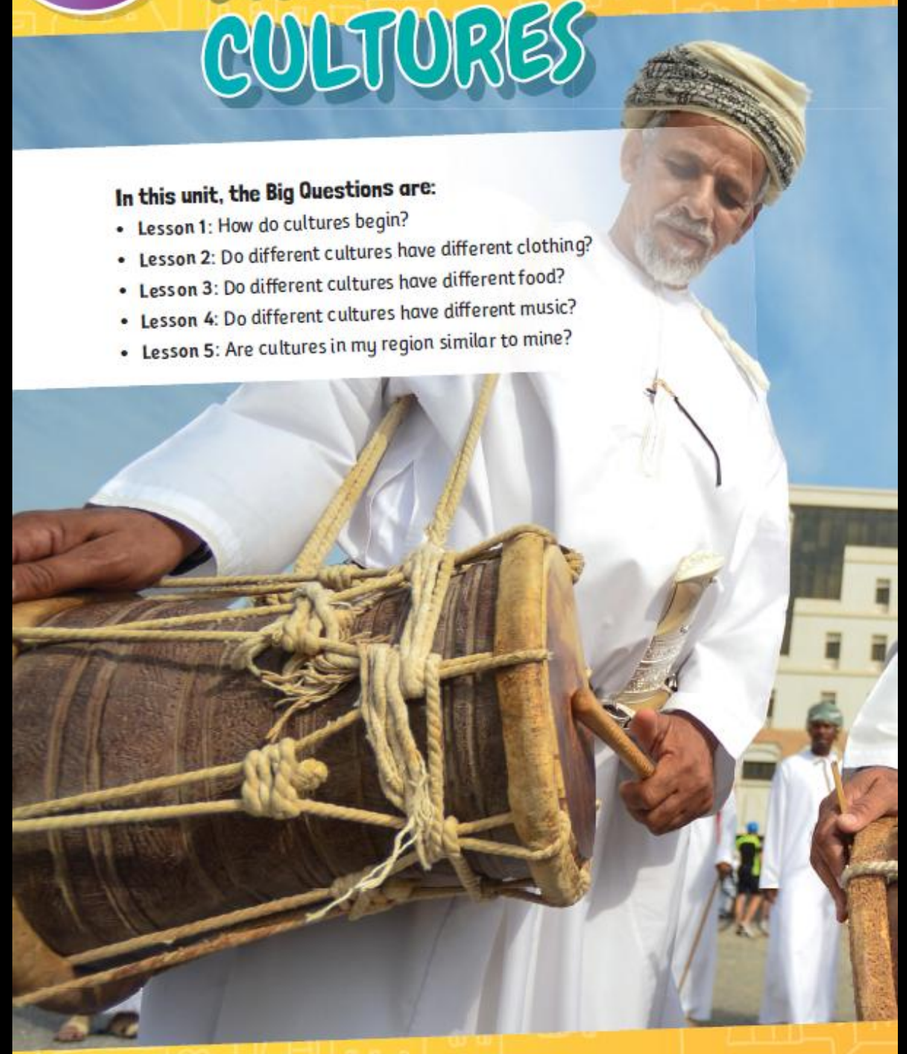


When you reach the end of the alphabet, you start again at the beginning; for example, Z would become E.

The word MATHEMATICS would be written RFYMJRFYNHX.

UNIT 8

SHARING AMONG CULTURES



In this unit, the Big Questions are:

- **Lesson 1**: How do cultures begin?
- **Lesson 2**: Do different cultures have different clothing?
- **Lesson 3**: Do different cultures have different food?
- **Lesson 4**: Do different cultures have different music?
- **Lesson 5**: Are cultures in my region similar to mine?

UNIT 7

MIDDLE EASTERN AND NORTH AFRICAN LEADERS IN SCIENCE AND TECHNOLOGY

In this unit, the Big Questions are:

- **Lesson 1**: Who were our ancestors in science and technology?
- **Lesson 2**: How is technology developing in my region?
- **Lesson 3**: Who are our leaders in medicine today?
- **Lesson 4**: Who are our leaders in science today?
- **Lesson 5**: Who are our leaders in space and technology today?

Curiosity ignites the journey

Feature Spread
Cryptography

How often do you use the internet?

Do you ever buy things on the internet?

If yes, then you are very likely to have given your name, address and a form of payment (for example a credit card number).

In order to keep this information private between you and the company you are buying from, a process called ryption is used to hide the letters and numbers.

ptography is the art of writing and decoding these ssage

cryption converts the original information (often led plaintext) into another form (often called phertext). Only you and the person you are sharing ur details with have the 'key' to translate the phertext back into plaintext.

he Caesar Cypher

e Caesar Cypher (sometimes called the shift cypher) is e of the simp chniques.

o convert plaintext to cyphertext using the Caesar Cypher, you repla ord with the letter that is a fixed number of positions further down th

or example, with a shift of five positions, A would become F, B woul become H, and so on.

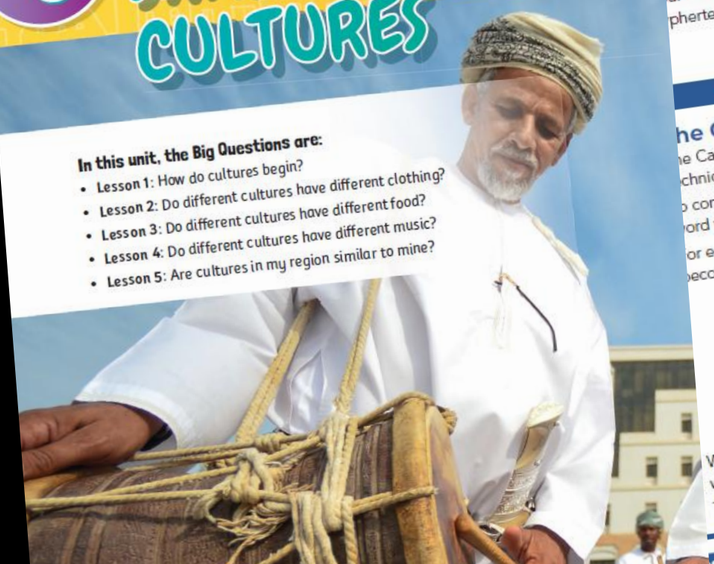
A B C D E F G H

A B C D E F G

When you reach the end of the alphabet, you start again at t would become E.

The word MATHEMATICS would be written RFYMJRFYNHX

UNIT 8
SHARING AMONG CULTURES



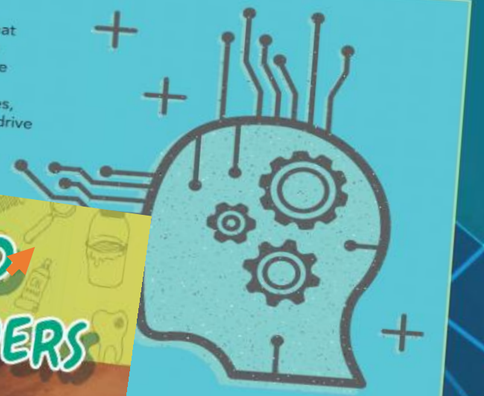
In this unit, the Big Questions are:

- **Lesson 1**: How do cultures begin?
- **Lesson 2**: Do different cultures have different clothing?
- **Lesson 3**: Do different cultures have different food?
- **Lesson 4**: Do different cultures have different music?
- **Lesson 5**: Are cultures in my region similar to mine?

Mathematics and Artificial Intelligence: the Big Picture

Artificial Intelligence

Artificial Intelligence, or AI, is the development of computer systems that undertake tasks that normally require human intelligence. Examples of these tasks include understanding human speech, translating between languages, analysing visual images, creating self-drive cars, using financial analyses to make investments and, in all cases, making ional decisions based on what the



UNIT 7
MIDDLE EASTERN AND NORTH AFRICAN LEADERS IN SCIENCE AND TECHNOLOGY

In this unit, the Big Questions are:

- **Lesson 1**: Who were our ancestors in science and technology?
- **Lesson 2**: How is technology developing in my region?
- **Lesson 3**: Who are our leaders in medicine today?
- **Lesson 4**: Who are our leaders in science today?
- **Lesson 5**: Who are our leaders in space and technology today?

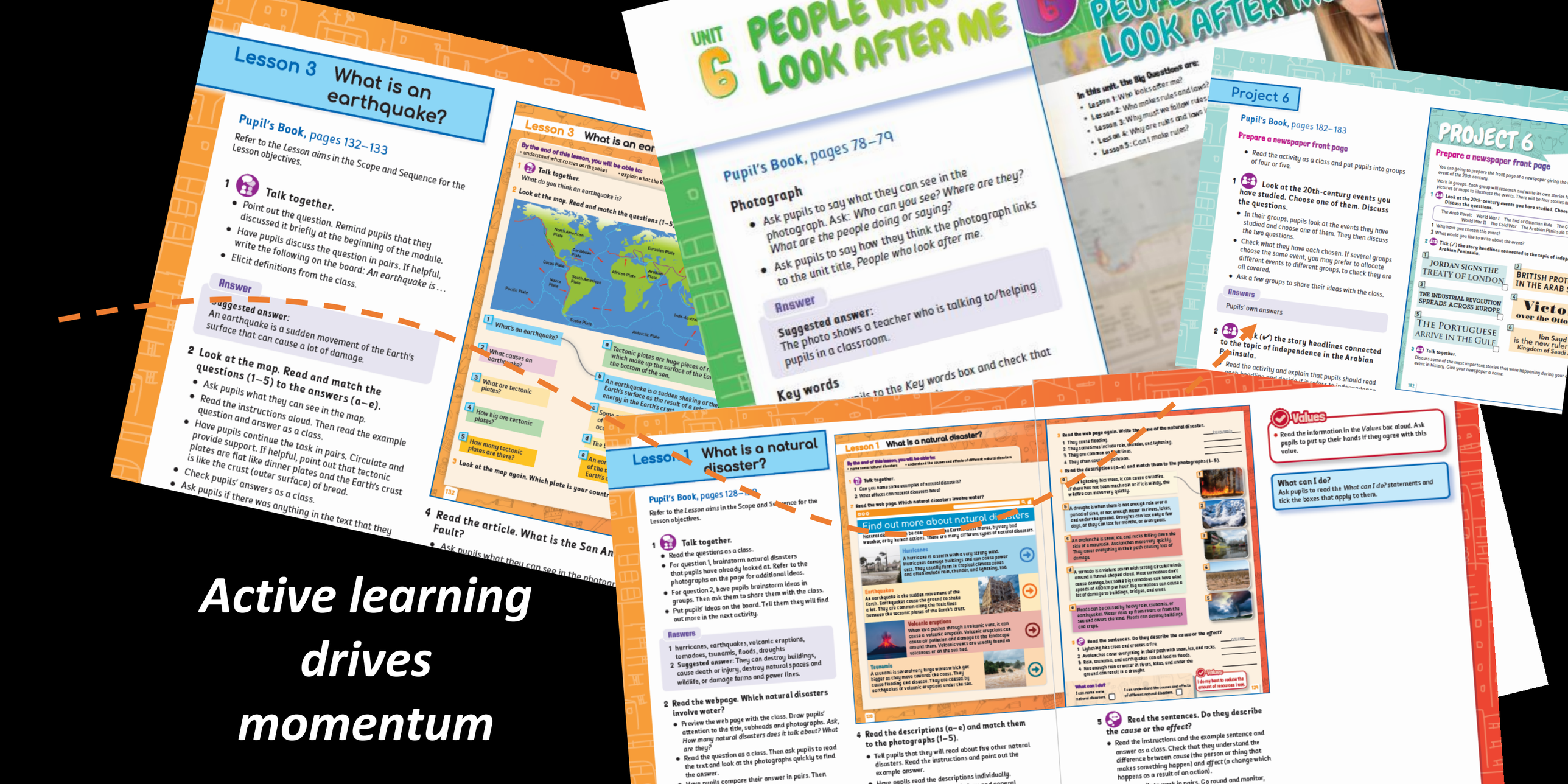
Mathematics (or Statistics) and Future Careers

The many ways of collecting and storing numerical data have produced a huge need for people who can manipulate statistical data and use it to analyse the past and, by applying probability theories, comment on the future.

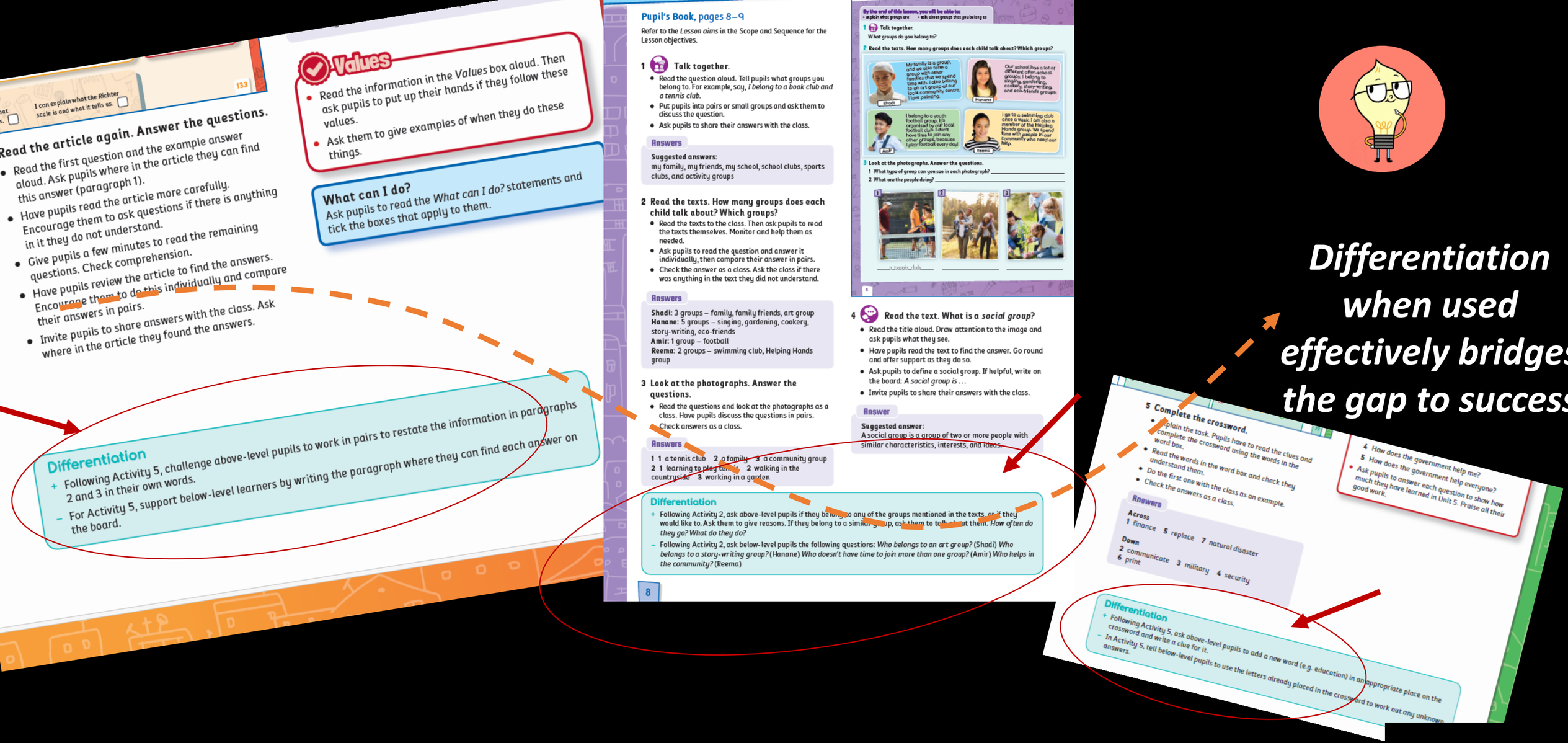
Here are a few descriptions of the work of statisticians.

Data Scientists and Big Data

The size of sets of data is growing rapidly as data is collected by an increasing number of devices. 'Big data' refers to the gathering, analysis and extraction of information from data sets too large to handle using earlier software. Governments, large businesses, health providers, financial institutions and scientists are just some with access to large data sets. Though off-the-shelf solutions may be sufficient to probe some big data sets, data scientists trained in statistics and IT are increasingly needed to develop in-house solutions that are tailor-made for particular situations. Now that 'big data' is with us, there is a growing need for data scientists.



Active learning drives momentum

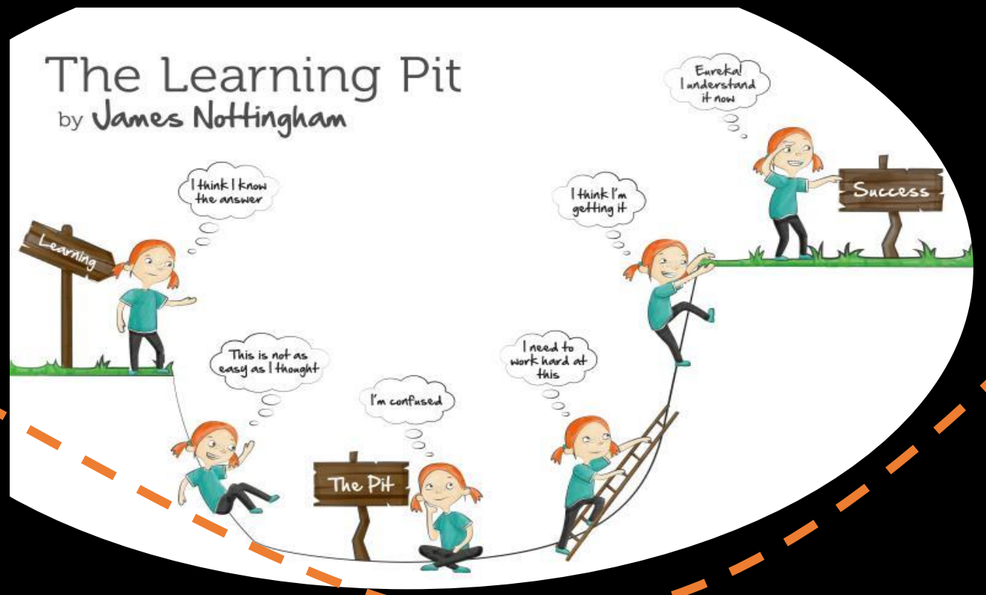


Differentiation when used effectively bridges the gap to success

Reflection Time!
What Have We Learned?

Curiosity ignites the journey

Active learning drives momentum



Differentiation when used effectively bridges the gap to success

"With structure, engagement, and differentiation, we turn classroom chaos into curiosity-driven learning."

COFFEE BREAK

Good Work!

Section 1 Complete.

Get Ready

Time for Part 2.

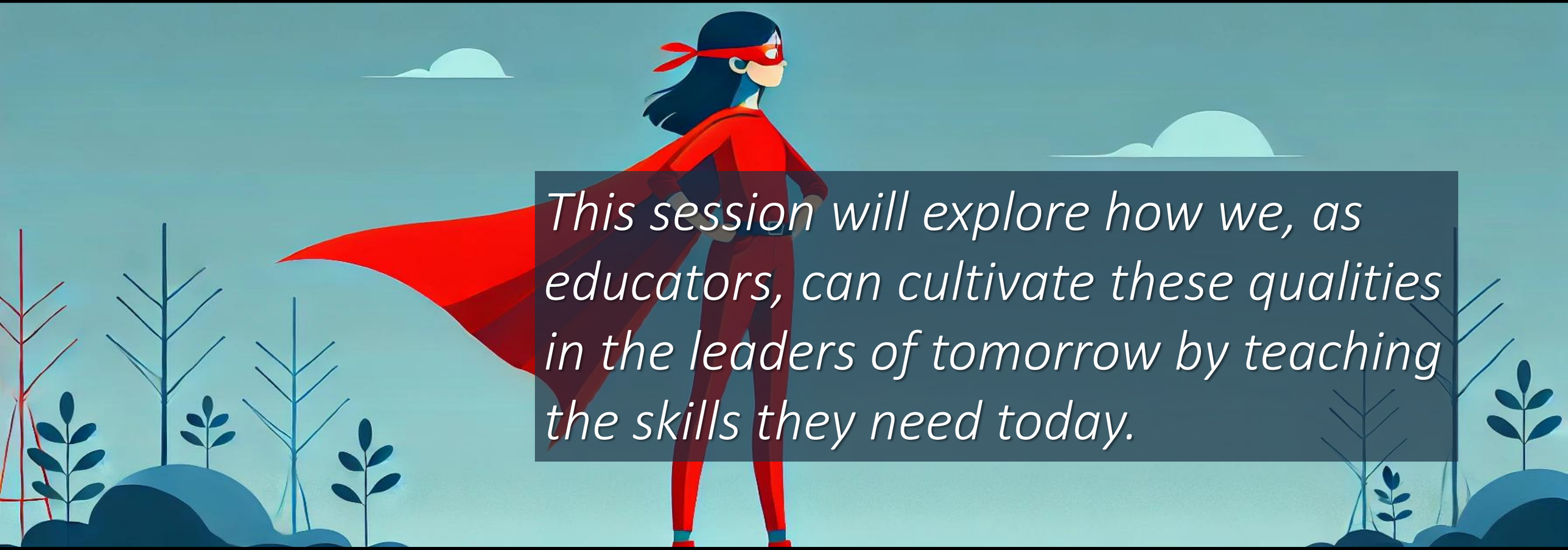

Tomorrow's
Leaders Start
with Today's
Skills

Tomorrows Leaders Start with Today’s’ Skills

"Leadership is not about titles, it is about impact, influence, and inspiration."

Robin Sharma

Tomorrows Leaders Start with Today's' Skills



YORK PRESS

(Part2) Session Objectives

Identifying Leadership Qualities

You will learn about the **key characteristics** that define **effective leaders.**

Essential Skills for Future Leaders

Discover the skills necessary **to lead and thrive** in the 21st century and beyond.

Practical Teaching Strategies

Gain insights into effective methods **to foster leadership skills** in your classroom.

(Part2) Session Objectives

Identifying Leadership Qualities

You will learn about the **key characteristics** that define **effective leaders.**

Essential Skills for Future Leaders

Discover the skills necessary **to lead and thrive** in the 21st century and beyond.

Practical Teaching Strategies

Gain insights into effective methods **to foster leadership skills** in your classroom.

(Part2) Session Objectives

Identifying Leadership Qualities

You will learn about the **key characteristics** that define **effective leaders.**

Essential Skills for Future Leaders

Discover the skills necessary **to lead and thrive** in the 21st century and beyond.

Practical Teaching Strategies

Gain insights into effective methods **to foster leadership skills** in your classroom.

Identifying Leadership Qualities

Understanding Leadership!

Key Characteristics that define Effective Leaders

unesco

Key Characteristics that define Effective Leaders

‘The future depends on leaders who can ….’


Strategic Thinking
Accountability
Emotional Intelligence
Ethical Integrity
Empathy
Innovative Thinking
Interpersonal Skills
Resilience
Vision
Adaptability
Empowerment
Communication
Collaboration
Decision Making
Critical Thinking
Creativity
Characteristics of an Effective Leader

Key Characteristics that define Effective Leaders

Defining a Path

Effective leaders possess a **clear vision of the future** and the **strategic acumen to plan and execute actions** that align with their **long-term goals.**

Shared Purpose

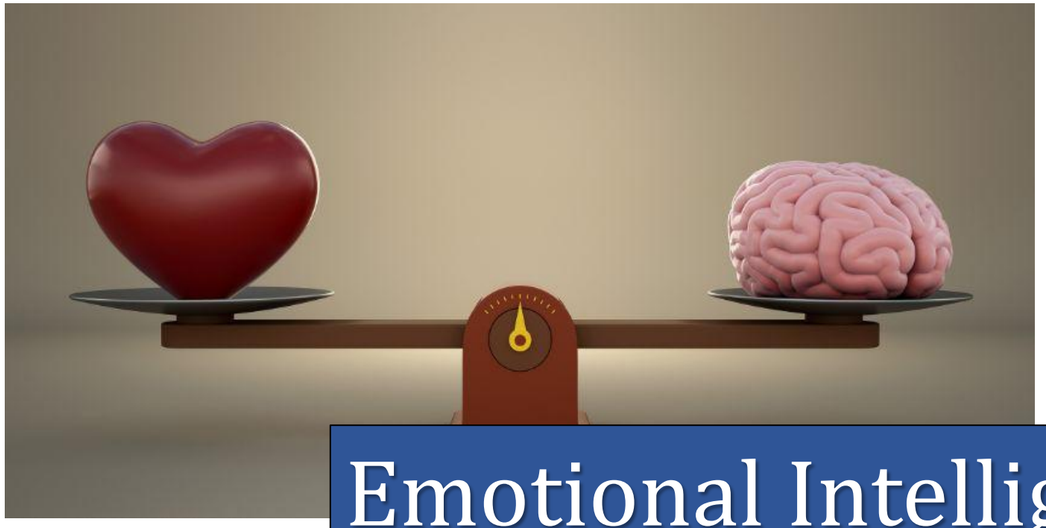
UNESCO emphasizes the importance of leaders articulating their vision **to inspire teams toward a common mission**, fostering **unity and purpose**.

Vision and Strategic Thinking

Key Characteristics that define Effective Leaders

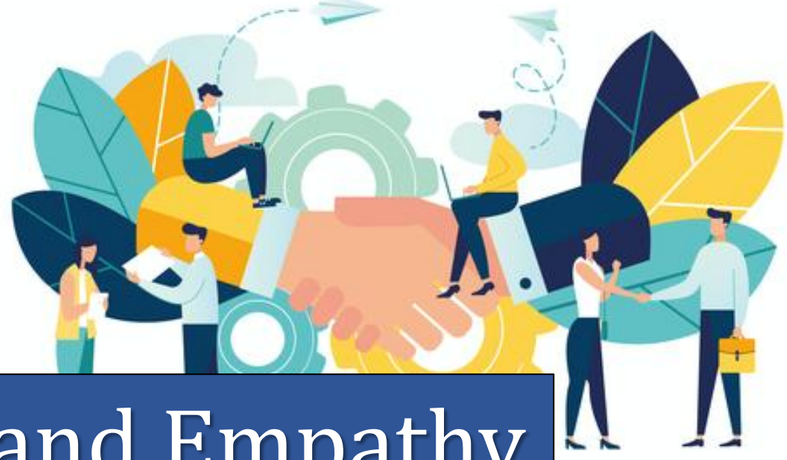
Understanding Feelings

Leaders with **high emotional intelligence** are adept at understanding and **managing their own emotions**, as well as **empathizing with others**.



Building Relationships

Empathy fosters strong interpersonal relationships, enabling **leaders to connect with** and **motivate their teams** effectively.



Emotional Intelligence and Empathy

Key Characteristics that define Effective Leaders

Navigating Change

Effective leaders are **flexible and resilient**, capable of navigating and leading through **change and uncertainty.**

Maintaining Focus

Adaptability and resilience are essential for leaders facing the **complexities of the modern world.**

Adaptability and Resilience

Key Characteristics that define Effective Leaders

Moral Principles

Integrity involves **adhering to moral and ethical principles**, **building trust and credibility**.

Accountability

Accountability refers to **taking responsibility for one's actions and decisions**, **fostering transparency and dependability**.

Ethical Integrity and Accountability

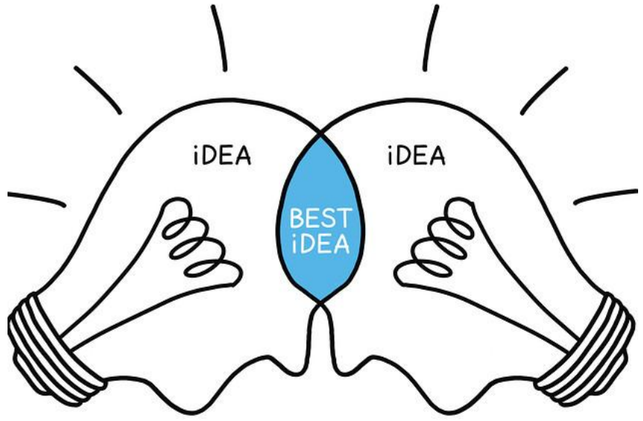
Key Characteristics that define Effective Leaders

Conveying Ideas

Proficient communication enables leaders **to convey ideas clearly**, **listen actively**, and **engage in meaningful dialogues**.

Fostering Collaboration

Effective communication **facilitates the alignment of team efforts** toward common objectives, **fostering collaboration** and understanding.



Communication and Interpersonal Skills

Key Characteristics that define Effective Leaders

Driving Progress

Leaders who **embrace innovation and creativity** encourage new ideas **fostering a culture of continuous improvement**, **driving progress** and a growth mindset.

Empowering Growth

Fostering an environment that encourages skill development, **empowers individuals through thoughtful delegation of responsibilities**, and creates **meaningful opportunities for growth**.

Innovative Thinking and Empowerment

Leadership in the Classroom

Now that we've characterized the essence of leadership and its defining qualities, how do these traits manifest in the classroom? Let's explore how they take shape in practice.

"Exploring Leadership in Action"

YORK PRESS

"Exploring Leadership in Action"

In the following activities, we'll explore real-life classroom scenarios where leadership skills are being developed.

Your role is to analyse each situation!

"Exploring Leadership in Action"

As we move through each scenario, we will think about:

What's happening in the situation?

How is the student feeling?

What can the teacher add to support leadership development?

Scenario 1 – The Group Leader

A group of five students are working on a STEM project to build a bridge using limited materials. One student, Sara, naturally takes on the role of organizing tasks, ensuring everyone's voice is heard, and delegating responsibilities. However, one quieter student, Liam, seems hesitant to contribute.

Scenario 1 – The Group Leader

A group of five students are working on a STEM project to build a bridge using limited materials. One student, Sara, naturally takes on the role of organizing tasks, ensuring everyone's voice is heard, and delegating responsibilities. However, one quieter student, Liam, seems hesitant to contribute.

---

1. What leadership skills is Sara demonstrating?

Sara is showcasing **organizational skills**, **active listening**, and **delegation**.

2. How might Liam be feeling in this situation?

Liam might **feel overlooked**, shy, or uncertain about his contributions. Maybe **lacking confidence**

Scenario 1 – The Group Leader

A group of five students are working on a STEM project to build a bridge using limited materials. One student, Sara, naturally takes on the role of organizing tasks, ensuring everyone's voice is heard, and delegating responsibilities. However, one quieter student, Liam, seems hesitant to contribute.

---

3. What strategies could the teacher use to encourage Liam's participation while supporting Sara's leadership development?

The teacher could encourage Sara to ask Liam for specific input or assign him a **manageable task** to build his **confidence**.

4. How does differentiation play a role in this activity?

Differentiation allows students to contribute based on their **strengths** and **comfort levels**, ensuring everyone feels **included.**

Scenario 2 – The Problem Solver

During a math lesson, the class is divided into small groups to solve a challenging word problem. One student, Anya, takes the initiative to explain her approach to solving the problem to her peers. Halfway through, the group encounters a roadblock, and frustration begins to surface among the students.

Scenario 2 – The Problem Solver

During a math lesson, the class is divided into small groups to solve a challenging word problem. One student, Anya, takes the initiative to explain her approach to solving the problem to her peers. Halfway through, the group encounters a roadblock, and frustration begins to surface among the students.

---

1. What leadership traits is Anya displaying?

Anya is demonstrating **initiative**, **communication**, and **problem-solving skills**.

2. How might the group be feeling at this moment?

Demotivated, the group may feel stuck or **frustrated**.

Scenario 2 – The Problem Solver

During a math lesson, the class is divided into small groups to solve a challenging word problem. One student, Anya, takes the initiative to explain her approach to solving the problem to her peers. Halfway through, the group encounters a roadblock, and frustration begins to surface among the students.

---

3. How could the teacher guide the group to turn frustration into a leadership learning opportunity?

The teacher could encourage **a brainstorming session** or suggest breaking the problem **into smaller parts** to regain focus.

4. What strategies could encourage all group members to contribute to problem-solving?

Using techniques like **round-robin brainstorming** or **assigning specific roles** within the group can help.

Scenario 3 – The Advocate

During a class discussion about climate change, a student, Hamad, passionately argues for the importance of recycling initiatives at school. Another student, Maya, disagrees, sparking a debate. Hamad struggles to listen to opposing viewpoints and becomes defensive.

Scenario 3 – The Advocate

During a class discussion about climate change, a student, Hamad, passionately argues for the importance of recycling initiatives at school. Another student, Maya, disagrees, sparking a debate. Hamad struggles to listen to opposing viewpoints and becomes defensive.

---

1. What leadership skills is Hamad beginning to develop?

Advocacy, passion, and **communication**.

2. How might Maya feel in this interaction?

Maya might feel unheard, frustrated, or **invalidated.**

Scenario 3 – The Advocate

During a class discussion about climate change, a student, Hamad, passionately argues for the importance of recycling initiatives at school. Another student, Maya, disagrees, sparking a debate. Hamad struggles to listen to opposing viewpoints and becomes defensive.

---

3. What steps could the teacher take to foster respectful dialogue and collaboration between students?

The teacher could model **active listening**, encourage **turn-taking**, and **reinforce respectful disagreement**.

4. How can activities like this help develop advocacy and critical thinking skills?

By exposing students to diverse perspectives and teaching them **to articulate their views constructively.**

Scenario 4 – The Reflective Leader

After presenting her group's science experiment findings, Emily realizes she overlooked an important data point. She feels embarrassed but admits the mistake to the class and explains how she plans to revise her analysis. Her classmates support her with additional feedback.

Scenario 4 – The Reflective Leader

After presenting her group's science experiment findings, Emily realizes she overlooked an important data point. She feels embarrassed but admits the mistake to the class and explains how she plans to revise her analysis. Her classmates support her with additional feedback.

---

1. What leadership qualities is Emily demonstrating by admitting her mistake?

Accountability, resilience, and **reflection**.

2. How might the classroom environment influence her willingness to take responsibility?

A supportive and nonjudgmental environment encourages risk-taking and **learning from mistakes**.

Scenario 4 – The Reflective Leader

After presenting her group's science experiment findings, Emily realizes she overlooked an important data point. She feels embarrassed but admits the mistake to the class and explains how she plans to revise her analysis. Her classmates support her with additional feedback.

---

3. What can the teacher do to reinforce the value of reflection and resilience?

The teacher could praise Emily for her **honesty** and use it as a teachable moment for the class.

4. How does this scenario model leadership for other students?

It shows that **making mistakes are part of growth** and that **leaders take responsibility** and learn from errors.

Scenario 5

Scenario 5

During a collaborative art project, Daniel notices that one of his peers, Aisha, is hesitant to share her ideas. Daniel encourages her by asking specific questions about her perspective and integrates her ideas into the group's work. The group's final product reflects everyone's contributions.

Scenario 5 - At your tables

During a collaborative art project, Daniel notices that one of his peers, Aisha, is hesitant to share her ideas. Daniel encourages her by asking specific questions about her perspective and integrates her ideas into the group's work. The group's final product reflects everyone's contributions.

1. What leadership traits is Daniel exhibiting?

2. How might Aisha's confidence grow from this experience?

3. What could the teacher do to reinforce inclusive leadership behaviours?

4. How does differentiation in activities support students like Aisha and Daniel?

Scenario 5 – The Inclusive Leader

During a collaborative art project, Daniel notices that one of his peers, Aisha, is hesitant to share her ideas. Daniel encourages her by asking specific questions about her perspective and integrates her ideas into the group's work. The group's final product reflects everyone's contributions.

---

1. What leadership traits is Daniel exhibiting?

Inclusivity, empathy, and collaboration.

2. How might Aisha's confidence grow from this experience?

feel valued and more confident in sharing her ideas in the future

Scenario 5 – The Inclusive Leader

During a collaborative art project, Daniel notices that one of his peers, Aisha, is hesitant to share her ideas. Daniel encourages her by asking specific questions about her perspective and integrates her ideas into the group's work. The group's final product reflects everyone's contributions.

---

3. **What could the teacher do to reinforce inclusive leadership behaviours?**

The teacher could publicly acknowledge Daniel's efforts and highlight the importance of inclusion.

4. **How does differentiation in activities support students like Aisha and Daniel?**

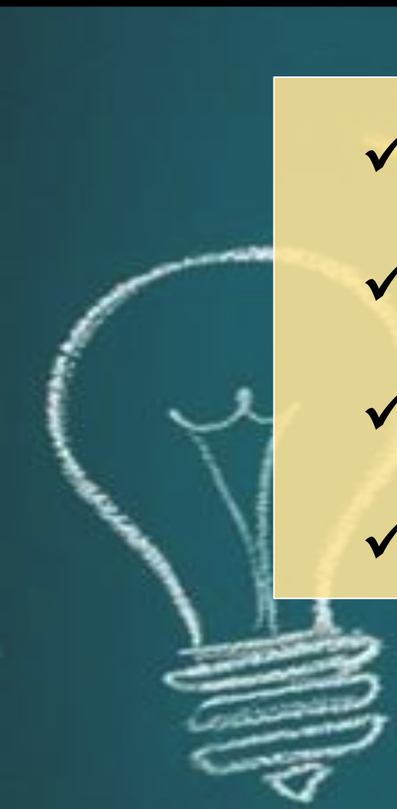
It ensures that students with different strengths and participation levels have opportunities to succeed and feel included.


"What Did We Learn?"

"What Did We Learn?"

"What Did We Learn?"

- ✓ Leadership is built through **real-world opportunities**.
- ✓ Students need **both guidance and autonomy to grow**.
- ✓ Teachers play a critical role as **facilitators and role models**.
- ✓ **Inclusive, differentiated approaches** empower every student.



Turning insights into Action

Practical Strategies for Teachers

- ✓ Design **collaborative**, **real-world activities** (group projects, debates).
- ✓ Provide **roles in group work** to **promote diverse leadership experiences**.
- ✓ **Foster reflection** by asking students to **analyse their leadership journey**.
- ✓ Celebrate both **successes and learning moments** (mistakes included!).

Turning insights into Action

Practical Resources for Teachers

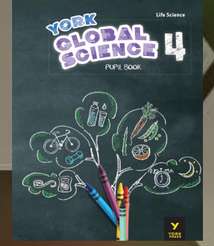
"We need to **support teachers** with **innovative**, **collaborative** resources that emphasize **reflection** and **future skills**,

geared towards **real-world applications** for the **2025 classroom**’’

Turning insights into Action

PSSt!

that's where we come in



Life Science

1 Structures to Support

Objective

→ Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behaviour, and reproduction.

Vocabulary

- Behaviour
- Brain
- Digestive system
- Organism
- Organ system
- Protect
- Reproduce
- Structure
- Sunlight
- Survive
- Xylem

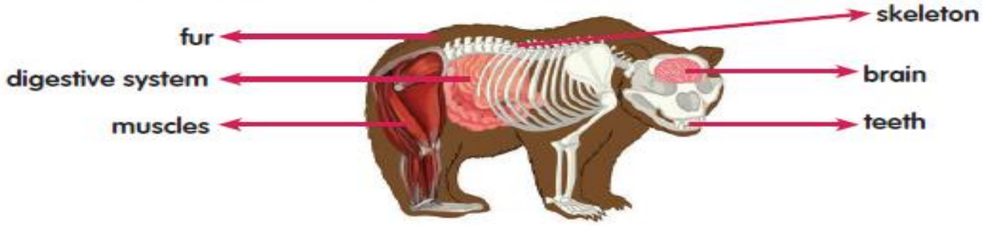
Let's Start

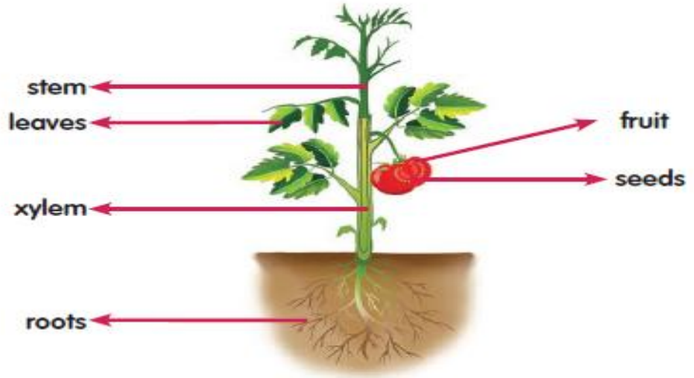
What parts does a plant have?

Let's Learn

Every **organism** has different **structures**. These can be on the inside or outside of organisms. All of the structures in an organism do a job.

Some structures help organisms to **survive**. The **organ systems** in animals and **xylem** in plants help to keep them alive.





Other structures can **protect** organisms to help them survive. The thorns on a rose plant or antlers on a deer are used to protect the organisms.

Structures can help organisms to grow. Our **digestive system** takes in food and uses it for energy, which we use to grow. Plants take in **sunlight** through their leaves to make food.

Other structures help with **behaviour**. Humans and animals have a **brain**. Brains send messages around the body that help organisms to find food and safe places and to hide and move. Plants can feel sunlight on their leaves and can slowly move their leaves to get more sunlight.

Organisms also have structures that help them to **reproduce**. Plants make fruits and seeds that grow into new plants. Animals and humans have body parts that can make babies.

Let's Look

Look at the pictures. Describe the structure of each organism. How do their structures help them to survive, grow, behave and reproduce?

Let's Talk

Name an organism. Explain how its structures help it to:

- survive
- grow
- behave
- reproduce.

Let's Explore

Today, you will draw a new kind of plant. You will write labels on your drawing, then explain how its structures help it to survive, grow, behave and reproduce.

Think about:

- the structures your plant will have on the outside
- the structures your plant will have on the inside
- what each structure will help the plant with
- where your plant will grow
- what your plant needs to survive.

Draw and write labels on your plant in your Workbook.

Let's Reflect

1 Say three things that structures can help organisms to do.

2 Think about a plant. Name three of its structures. Explain what each structure helps a plant to do.

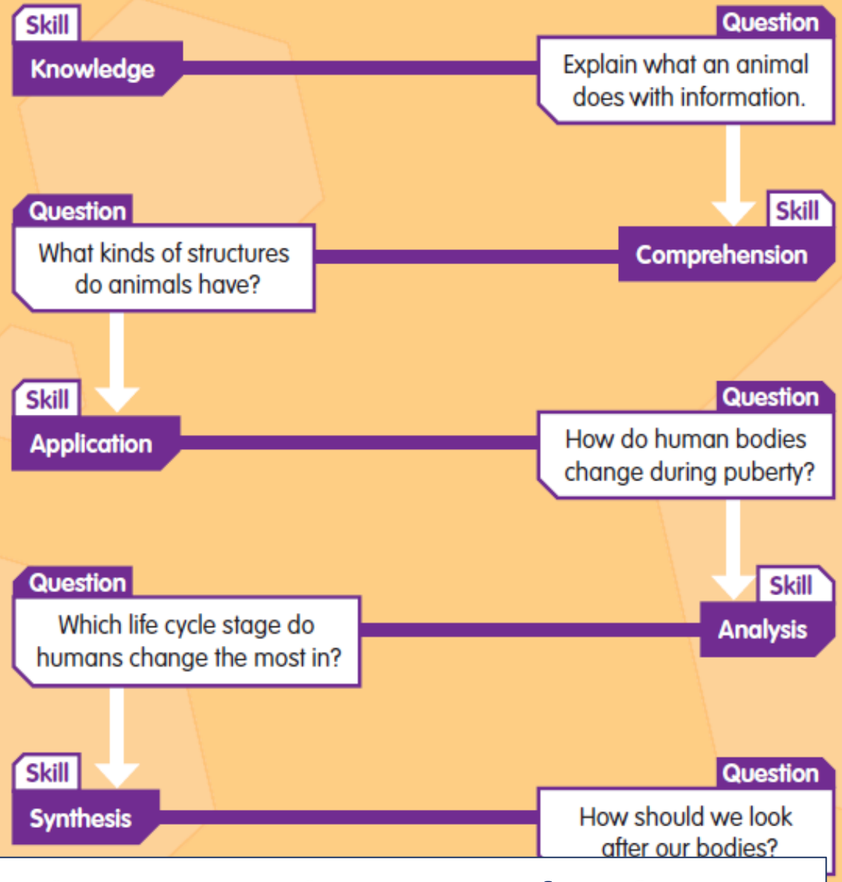
Let's Review

Competencies: *'I can...'*	Questions
I can explain how plants and animals use their structures.	1 What is a structure? 2 What structures might an animal have?
I can explain how animals use their senses to understand the world.	3 How do animals receive information? 4 What do animals use to work with information?
I can name ways that humans change as they grow.	5 Name three stages of the human life cycle? 6 What ways do humans change in the embryo stage?
I can describe how humans change in puberty.	7 What are some ways that girls can change in puberty? 8 What are some ways that boys can change in puberty?
I can compare gestation periods in different mammals.	9 What does gestation mean? 10 Explain how gestation times can be different in mammals.
I can explain how changes in body temperature can affect humans.	11 What is a healthy body temperature? 12 What can happen if we get too hot?
I can give reasons why exercise changes our heart rate.	13 What is a heart rate? 14 How does our heart rate change when we exercise?

Let's Review

Competencies: *'I can...'*	Questions
I can explain how plants and animals use their structures.	1 What is a structure? 2 What structures might an animal have?
I can explain how animals use their senses to understand the world.	3 How do animals receive information? 4 What do animals use to work with information?
I can name ways that humans change as they grow.	5 Name three stages of the human life cycle? 6 What ways do humans change in the embryo stage?
I can describe how humans change in puberty.	7 What are some ways that girls can change in puberty? 8 What are some ways that boys can change in puberty?
I can compare gestation periods in different mammals.	9 What does gestation mean? 10 Explain how gestation times can be different in mammals.
I can explain how changes in body temperature can affect humans.	11 What is a healthy body temperature?
I can give reasons why exer changes our heart rate.	

Skills Progression



Skills progression charts and review questions emphasize analysis, synthesis, and evaluation, fostering critical thinking in students.

1 Structures to Support

Objective

- Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behaviour, and reproduction.

Starter

Put pupils into small groups. Give each group a mini-whiteboard and pen or a piece of paper. Read the Let's Start question to pupils. Ask them to draw and write their ideas as they discuss them. When pupils have had some time to discuss their ideas in groups, ask some groups to share their ideas with the class. As they share the plant parts that they have discussed, draw and label them on the board to make a diagram of a plant. When pupils have named as many plant parts as they can remember, discuss what each part of the plant is used for.

Background Notes

In earlier learning, pupils have seen the structures of plants, including how fruits and seeds are used in reproduction, a
muscles and skel

In this lesson, pup
behaviour and rep
They have learne
live young. For thi
reproductive syste
understanding than this as they will learn more about reproduction later.

There are many structures and characteristics that are used to help organisms survive, grow, behave and reproduce. The purpose of this lesson is to give pupils an introduction to some of these systems and why organisms need them.

Pupil Book Teaching Notes

Let's Learn

Remind pupils that humans and animals are also made up of many different parts. As a class, discuss some examples of body parts found on the inside and outside of animals and humans. Read the Let's Learn section of the Pupil Book together, discussing the ideas of survival, growth, behaviour and reproduction and the structures that help with each. Together, think of examples for each one, for example that humans' circulatory systems move blood around our bodies, which help us to survive; birds feed their young so that they can grow strong enough to fly; tigers' brains help them to hunt for prey; and fruits fall from trees and the seeds inside grow into new plants.

Let's Look

In their small groups, ask pupils to look at the Let's Look section of the Pupil Book. Encourage them to think carefully about the structures found on the inside and outside of each organism. They should name examples of structures that help each organism to survive, grow, behave and reproduce. When pupils have discussed their ideas as a group, share some suggestions for each as a class.

Let's Talk

Read the Let's Talk question. Suggest that pupils could choos
example of a local one. Give pupils time to discuss the struct
to share the name of their organism. Can they name a struc
explain what it does? What about a structure on the inside?

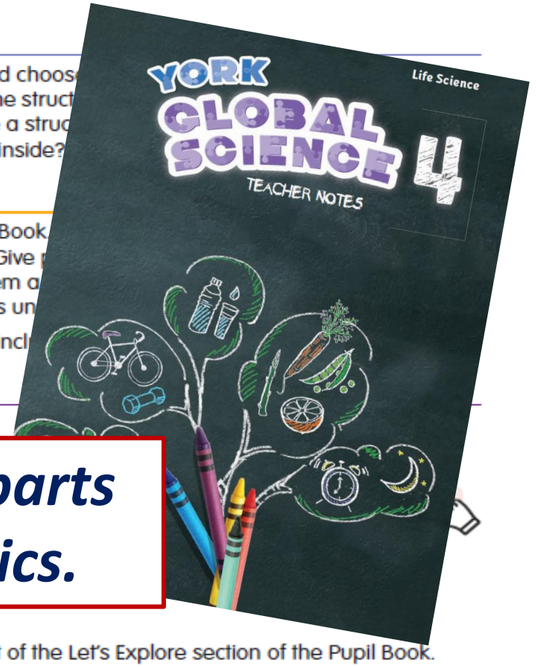
Let's Explore

As a class, read the Let's Explore section of the Pupil Book,
and which structures help plants to get their needs. Give
ask pupils to discuss their ideas in groups or give them a
around the room as they do this, checking that pupils un

Ask pupils to complete the Workbook activities now, incl

Equipment

Starter



Group-Based Starter Activities such as identifying plant parts collaboratively, model effective group leadership dynamics.

Workbook Teaching Notes

The Workbook activities should be completed as part of the Let's Explore section of the Pupil Book.

Pupils should begin by drawing their design. They should have had some time to plan what they will draw and how they will show the structures needed to survive, grow, behave and reproduce. Encourage pupils to use the plant diagram in the Let's Learn section to show them how their diagram should look.

Next, pupils should label their design. This should be with simple labels identifying the plant parts, for example 'roots' and 'xylem'.

For the final activity, pupils should write one or two sentences for each heading, linking the structures of their plant to how it would survive, grow, behave and reproduce. Pupils should be encouraged to write one sentence explaining which structures are used for each and one sentence explaining how the structures are used. Work with pupils who need more support to put their ideas into simple sentences.

Go to YORK-E to check the digital activities.

Plenary / Review

Put pupils into pairs, mixing pupils from different groups. Ask them to share their plant designs. Ask each pupil to look carefully at their partner's work. Have they given their plant structures to help it survive, grow, behave and reproduce? When pupils have both shared their work, read the Let's Reflect questions. Give the pairs some time to answer each question. As a class, make a list of ways that structures help living things. Ask pupils to think about the structures of a plant. Can they match any structures to the list (for example 'thorns on a rose plant' could match with 'protect')?

1 Structures to Support

Objective

- Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behaviour, and reproduction.

Starter

Put pupils into small groups. Give each group a mini-whiteboard and pen or a piece of paper. Read the Let's Start question to pupils. Ask them to draw and write their ideas as they discuss them. When pupils have had some time to discuss their ideas in groups, ask some groups to share their ideas with the class. As they share the plant parts that they have discussed, draw and label them on the board to make a diagram of a plant. When pupils have named as many plant parts as they can remember, discuss what each part of the plant is used for.

Background Notes

In earlier learning, pupils have seen the structures of plants, including how fruits and seeds are used

"Let's Talk" promotes student-led discussions, encouraging teamwork and shared problem-solving.

and reproduce. The purpose of this lesson is to give pupils an introduction to some of these systems and why organisms need them.

Pupil Book Teaching Notes

Let's Learn

Remind pupils that humans and animals are also made up of many different parts. As a class, discuss some examples of body parts found on the inside and outside of animals and humans. Read the Let's Learn section of the Pupil Book together, discussing the ideas of survival, growth, behaviour and reproduction and the structures that help with each. Together, think of examples for each one, for example that humans' circulatory systems move blood around our bodies, which help us to survive; birds feed their young so that they can grow strong enough to fly; tigers' brains help them to hunt for prey; and fruits fall from trees and the seeds inside grow into new plants.

Let's Look

In their small groups, ask pupils to look at the Let's Look section of the Pupil Book. Encourage them to think carefully about the structures found on the inside and outside of each organism. They should name examples of structures that help each organism to survive, grow, behave and reproduce. When pupils have discussed their ideas as a group, share some suggestions for each as a class.

Let's Talk

Read the Let's Talk question. Suggest that pupils could choose their favourite organisms or an example of a local one. Give pupils time to discuss the structures of their organism. Ask some groups to share the name of their organism. Can they name a structure on the outside of the organism and explain what it does? What about a structure on the inside?

Let's Explore

As a class, read the Let's Explore section of the Pupil Book. As a class, discuss the needs of a plant and which structures help plants to get their needs. Give pupils time to plan their designs. You could ask pupils to discuss their ideas in groups or give them a piece of paper to help them plan. Move around the room as they do this, checking that pupils understand the task.

Ask pupils to complete the Workbook activities now, including colouring their designs.

Equipment

Starter

Mini-whiteboards and pens

Let's Explore

Colouring pencils

Go to YORK-E for the digital version.

Workbook Teaching Notes

The Workbook activities should be completed as part of the Let's Explore section of the Pupil Book.

Pupils should begin by drawing their design. They should have had some time to plan what they will draw and how they will show the structures needed to survive, grow, behave and reproduce. Encourage pupils to use the plant diagram in the Let's Learn section to show them how their diagram should look.

Next, pupils should label their design. This should be with simple labels identifying the plant parts, for example 'roots' and 'xylem'.

For the final activity, pupils should write one or two sentences for each heading, linking the structures of their plant to how it would survive, grow, behave and reproduce. Pupils should be encouraged to write one sentence explaining which structures are used for each and one sentence explaining how the structures are used. Work with pupils who need more support to put their ideas into simple sentences.

Go to YORK-E to check the digital

Plenary / Review

Put pupils into pairs, mixing pupils from different groups. Ask them to share their pla
each pupil to look carefully at their partner's work. Have they given their plant struct
survive, grow, behave and reproduce? When pupils have both shared their work, re
questions. Give the pairs some time to answer each question. As a class, make a li
structures help living things. Ask pupils to think about the structures of a plant. Can
structures to the list (for example 'thorns on a rose plant' could match with 'protect')?

1 Structures to Support

Objective

- Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behaviour, and reproduction.

Starter

Put pupils into small groups. Give each group a mini-whiteboard and pen or a piece of paper. Read the Let's Start question to pupils. Ask them to draw and write their ideas as they discuss them. When pupils have had some time to discuss their ideas in groups, ask some groups to share their ideas with the class. As they share the plant parts that they have discussed, draw and label them on the board to make a diagram of a plant. When pupils have named as many plant parts as they can remember, discuss what each part of the plant is used for.

Background Notes

In earlier learning, pupils have seen the structures of plants, including how fruits and seeds are used in reproduction, and how xylem transports water. They have also learned about organ systems, muscles and skeletons, and how these function in the human body.

In this lesson, pupils will link the structures and characteristics of living things to their survival, growth, behaviour and reproduction. Pupils have not yet learned about reproduction in humans or animals. They have learned that animals find m[illegible] and produce offspring and that mammals produce live young. For this lesson, it may help [illegible] reproductive system. These are the bo[illegible] understanding than this as they will le[illegible]

There are many structures and charact[illegible] and reproduce. The purpose of this les[illegible] and why organisms need them.

Pupil Book Teaching Notes

Let's Learn

Remind pupils that humans and animals are also made up of many different parts. As a class, discuss some examples of body parts found on the inside and outside of animals and humans. Read the Let's Learn section of the Pupil Book together, discussing the ideas of survival, growth, behaviour and reproduction and the structures that help with each. Together, think of examples for each one, for example that humans' circulatory systems move blood around our bodies, which help us to survive; birds feed their young so that they can grow strong enough to fly; tigers' brains help them to hunt for prey; and fruits fall from trees and the seeds inside grow into new plants.

Let's Look

In their small groups, ask pupils to look at the Let's Look section of the Pupil Book. Encourage them to think carefully about the structures found on the inside and outside of each organism. They should name examples of structures that help each organism to survive, grow, behave and reproduce. When pupils have discussed their ideas as a group, share some suggestions for each as a class.

Let's Talk

Read the Let's Talk question. Suggest that pupils could choose their favourite organisms or an example of a local one. Give pupils time to discuss the structures of their organism. Ask some groups to share the name of their organism. Can they name a structure on the outside of the organism and explain what it does? What about a structure on the inside?

Let's Explore

As a class, read the Let's Explore section of the Pupil Book. As a class, discuss the needs of a plant and which structures help plants to get their needs. Give pupils time to plan their designs. You could ask pupils to discuss their ideas in groups or give them a piece of paper to help them plan. Move around the room as they do this, checking that pupils understand the task.

Ask pupils to complete the Workbook activities now, including colouring their designs.

Equipment

Starter

- Mini-whiteboards and pens

Let's Explore

- Colouring pencils

Go to YORK-E for the digital version.

Activities like "Let's Explore" and "Let's Reflect" empower students to take ownership of their learning through creative thinking and reflection.

[illegible] Pupil Book.

[illegible] what they [illegible] eproduce.

[illegible] their diagram

[illegible] plant parts, for example 'roots' and 'xylem'.

For the final activity, pupils should write one or two sentences for each heading, linking the structures of their plant to how it would survive, grow, behave and reproduce. Pupils should be encouraged to write one sentence explaining which structures are used for each and one sentence explaining how the structures are used. Work with pupils who need more support to put their ideas into simple sentences.

Go to YORK-E to check the digital [illegible]

Plenary / Review

Put pupils into pairs, mixing pupils from different groups. Ask them to share their pla[illegible] each pupil to look carefully at their partner's work. Have they given their plant struct[illegible] survive, grow, behave and reproduce? When pupils have both shared their work, re[illegible] questions. Give the pairs some time to answer each question. As a class, make a l[illegible] structures help living things. Ask pupils to think about the structures of a plant. Can [illegible] structures to the list (for example 'thorns on a rose plant' could match with 'protect')?

UNIT 1

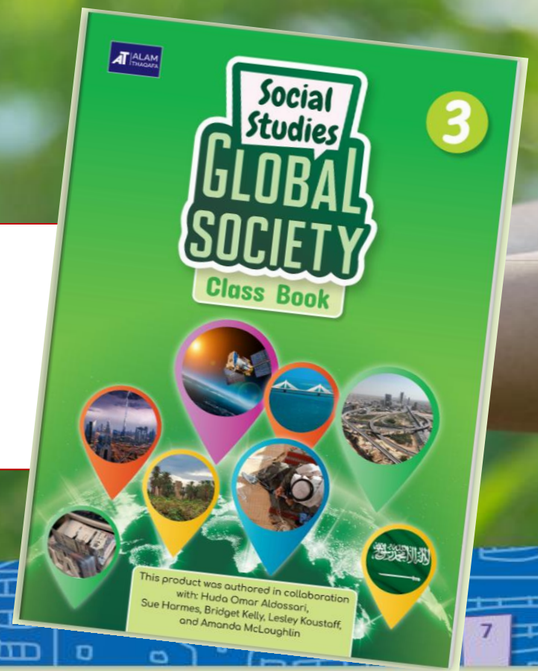
HOW CAN I BE THE BEST I CAN BE?

Key Words
citizen
dependable
generous
honest
loyal

In this unit, the Big Questions are:

- **Lesson 1**: What makes a good citizen?
- **Lesson 2**: How can I be kind?
- **Lesson 3**: How can I be honest?
- **Lesson 4**: How can I be loyal?
- **Lesson 5**: How can I be dependable?

Inclusion of "Big Questions" that frame learning objectives in ways that connect to real-life scenarios.



Lesson 3 How can I be honest?

By the end of this lesson, you will be able to:
- talk about how to be honest
- explain why it is important to be honest

The words I need to learn:
to borrow honest to keep
money right wrong

1 Talk together.

1 We should always be honest. What does this mean?
2 Why is it important to be honest?

Did you know?
Being honest shows that you care about yourself and others, and helps other people to be honest, too.

2 Who was honest? Read and check ✓.

1 My brother helped me with my homework. I told my teacher that I did my homework all by myself. ☐
2 I found some money in the yard. I kept it. ☐
3 I told my friend that I was too tired to go to the park with her. ☐
4 I broke my grandma's cup. I told her what happened. ☐

3 Read and match.

1 
Sara

I found some money in the playground at school. Can I keep it?

2 
Naif

I lost the book that I borrowed from my friend. What should I do?

3 
Manar

I found a toy bear in the park. Can I give it to my little sister?

a 

4 Think and write.

What do you think the children should do next?

Sara: _____
Naif: _____
Manar: _____

What does it mean?
honest – not likely to lie, cheat, or steal

5 Look and read the texts.

What did the children do next? Were they right or wrong?

1 **Sara:** I put the money in my pocket. In the afternoon, I saw my sister's friend Dina. She looked sad. She said, "I have lost my money." I felt bad. I gave her the money I found.

2 **Naif:** I couldn't find the book, so I bought a new book. I told my friend what happened and gave the new book to him. He was happy.

3 **Manar:** There were no children in the park. I took the toy bear home with me to look after it. The next day, I went to the park again. I took the toy bear with me.

Activities like discussing honest actions or brainstorming solutions to loyalty scenarios promote teamwork and critical problem-solving.

Think of a time when you did something honest. Write what happened.

_____
_____
_____

What can I do?
I can talk about how to be honest. ☐
I can explain why it is important to be honest. ☐

Think about this lesson.
How much did you understand?
○ red ○ orange ○ green

Lesson 3 How can I be honest?

By the end of this lesson, you will be able to:
- talk about how to be honest
- explain why it is important to be honest

Student's Book, pages 12–13

1 Talk together.

- Read the lesson title/*Big Question* and lesson objectives to the class. Explain that by the end of the lesson, students will be able to answer the *Big Question*.
- Ask students what they can remember from the last lesson.
- Direct students to *The words I need to learn* box and check that they understand the words.
- Read the questions and check that students understand them.
- Students discuss the questions in pairs or small groups.
- Open it up into a class discussion and check their answers.
- Finally, draw students' attention to the *Did you know?* box. Ask them to read it and check that they understand it.

Answers

Suggested answers:
1 Being honest means always telling t… not stealing.
2 It is important to be honest as it sho… care about other people and their fe… helps other people to think the same…

2 Who was honest? Read and chec…

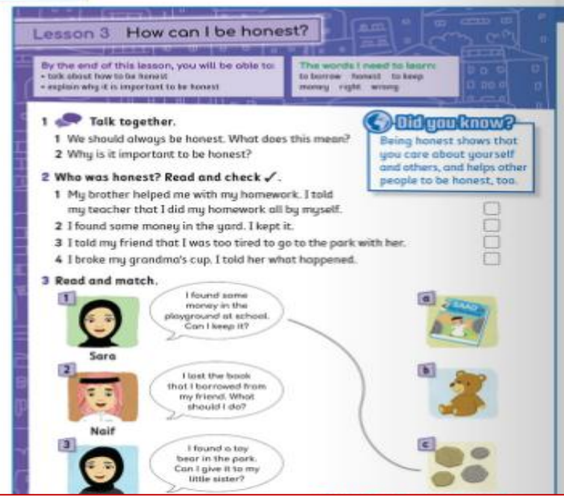
- Explain the task. Students read the s… decide if the person was being hones… check ✔ the sentences showing hone…
- Students complete the activity indivi… they compare their answers in pairs.
- Check the answers as a class. Ask students to read out the sentences and say if the behavior is honest or not. They should explain why.

Answers

3 and 4 should be checked

3 Read and match.

- Ask students to look at the pictures and say what they can see.
- Explain that students need to match each person on the left to the correct picture on the right. Read the example answer and ask students to look at the

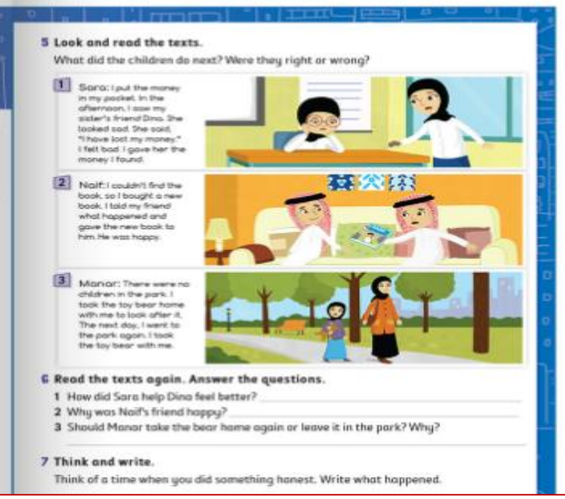


1 c 2 a 3 b

4 Think and write.

- Put students in pairs or small groups and ask them to discuss what each child should do.
- After discussing some ideas, ask students to choose their favorite idea for each child and write it in their book.
- Elicit some ideas from the class. You may like to write students' suggestions on the board for reference in Activity 5. You could also ask students what would happen next if the children are not honest.

Differentiation
+ Following Activity 4, ask above-level students to write why they think each child should do their suggested action.
– Following Activity 4, ask below-level students to answer the question for just one of the children.



Manar shouldn't give the toy bear to her little sister. She should leave it in the park in case the bear's owner comes back to look for it.

5 Look and read the texts.

- Explain to students that now they are going to read what the children actually did in each situation.
- Ask them to read the texts individually. They can use the pictures to help them with understanding.
- Ask the questions and have a class discussion. Students should say what each child did next and whether it was right or wrong.
- If you wrote students' suggestions from Activity 4 on the board, you could encourage students to read these again to help them decide if the children's behavior was right or wrong.
- Students could also work in small groups to act out the stories.

Answers

1 Roula kept the money. She was wrong to do that as the money wasn't hers; it belonged to her sister's friend Dina.
2 Bodhi bought a new book to replace the book he lost. He did the right thing.
3 Alice took the toy bear home and then brought it to the park the next day. She perhaps should have left it in the park as the child who lost it may look for it there.

6 Read the texts again. Answer the questions.

- Read the questions and check that students understand them.
- Ask students to read the texts again and write their answers individually. Then they can compare in pairs.
- Elicit some answers from the class.

Answers

1 Sara gave Dina the money that she had found.
2 Naif's friend was happy that Naif was honest and that he bought him a new book.
3 Manar should leave the bear in the park in case the bear's owner comes back to look for it.

…ething honest.
…ing to write
…st.
…scuss times
…eir writing.
…d. Tell students
…, and why it was
…rd for extra

…king, offering

- If you have time, put students into pairs with someone different and tell them to read their answers out to each other.

Answers

Students' own answers

What can I do?
- Ask students to read the *What can I do?* statements and check ✔.

Think about this lesson.
How much did you understand?
- Ask students to check ✔ the red, orange, or green circle that applies to them. Offer help to any students who check ✔ the red circle.

Comprehensive Teacher notes to facilitate scenarios and encourage role-play or peer discussion, which builds leadership qualities like empathy and decision-making.

Lesson 4 How can I be loyal?

By the end of this lesson, you will be able to:
- talk about how to be loyal
- say why it is important to be loyal

The words I need to learn:
a friend loyal a project
to trust

1 Talk together.

1 Who are you loyal to?
2 In what way are you loyal? Give an example.

What does it mean?
loyal – always giving your support to someone or something, even when it is difficult

2 Read the story. Who is a loyal friend?

1 Sami, Fouad, and Rawad are friends. They are at the library. Sami wants to stay and finish his project. His friends are waiting for him.

2 Shadi wants Fouad and Rawad to come with him. He doesn't want them to wait. Rawad goes with Shadi. Fouad stays with Sami.

3 Later, Sami and Fouad walk hom
together. They see Rawad on his

3 Read the story again. Answer the questions.

1 Why doesn't Sami want to leave the library? _____
2 Why does Fouad stay with Sami? _____
3 Is Rawad a loyal friend? Why/Why not? _____
4 The next time Sami asks Rawad to wait for him, do you think that he will? Why/Why not? _____

4 Read about Khalil and Rana. Who or what is each child loyal to?

Mini Projects - tasking students with writing a story about how they can show loyalty to friends, allowing creativity and critical thinking.

Why not?

_____

_____

_____

6 Talk together.

1 Explain why it is important to be loyal to your friends and family.
2 Who or what else might someone be loyal to?

Mini project
How can you be loyal to your friends? Write a story. Draw pictures.

What can I do?
I can talk about how to be loyal. ☐
I can say why it is important to be loyal. ☐

Think about this lesson.
How much did you understand?
red orange green

Lesson 4 How can I be loyal?

By the end of this lesson, you will be able to:
- talk about how to be loyal
- say why it is important to be loyal

Student's Book, pages 14–15

1 Talk together.
- Read the lesson title/*Big Question* and lesson objectives to the class. Explain that by the end of the lesson, students will be able to answer the *Big Question*.
- Direct students to *The words I need to learn* box and check that they understand the words.
- Read the *What does it mean?* box and check that they understand the meaning of *loyal* (always giving your support to someone or something, even when it is difficult). You may like to give some examples.
- Direct their attention to Questions 1 and 2. Students discuss them in pairs or small groups.
- Then open it up into a class discussion.

Answers
1 **Suggested answers:** family, friends
2 Students' own answers, for example to help a friend join in.

2 Read the story. Who is a loyal friend?
- Before students start the task, ask th… they can see in the pictures. Help the… vocabulary.
- Make sure students understand the t… going to read a story about three frie… Fouad, and Rawad) and they have to … person is a loyal friend.
- Give students time to read the story. … them to use the pictures to help them … context.
- Ask the question and have a class discussion. Ask students to explain the correct answer.

Answer
Suggested answer:
Fouad is a loyal friend. He waits for Sami.

3 Read the story again. Answer the questions.
1 Why doesn't Sami want to leave the library?
2 Why does Fouad stay with Sami?
3 Is Rawad a loyal friend? Why/Why not?
4 The next time Sami asks Rawad to wait for him, do you think that he will? Why/Why not?

4 Read about Khalil and Rana. Who or what is each child loyal to?

5 Answer the questions.
1 Do you think that it is important to spend time with your family? Why/Why not?
2 How do you show that you are loyal to your family and friends?
3 What teams or groups are you loyal to?

6 Talk together.
1 Explain why it is important to be loyal to your friends and family.
2 Who or what else might someone be loyal to?

Mini project
How can you be loyal to your friends? Write a story. Draw pictures.

What can I do?
I can talk about how to be loyal. ☐

Think about this lesson.

Answers
1 Because Sami wants to finish his project.
2 Because Fouad is a loyal friend.
3 No, because Rawad didn't wait for Sami and that wasn't loyal. But he says that he will be loyal next time.
4 Yes, Rawad will be loyal to his friend Sami.

Differentiation
+ Following Activity 3, ask above-level students to write what Rawad should have done.
– For Activity 3, write key words on the board for each question to help below-level students locate the information they need in the text to answer the questions.

5 Answer the questions.
- Ask students to discuss the questions in pairs.
- Open it up into a class discussion.

Answers
Khalil is loyal to his family. Rana is loyal to her school volleyball team.

6 Talk together.
- Ask students to read the questions and check that they understand them.
- Students discuss the questions in pairs or small groups. Encourage them to justify their answers.
- Open it up into a class discussion.

Answers
Suggested answers:
1 It is important to be loyal to friends and family so you have good relationships with them. They will always be there to help you when you need it.
2 Their class, their school, the place where they work, their sports team, clubs they belong to, their country.

Mini project
- Explain the task. Students are going to create a story about how they can be loyal to their friends. Have a class discussion and write their ideas on the board.
- Students work in pairs or small groups to complete … story first and … old a piece of … story into four … sentence … dd speech …
- … as they work. … hey can draw …
- Give students plenty of time to complete the activity.
- Display the stories on the classroom wall. Encourage students to read and present their stories and explain why it is an example of being loyal. Praise all good work.

What can I do?
- Ask students to read the *What can I do?* statements and check ✔.

Think about this lesson.
How much did you understand?
- Ask students to check ✔ the **red**, **orange**, or **green** circle that applies to them. Offer help to any students who check ✔ the red circle.

Clear teaching notes providing differentiation tips to address diverse learning needs and support lesson flow

Lesson 5 How can I be dependable?

By the end of this lesson, you will be able to:
- say what it means to be dependable
- talk about how to solve a problem

The words I need to learn:
advice dependable to let someone down
a neighbor a problem to solve

1 Talk together.

1 Think of someone you know who is dependable.
2 How do they show that they are dependable?

What does it mean?
dependable – always doing what he/she says he/she will do

2 Read and complete. Why is Hanan writing a letter?

advice dependable every
neighbor ~~problem~~ together

Auntie Dima's advice page

Dear Auntie Dima,

Please can you help me? I

Every Tuesday after schoo
Mrs. Hussain. She can't se
flowers, fruit, and vegetab
is happy to see me [4]_____
gives me fruit and vegetab

However, next week I have
birthday. She has invited n
want to go, but I don't want to let Mrs. Hussain down. It is important to be [5]_____.

Please can you give me some [6]_____?

Thank you,

Hanan

3 Ask and answer with your partner.

What advice should Auntie Dima give to Hanan?
Check ✓ the good advice. Cross ✗ the bad advice.

1 Go to Salwa's party. Don't tell Mrs. Hussain. You can say sorry next week. ☒

2 Go and see Mrs. Hussain today. Tell her about your problem and ask what you can do. ☐

3 Tell Salwa that you can't celebrate her birthday with her. You can't let Mrs. Hussain down. ☐

4 Ask your mother if she can help Mrs. Hussain next week. ☐

5 Ask Salwa if she can celebrate her birthday on Monday instead. ☐

4 1.4 Listen and check.

problem together.

5 Mrs. Hussain will be **happy / angry** that you asked her.

6 Think and write.

How do you show that you are dependable?

_____

_____

Students move from understanding the meaning of dependability to applying it through decision-making scenarios and discussions.

Game time

Work in pairs, Student A and Student B. Student A asks for advice about a problem (a real problem or one you made up). Student B gives advice. Then Student B asks for advice and Student A gives advice.

What can I do?

I can say what it means to be dependable. ☐
I can talk about how to solve a problem. ☐

Think about this lesson.
How much did you understand?

○ red ○ orange ○ green

Lesson 5 How can I be dependable?

By the end of this lesson, you will be able to:
- say what it means to be dependable
- talk about how to solve a problem

Student's Book, pages 16–17

1 Talk together.

- Read the lesson title/*Big Question* and lesson objectives to the class. Explain that by the end of the lesson, students will be able to answer the *Big Question*.
- Direct students to the *The words I need to learn* box and check that they understand the words.
- Read the *What does it mean?* box and check that they understand the meaning of *dependable* (always doing what he/she says he/she will do). You may like to give some examples.
- Put students into pairs to discuss the questions.
- Open it up into a class discussion.

Answers

Students' own answers

2 Read and complete. Why is Hanan writing a letter?

- Ask students to look at the letter. Ask them where they think a letter like this would be found (in a magazine).
- Read the question and elicit the answer from the class. Explain that the text is an advice page and that children write to Auntie Dima when they want advice about a problem.
- Now explain the task. Students complete the letter with the correct words in the word box.
- Read the words in the word box with the class and check that students understand them.
- Ask them to complete the letter individually and then check the answers as a class.

Answers

Hanan is writing a letter to ask Auntie Dima for advice about a problem.
1 problem **2** neighbor **3** together **4** every
5 dependable **6** advice

3 Ask and answer with your partner.

- Read the instructions and check that students understand the task.
- Do the first one with the class as an example. Put students into pairs to complete the task.
- Check the answers as a class. Ask students to give reasons for their choices.

Answers

1 ✗ You are not dependable.
2 ✔ This is good advice. Mrs. Hussain will help you to solve the problem.
3 ✗ Salwa and you will both be unhappy.
4 ✔ Make sure you check with your mother first because she might be too busy to help Mrs. Hussain.
5 ✗ Salwa can't change her birthday!

4 1.4 Listen and check.

- Ask students to predict which advice from Activity 3 they think that Auntie Dima will give to Hanan.
- Play the recording for them to listen and check. Play it as many times as necessary.
- Check the answer as a class.

Answer

Number 2 from Activity 3 is Auntie Dima's advice:
Go and see Mrs. Hussain today. Tell her about your problem and ask what you can do.

- Explain the task. Students are going to listen to the recording again and circle the correct words in the sentences.
- Play the recording again all the way through. Then play it again, pausing after each sentence is mentioned to give them time to circle the words.
- Check the answers as a class.

Answers

1 problem **2** neighbor; dependable **3** down
4 solve **5** happy

6 Think and write.

- Read the question and check that students remember the meaning of *dependable* (always doing what he/she says he/she will do).
- Ask students to discuss their ideas in pairs before they write their texts individually.
- Students work in small groups to read their texts to each other.
- At the end, ask a few students to read their texts to the class.

Answers

Students' own answers

Game time

- Students work in pairs. They think of a real or made-up problem they would like to get advice for.
- They take turns to ask for advice from their partner and listen to the advice that their partner gives them.
- At the end of the game, ask a few pairs to role-play asking for and giving advice for the class.

What can I do?

- Ask students to read the *What can I do?* statements and check ✔.

Think about this lesson. How much did you understand?

- Ask students to check ✔ the **red**, **orange**, or **green** that applies to them. Offer help to any ...nts who check ✔ the red circle.

...the unit

- Write the lesson heads on the board:
  1 What makes a good citizen?
  2 How can I be kind?
  3 How can I be honest?
  4 How can I be loyal?
  5 How can I be dependable?
- Ask students to answer each question to show how much they have learned in Unit 1. Praise all their good work.

Differentiation

+ Following Activity 6, ask above-level students to include why they think it is important to be dependable.
– Write the beginning of the sentence on the board for below-level students to copy and complete (*I show that I am dependable by ...*).

COFFEE BREAK

Good Work!

Section 2 Complete.

Get Ready

Time for Part 3.

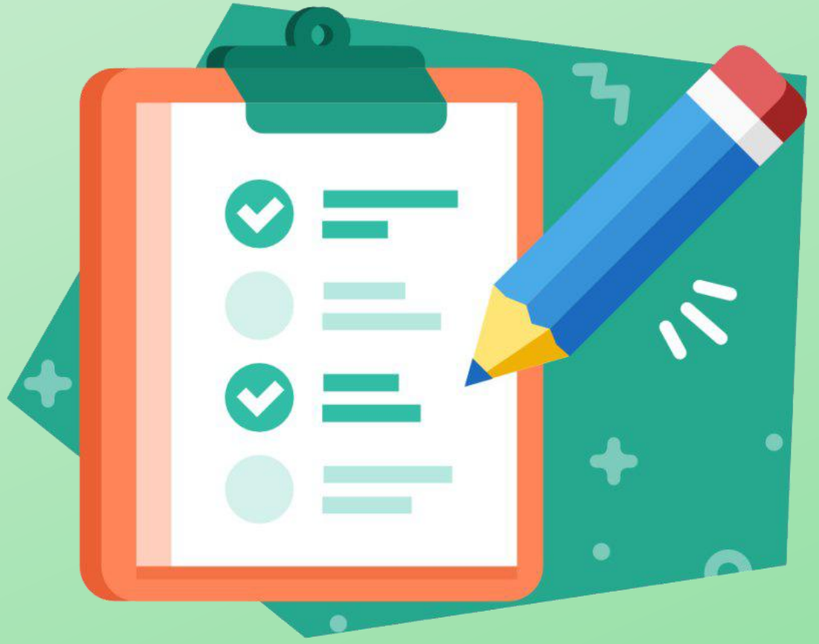
Sustainability in Education

(Part3) Session Objectives

1. Understand the **importance of developing green skills** in learners on a global context.

2. Recognize the **link between inquiry based learning and essential skills for a green future**.

3. Explore **examples of where green concepts are applied within education systems**.



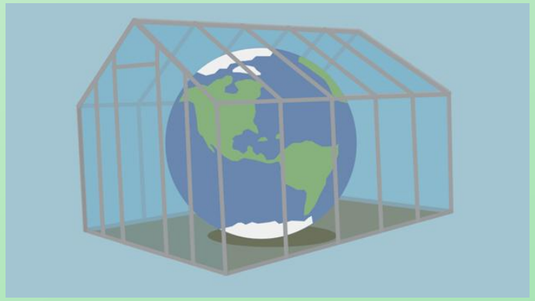
Prior Knowledge Quiz Time

Decipher The Green Facts!

Decipher The Green Facts!

A. 1.29^{o}C

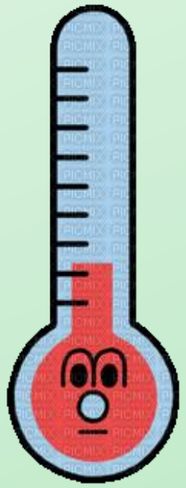
B. 425 parts per million



C. 17%

D. 3.5 billion people

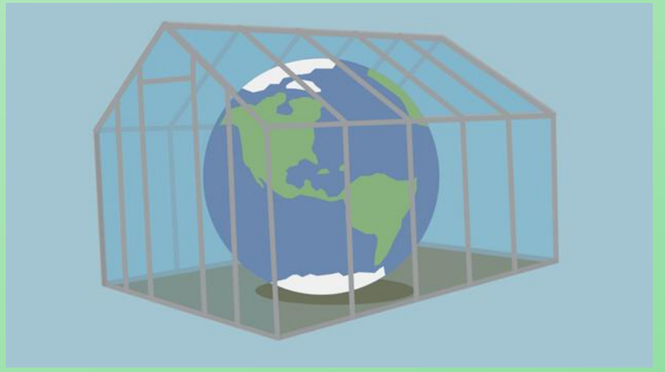
Did You Know?



A. 1.29°C

Global temperatures in 2024 were 1.29°C warmer than the 20th century average and higher than any other year since records began in 1850. What's more, the 10 hottest years on record have all been in the past decade.

B. 425 parts per million



The concentration of carbon dioxide (CO_2) in our atmosphere, as of 2024 is the highest it has been in human history.

Did You Know?

C. 17%

Among the assessable Sustainable Development Goals targets, only **17%** are on track to be achieved by 2030.

D. 3.5 billion people

Approximately 3.5 billion people in 2025 will face water shortage issues. This will be mainly due to water pollution.

The Need For A Green Future

Melting of Polar Ice Caps

1. Identify the issue
2. What is the cause?
3. What impact will it have?
4. How can it be prevented?

1. Identify the issue
2. What is the cause?
3. What impact will it have?
4. How can it be prevented?


2.


3.


4.

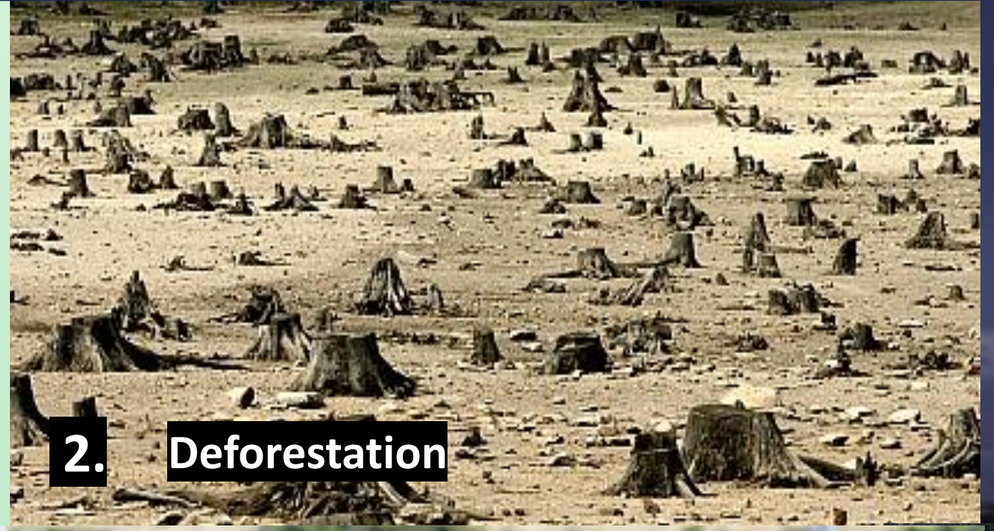

5.


6.

The Need For A Green Future

YORK PRESS

1. Identify the issue
2. What is the cause?
3. What impact will it have?
4. How can it be prevented?


2. Deforestation


3. Air Pollution


4. Waste (Plastics) Production


5. Threat to Biodiversity


6. Water Pollution

The Need For A Green Future

YORK PRESS

Sustainability in Education

Let’s understand sustainability in the context of Education or often referred to as

Education for Sustainable Development (ESD).

‘Sustainability in Education’

What does it mean?

‘Sustainability in Education’

What does it mean?

To embrace a variety of educational approaches and resources

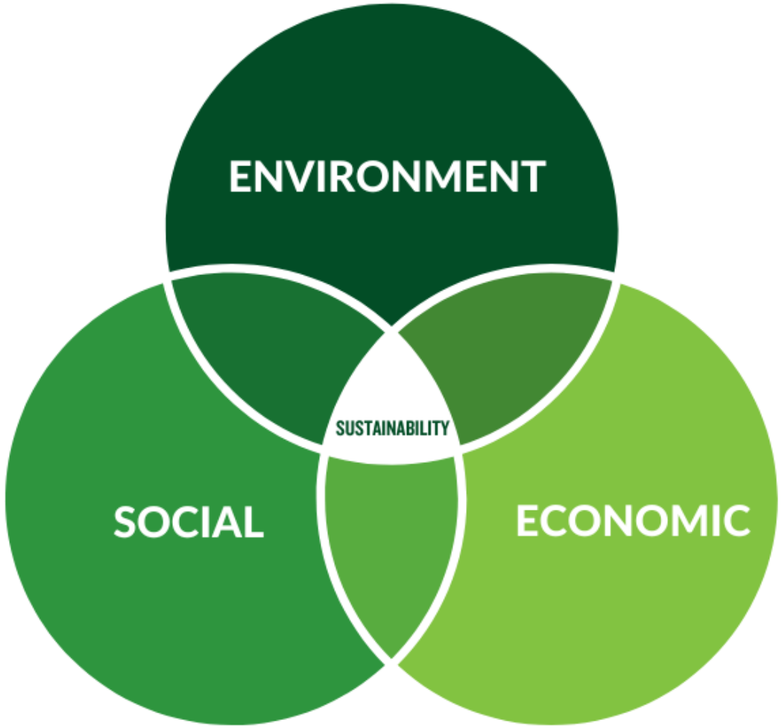
that aim to develop the knowledge, skills, values, and attitudes required

for learners to actively participate in creating a more sustainable and just world.

(UNESCO)

Understanding Sustainability

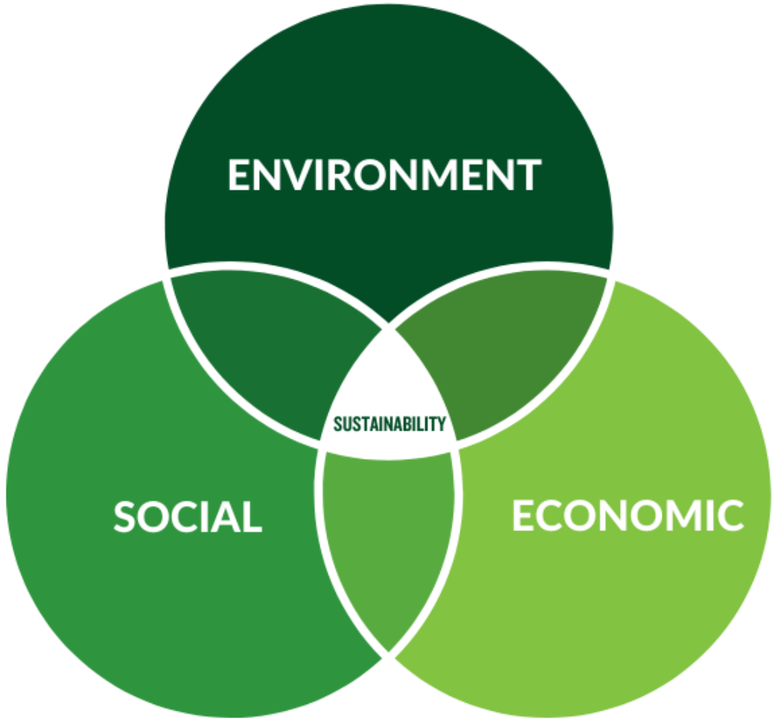
Although sustainability is linked to the environmental movement, the notion that it is only focused on the environment is a **misconception**.



Understanding Sustainability – The Three Pillars

Sustainability is based on three dimensions:

1. Environmental Sustainability
2. Social Sustainability
3. Economic Sustainability



Understanding Sustainability – The Three Pillars

Environmental Sustainability:

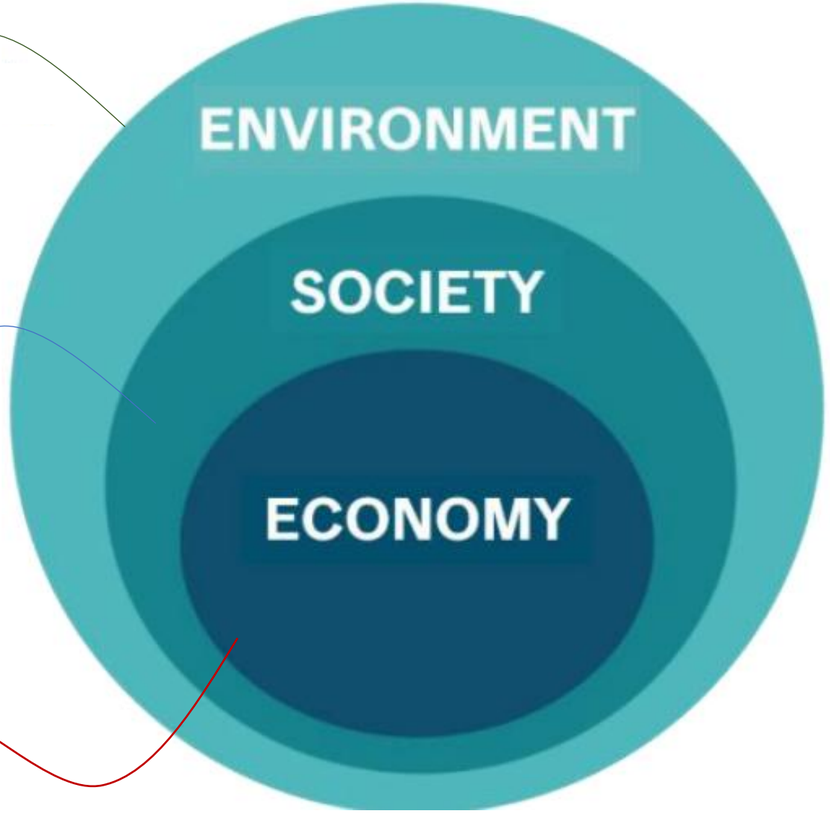
occurs when **humanity's rate of consumption** does not exceed **nature's rate of replenishment** and when **humanity's rate of generating pollution** and emitting greenhouse gases does not exceed **nature's rate of restoration**.

Social Sustainability:

is the ability of a society to **uphold universal human rights** and meet people's basic needs, such as healthcare, education, and transportation. Healthy communities ensure personal, labour, and cultural rights are respected and all people are protected from discrimination.

Economic Sustainability:

is the ability of human communities around the world to **maintain their independence and have access to the resources required to meet their needs**, meaning that secure sources of livelihood are available to everyone.



Sustainability in Education

What are the benefits of integrating Sustainability in Education?

YORK PRESS

Benefits of Integrating Sustainability

Student Awareness on:

- Climate Change
- Resource Depletion
- Preserving Biodiversity
- Promoting Social and Economic Development
- Public Health Benefits
- Long Term Cost Effectiveness

Benefits of Integrating Sustainability

Student Awareness on:

- Food Security
- Natural Resources
- Environmental Impact (Organic farming)
- Economic Stability in Rural Areas
- Public Health Benefits

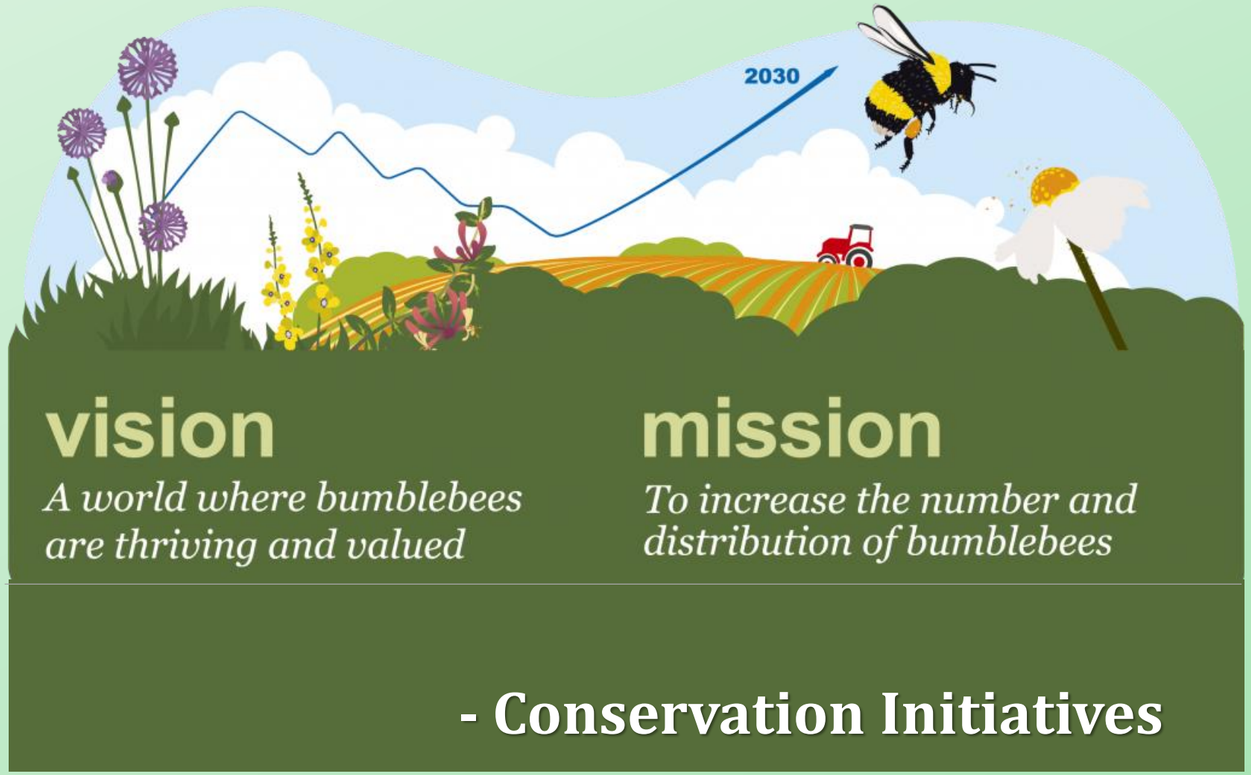
Benefits of Integrating Sustainability

- Reduce, Reuse, Recycle

Student Awareness on:

- Resource Conservation
- Environmental Benefits (reduces waste and pollution)
- Energy Savings
- Cost Savings for Businesses
- Social Benefits – cultural shift

Benefits of Integrating Sustainability

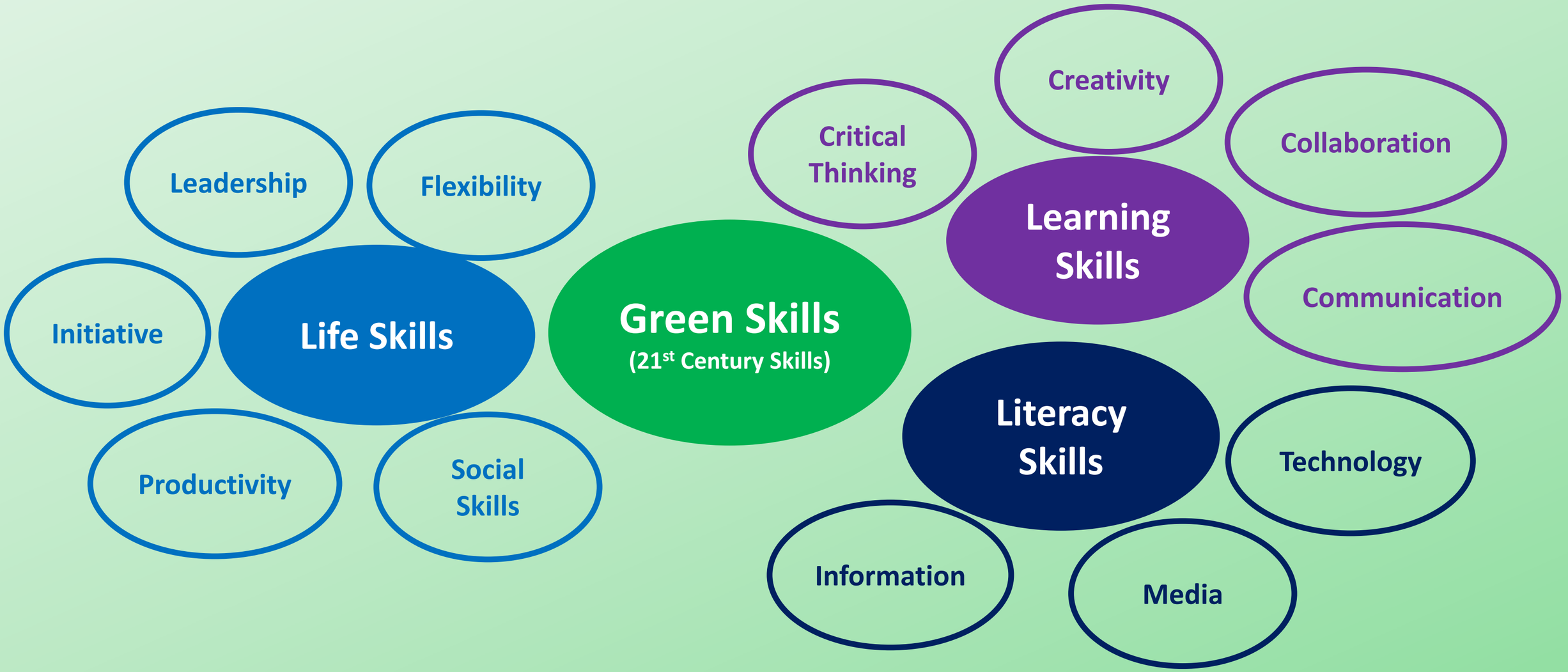


Student Awareness on:

- Preserving Biodiversity
- Sustaining Ecosystem Services
- Mitigating Climate Change
- Promoting Sustainable Use of Resources

Group Activity:

Identify the skills needed for the future generation to overcome global environmental issues.


Leadership
Flexibility
Initiative
Life Skills
Productivity
Social Skills
Green Skills
(21st Century Skills)
Critical Thinking
Creativity
Collaboration
Learning Skills
Communication
Literacy Skills
Technology
Information
Media

Embedding Sustainability in Education

Interdisciplinary Learning: Encourage students to see the connections between subjects, understanding how sustainability is a multifaceted issue.

Critical Thinking: Promote critical analysis of sustainability issues, encouraging students to evaluate sources of information and develop their viewpoints.

Embedding Sustainability in Education

Active Learning: Focus on hands-on, experiential learning where students actively engage in solving sustainability challenges.

Community Engagement: Connect with local communities and organizations to provide students with real-world contexts and opportunities for practical involvement.

Group Discussion

The Importance of the Inquiry-based approach.

Group Discussion

“Tell me, and I forget,
Teach me, and I may remember,
Involve me, and I learn.”

Do you agree?

Benjamin Franklin, Scientist and Founding Father of the United States of America

An Introduction To Inquiry Based Learning

Q. What is inquiry-based learning? What does it look like in a classroom?

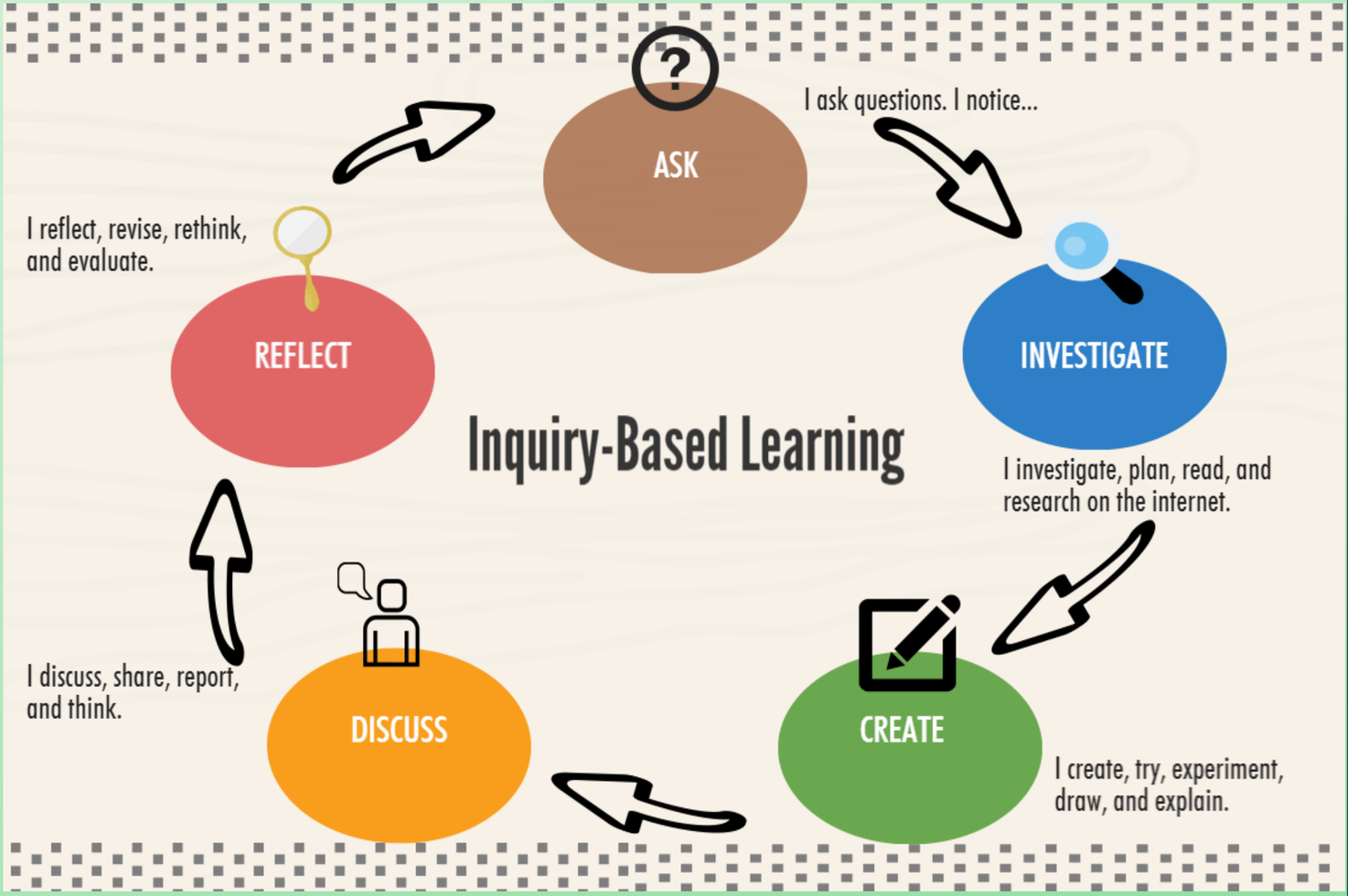
Inquiry-Based Learning (IBL) is an educational approach that centers on the active engagement of learners in the process of **asking questions**, **investigating**, and **seeking solutions** to real-world problems.

Why Inquiry Based Learning?

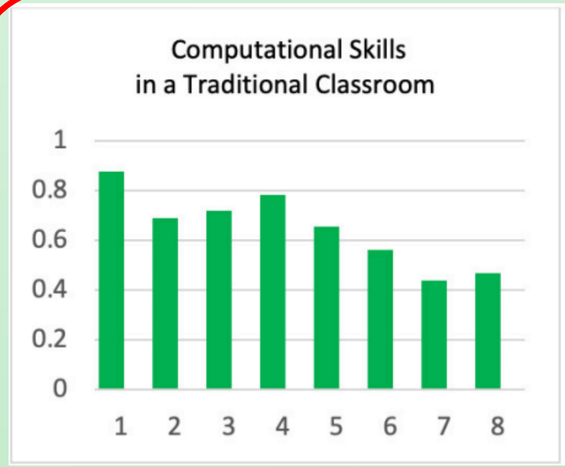
IBL encourages a

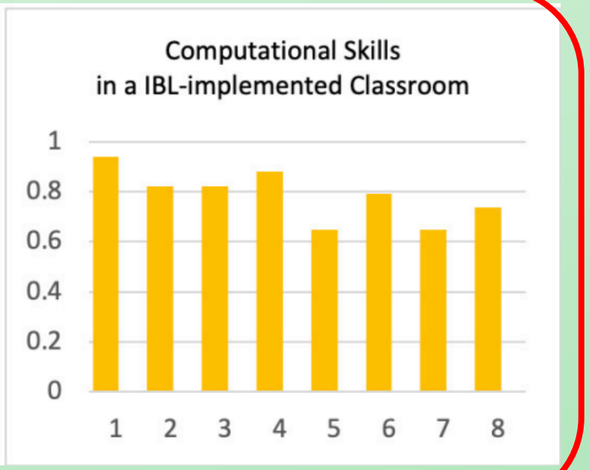
- **student-centered**,
- **interactive**, and
- **experiential learning environment**

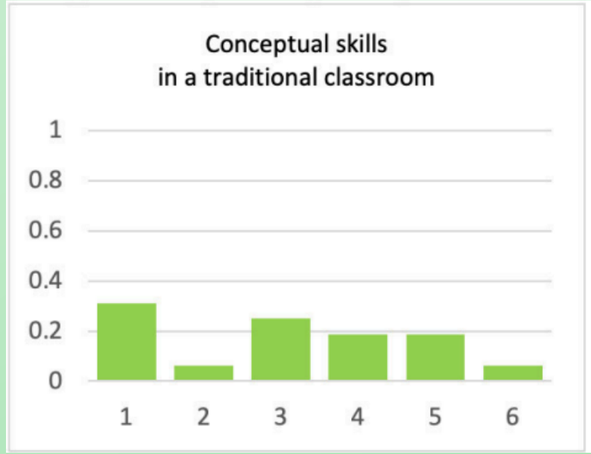
that promotes a deeper understanding of concepts and the development of 21st century skills essential for success in the modern world

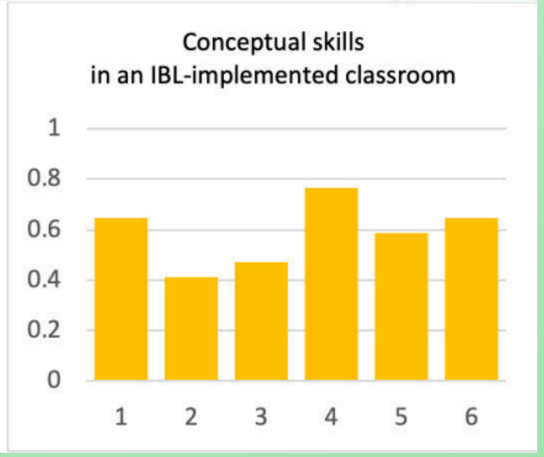


Why Inquiry Based Learning?





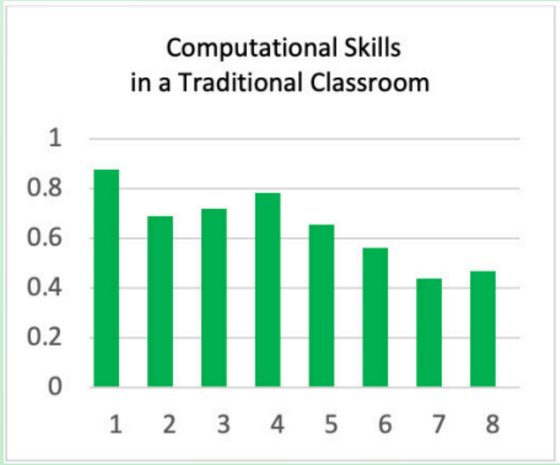


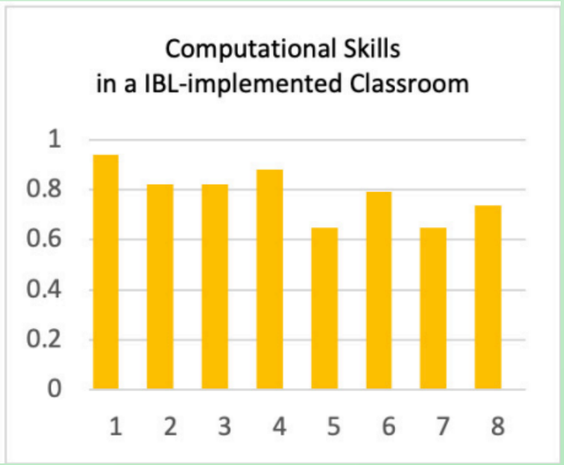


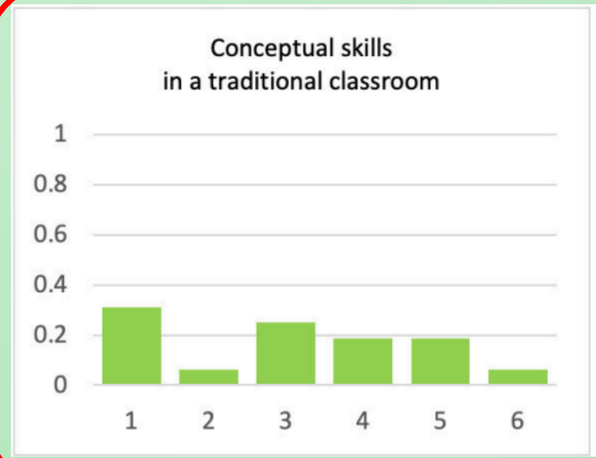
IBL can improve learners' communication skills, written work, and statistical analysis, which leads to improvements in their **computational skills** and **conceptual understanding**.

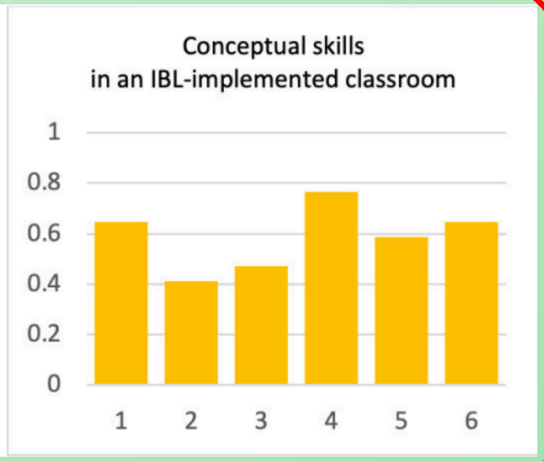
Lee, J., and Ban, S. (2022)

Why Inquiry Based Learning?





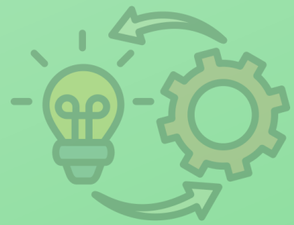




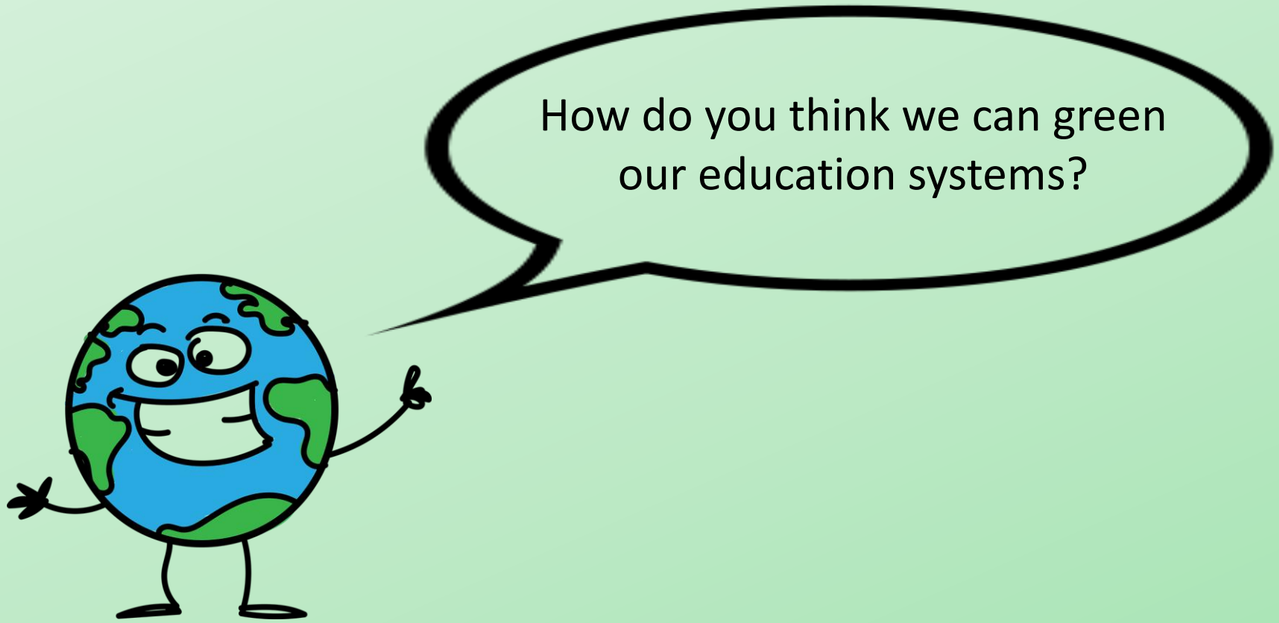
IBL can improve learners' communication skills, written work, and statistical analysis, which leads to improvements in their **computational skills** and **conceptual understanding**.

Lee, J., and Ban, S. (2022)

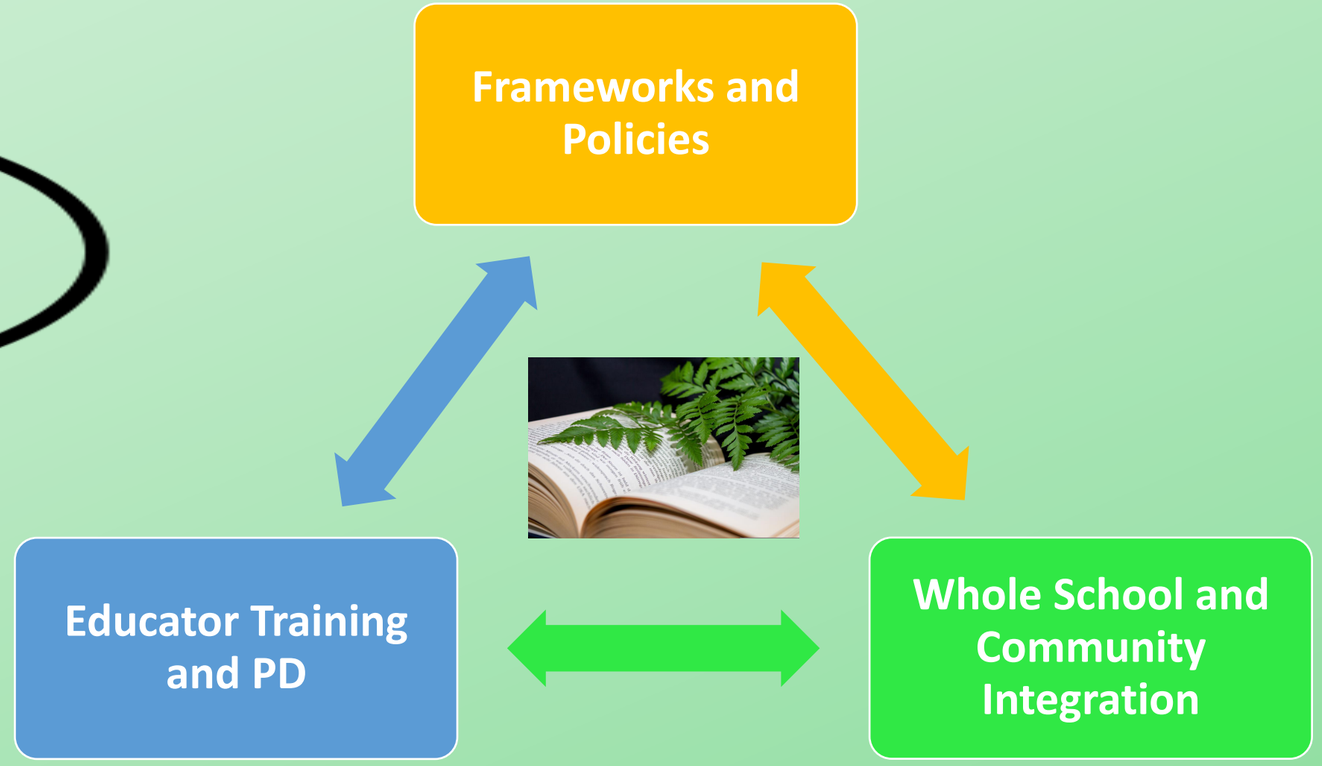
Q. What are the most difficult factors when implementing green concepts as an educator?



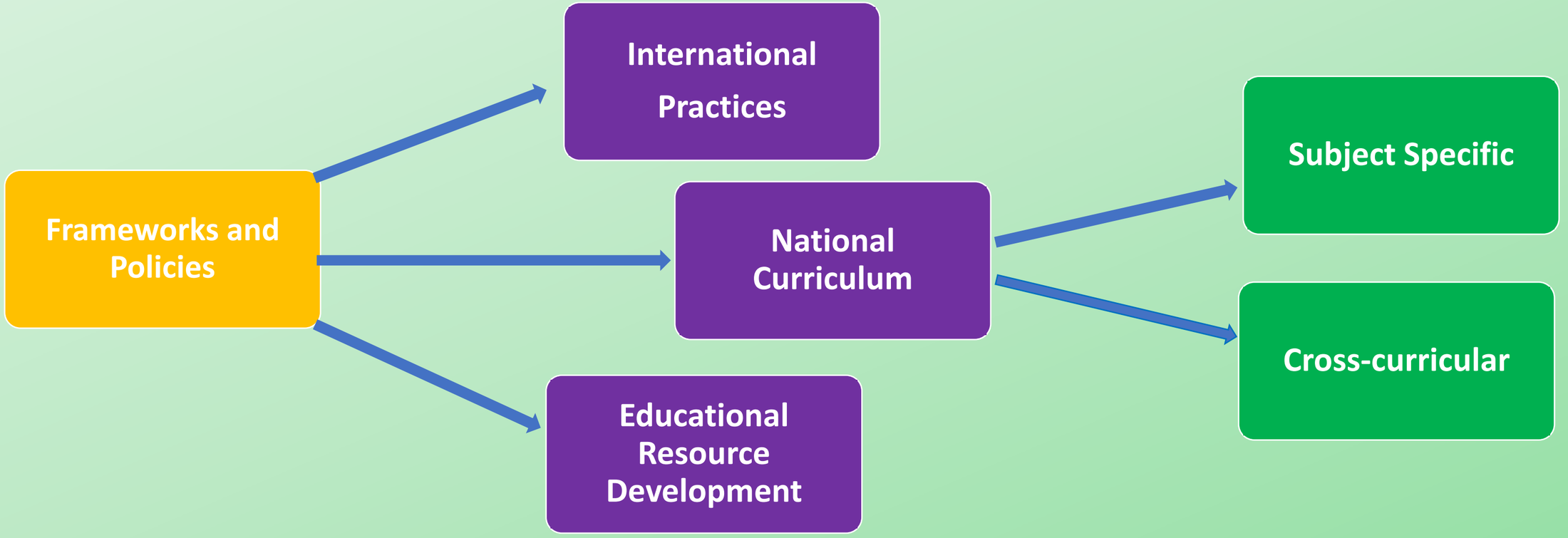
Greening Education



Greening Education



Embedding Green Concepts into Frameworks and Policies



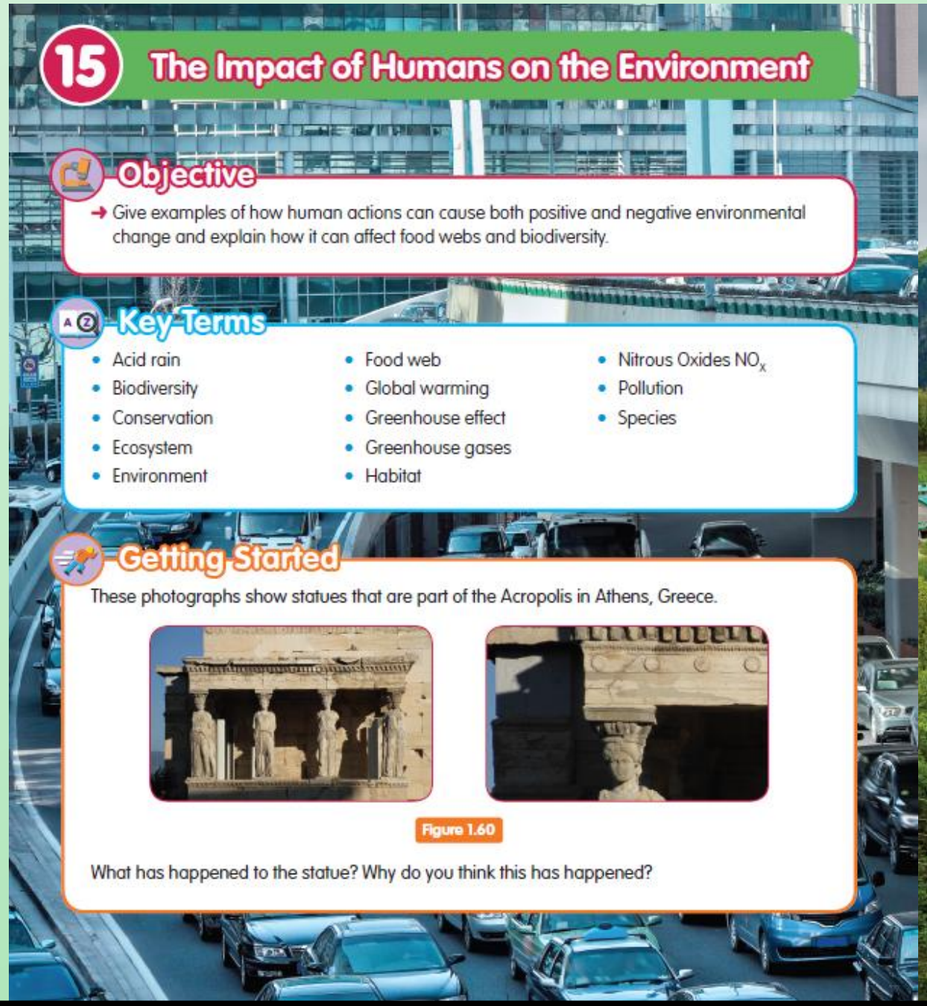
Subject Specific Approach

Sciences – Biology

Focus on environmental science topics like climate change, biodiversity, and renewable energy.

Problems based on real world issues relating to environment.

Source:
Grade 8 Global Science Biology



15 The Impact of Humans on the Environment

Objective

→ Give examples of how human actions can cause both positive and negative environmental change and explain how it can affect food webs and biodiversity.

Key Terms

- Acid rain
- Biodiversity
- Conservation
- Ecosystem
- Environment
- Food web
- Global warming
- Greenhouse effect
- Greenhouse gases
- Habitat
- Nitrous Oxides NO_x
- Pollution
- Species

Getting Started

These photographs show statues that are part of the Acropolis in Athens, Greece.

Figure 1.60

What has happened to the statue? Why do you think this has happened?

16 Conservation of the Environment

Objective

→ Recognise why conservation of the environment is important and suggest some methods of environmental conservation.

Key Terms

- Biodiversity
- Breeding programme
- Conservation
- Consumer
- Critically endangered
- Ecosystem services
- Environment
- Extinct
- Habitat
- Producer
- Species

Getting Started

Which is the odd one out?

Figure 1.64

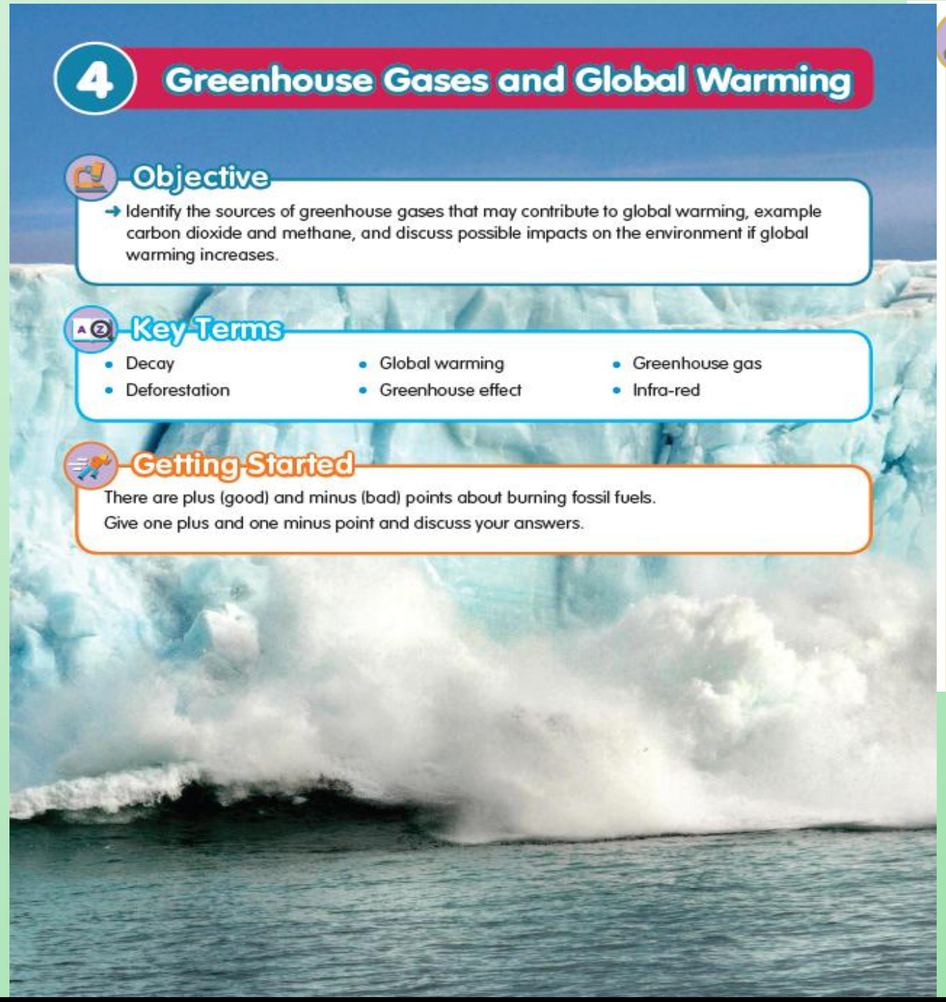
Subject Specific Approach

Sciences – Chemistry

Focus on environmental science topics like climate change, biodiversity, and renewable energy.

Problems based on real world issues relating to sustainability.

Source:
Grade 9 Global Science Chemistry



4 Greenhouse Gases and Global Warming

Objective

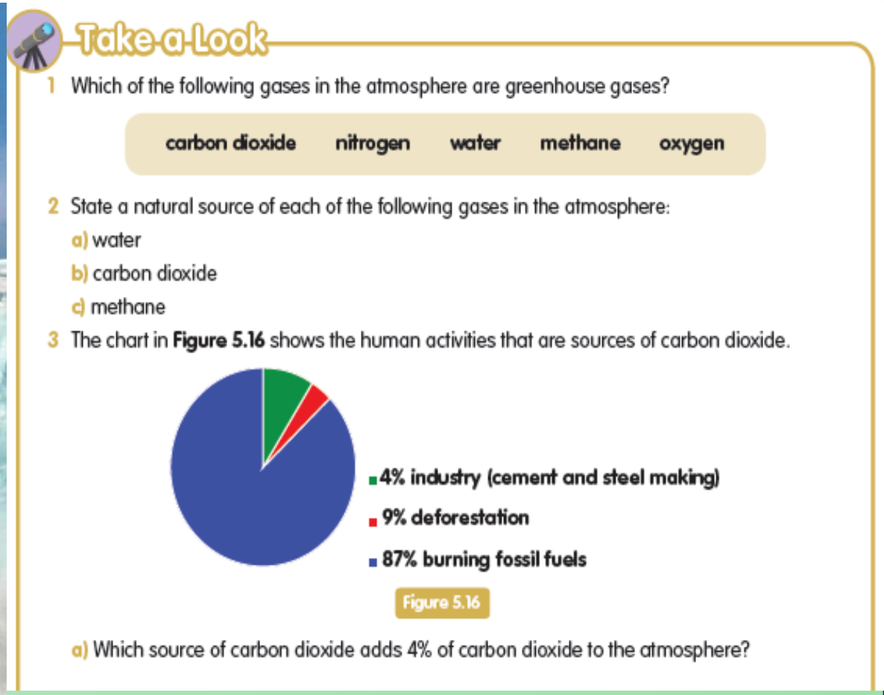
→ Identify the sources of greenhouse gases that may contribute to global warming, example carbon dioxide and methane, and discuss possible impacts on the environment if global warming increases.

Key Terms

- Decay
- Deforestation
- Global warming
- Greenhouse effect
- Greenhouse gas
- Infra-red

Getting Started

There are plus (good) and minus (bad) points about burning fossil fuels.
Give one plus and one minus point and discuss your answers.



Take a Look

1 Which of the following gases in the atmosphere are greenhouse gases?

carbon dioxide nitrogen water methane oxygen

2 State a natural source of each of the following gases in the atmosphere:

a) water

b) carbon dioxide

c) methane

3 The chart in **Figure 5.16** shows the human activities that are sources of carbon dioxide.

Figure 5.16

a) Which source of carbon dioxide adds 4% of carbon dioxide to the atmosphere?

Subject Specific Approach

Sciences – Chemistry

Focus on environmental science topics like climate change, biodiversity, and renewable energy.

Problems based on real world issues relating to sustainability.

Source:
Grade 9 Global Science Chemistry

5 Reducing Pollution

Objective

→ Suggest some solutions that can reduce the main sources of atmospheric pollution.

Key Terms

- Deforestation
- Fossil fuel
- Global warming
- Greenhouse gas
- Pollutant

Getting Started

Trees will be part of any solution to problems with air quality and **global warming**. Suggest as many reasons as you can why trees are important and why **deforestation** should be stopped.

Learn

Air pollution and climate change are serious problems but there are solutions. In this lesson, we will consider some of them.

We have seen that burning **fossil fuels** is the main source of the gases that pollute the air. Burning fossil fuels also produces **greenhouse gases** that result in global warming. Therefore, we should look at ways of reducing the pollution caused by burning fossil fuels.

Table 5.3 lists some possible solutions with their advantages and disadvantages.

Solutions	Advantages	Disadvantages
Carbon capture and storage. The idea is to trap the carbon dioxide that is given off when fossil fuels are burned and store it underground.	We can carry on using fossil fuels.	Only really works when fossil fuels are burned in one place such as power stations. It is difficult and expensive and reduces the amount of energy that can be used. Difficult to find suitable places for storing the carbon dioxide near where it is collected.

hydroelectric power

solar power

wind farm

nuclear power

growing palm oil for fuel

Figure 5.19

Reducing the methane that is released to the atmosphere needs different solutions. Some possibilities include not mining or pumping fossil fuels from underground to prevent methane from escaping.

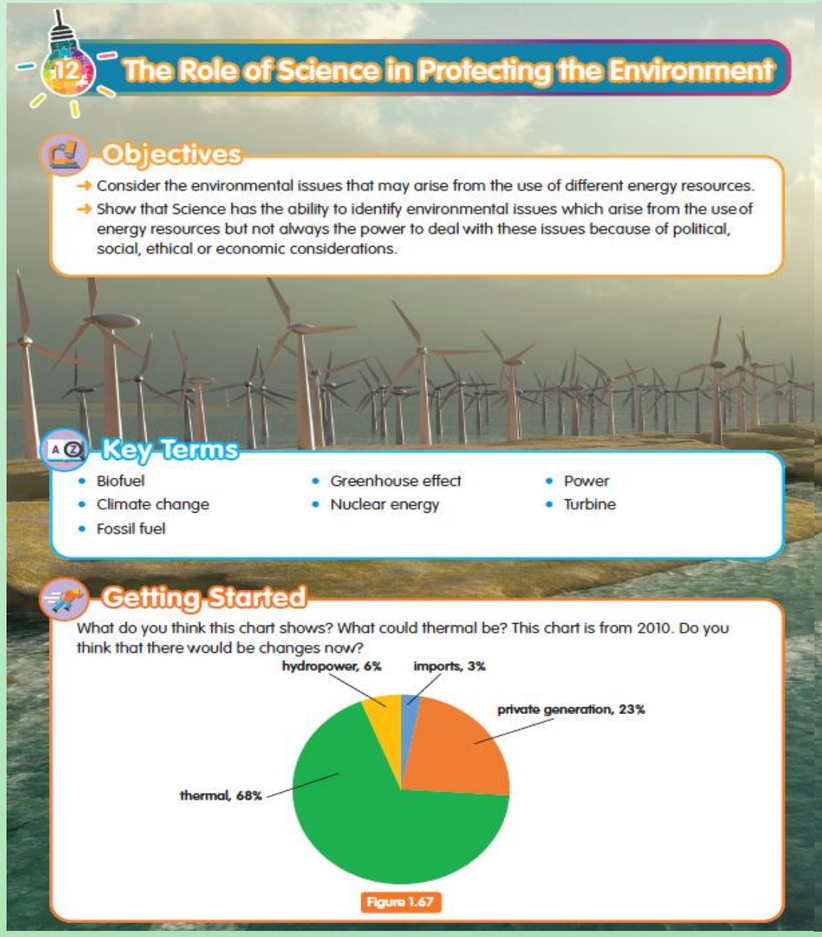
Subject Specific Approach

Sciences – Physics

Focus on environmental science topics like climate change, biodiversity, and renewable energy.

Problems based on real world issues relating to sustainability.

Source:
Grade 9 Global Science Physics



12 The Role of Science in Protecting the Environment

Objectives

- Consider the environmental issues that may arise from the use of different energy resources.
- Show that Science has the ability to identify environmental issues which arise from the use of energy resources but not always the power to deal with these issues because of political, social, ethical or economic considerations.

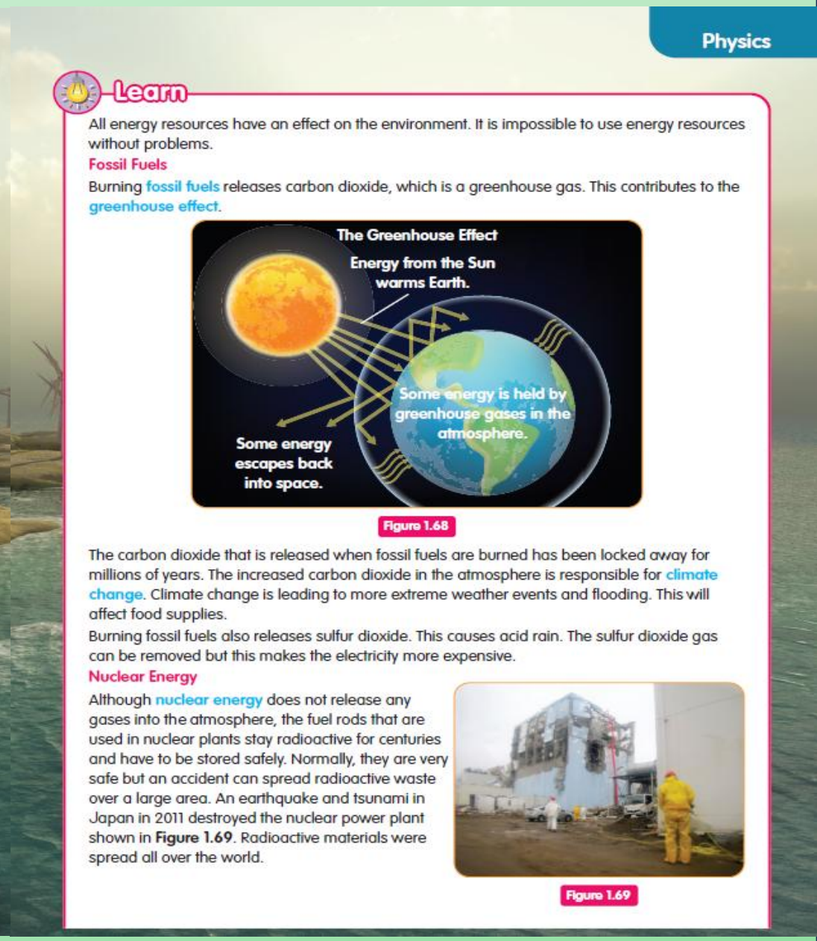
Key Terms

- Biofuel
- Climate change
- Fossil fuel
- Greenhouse effect
- Nuclear energy
- Power
- Turbine

Getting Started

What do you think this chart shows? What could thermal be? This chart is from 2010. Do you think that there would be changes now?

Figure 1.67



Physics

Learn

All energy resources have an effect on the environment. It is impossible to use energy resources without problems.

Fossil Fuels

Burning fossil fuels releases carbon dioxide, which is a greenhouse gas. This contributes to the greenhouse effect.

Figure 1.68

The carbon dioxide that is released when fossil fuels are burned has been locked away for millions of years. The increased carbon dioxide in the atmosphere is responsible for climate change. Climate change is leading to more extreme weather events and flooding. This will affect food supplies.

Burning fossil fuels also releases sulfur dioxide. This causes acid rain. The sulfur dioxide gas can be removed but this makes the electricity more expensive.

Nuclear Energy

Although nuclear energy does not release any gases into the atmosphere, the fuel rods that are used in nuclear plants stay radioactive for centuries and have to be stored safely. Normally, they are very safe but an accident can spread radioactive waste over a large area. An earthquake and tsunami in Japan in 2011 destroyed the nuclear power plant shown in **Figure 1.69**. Radioactive materials were spread all over the world.

Figure 1.69

Subject Specific Approach

Mathematics

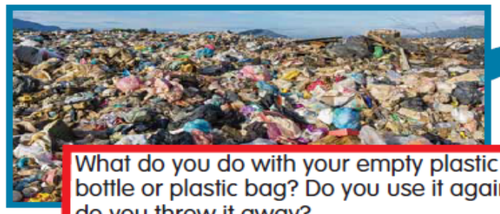
Use real world examples when applying mathematical skills to solve actual global issues.

Apply mathematical modelling to understand and predict environmental phenomena.

Use statistics to analyze data on topics like carbon footprints or energy consumption.

Source: Grade 4 Global Mathematics

Maths and Society



INTRODUCTION

What do you do with your empty plastic bottle or plastic bag? Do you use it again or do you throw it away?
Every day, tons of food waste, paper, glass, plastic and other materials are thrown away or left anywhere. (1 metric ton = 1,000 kg)

Topic 1 Rotting Rubbish

Some of the things we throw away break down quickly, like paper and food. Other things take much longer. Look at the table.
Plastic bags, aluminium drink cans and glass bottles can all be recycled (used again). Many countries are trying to recycle (use again) the things they throw away (waste). They are also trying to change some of it into food for plants (compost), instead of putting it underground (landfill).

Material	Time to break down
Plastic bag	20 years
Aluminium drink can	About 200 years
Glass bottle	Over 1 million years

Task 1

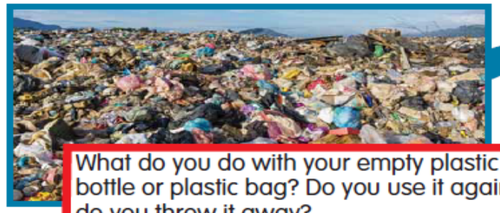
This table shows what happened to solid waste in Abu Dhabi from 2012 to 2018.

What happened to the waste?	2012	2013	2014	2015	2016	2017	2018
Recycled (tons)	197,590	244,495	88,555	329,470	266,109	268,302	596,476
Made into compost (tons)	216,000	259,776	146,636	148,246	151,133	148,866	84,068
Went to landfill (tons)	103,120	122,247	149,298	154,209	164,387	177,932	527,261

Use the table to answer these questions.

1. How many more tons of waste were recycled in 2018 than in 2012?
2. How many more tons of waste went to landfill in 2018 than in 2012?
3. How much more waste was there in 2018 than in 2014?
4. How much more waste was recycled and made into compost in 2015 than went to landfill?

Maths and Society



INTRODUCTION

What do you do with your empty plastic bottle or plastic bag? Do you use it again or do you throw it away?
Every day, tons of food waste, paper, glass, plastic and other materials are thrown away or left anywhere. (1 metric ton = 1,000 kg)

Topic 1 Rotting Rubbish

Some of the things we throw away break down quickly, like paper and food. Other things take much longer. Look at the table.
Plastic bags, aluminium drink cans and glass bottles can all be recycled (used again). Many countries are trying to recycle (use again) the things they throw away (waste). They are also trying to change some of it into food for plants (compost), instead of putting it underground (landfill).

Material	Time to break down
Plastic bag	20 years
Aluminium drink can	About 200 years
Glass bottle	Over 1 million years

Task 1

This table shows what happened to solid waste in Abu Dhabi from 2012 to 2018.

What happened to the waste?	2012	2013	2014	2015	2016	2017	2018
Recycled (tons)	197,590	244,495	88,555	329,470	266,109	268,302	596,476
Made into compost (tons)	216,000	259,776	146,636	148,246	151,133	148,866	84,068
Went to landfill (tons)	103,120	122,247	149,298	154,209	164,387	177,932	527,261

Use the table to answer these questions.

1. How many more tons of waste were recycled in 2018 than in 2012?
2. How many more tons of waste went to landfill in 2018 than in 2012?
3. How much more waste was there in 2018 than in 2014?
4. How much more waste was recycled and made into compost in 2015 than went to landfill?

Topic 3 Sea Turtles

There are seven different kinds of sea turtle in our seas. Sea turtles like to eat jellyfish.
Each year, pollution kills or hurts tens of thousands of sea turtles. Many turtles die because they do not know the difference between jellyfish and plastic bags in our seas. They think the plastic bags are jellyfish and eat them.
Twenty years ago, 71,805 turtles died in one year because they got caught in fishing nets or fishing lines. Today, that number is 4,950. This is because the people who catch fish are more careful and try not to catch the turtles.

Task 3

1. Write in words:
   a 4,950 b 71,805
2. Write as numbers:
   a three hundred thousand, two hundred
   b thirty-eight thousand, four hundred and thirty-five

Subject Specific Approach

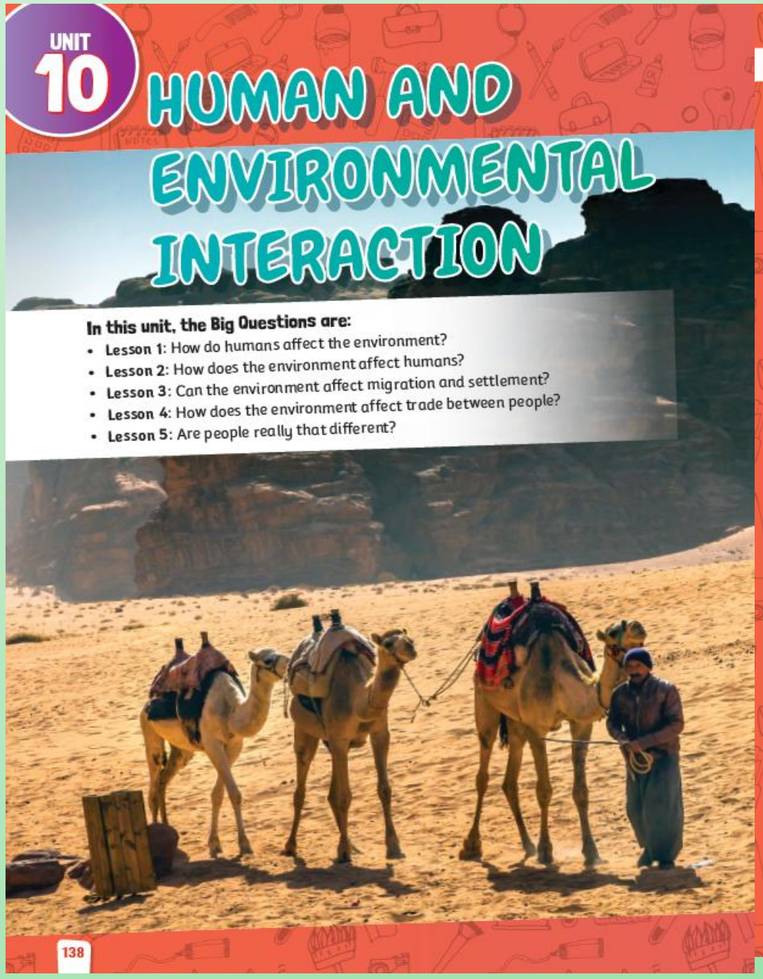
Social Studies

Teach about sustainable land use, urban planning, and the impact of human activities on different ecosystems.

Explore the historical context of environmental issues and how past practices have shaped current challenges.

Include case studies of different regions facing environmental challenges.

Source: Grade 6 Global Connections



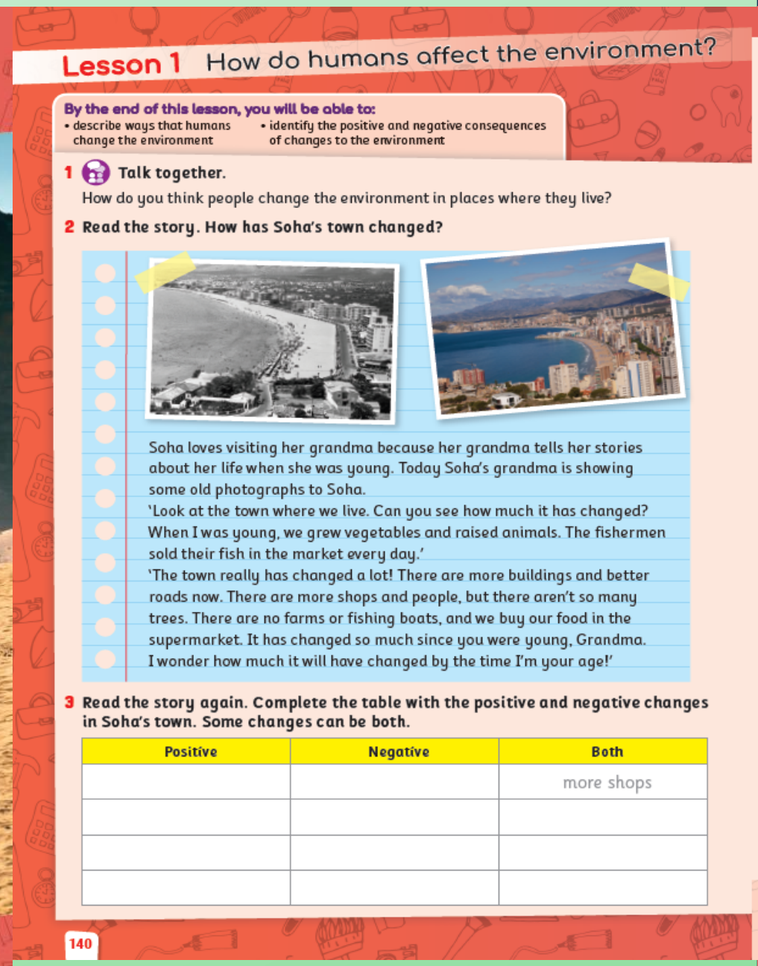
UNIT 10

HUMAN AND ENVIRONMENTAL INTERACTION

In this unit, the Big Questions are:

- **Lesson 1:** How do humans affect the environment?
- **Lesson 2:** How does the environment affect humans?
- **Lesson 3:** Can the environment affect migration and settlement?
- **Lesson 4:** How does the environment affect trade between people?
- **Lesson 5:** Are people really that different?

138



Lesson 1 How do humans affect the environment?

By the end of this lesson, you will be able to:

- describe ways that humans change the environment
- identify the positive and negative consequences of changes to the environment

1 Talk together.

How do you think people change the environment in places where they live?

2 Read the story. How has Soha's town changed?

Soha loves visiting her grandma because her grandma tells her stories about her life when she was young. Today Soha's grandma is showing some old photographs to Soha.

'Look at the town where we live. Can you see how much it has changed? When I was young, we grew vegetables and raised animals. The fishermen sold their fish in the market every day.'

'The town really has changed a lot! There are more buildings and better roads now. There are more shops and people, but there aren't so many trees. There are no farms or fishing boats, and we buy our food in the supermarket. It has changed so much since you were young, Grandma. I wonder how much it will have changed by the time I'm your age!'

3 Read the story again. Complete the table with the positive and negative changes in Soha's town. Some changes can be both.

Positive	Negative	Both
		more shops

140

UNIT 10

HUMAN AND ENVIRONMENTAL INTERACTION

In this unit, the Big Questions are:

- **Lesson 1:** How do humans affect the environment?
- **Lesson 2:** How does the environment affect humans?
- **Lesson 3:** Can the environment affect migration and settlement?
- **Lesson 4:** How does the environment affect trade between people?
- **Lesson 5:** Are people really that different?

Lesson 1 How do humans affect the environment?

By the end of this lesson, you will be able to:
- describe ways that humans change the environment
- identify the positive and negative consequences of changes to the environment

1 **Talk together.**
How do you think people change the environment in places where they live?

2 **Read the story. How has Soha's town changed?**

Soha loves visiting her grandma because her grandma tells her stories about her life when she was young. Today Soha's grandma is showing some old photographs to Soha.
'Look at the town where we live. Can you see how much it has changed? When I was young, we grew vegetables and raised animals. The fishermen sold their fish in the market every day.'
'The town really has changed a lot! There are more buildings and better roads now. There are more shops and people, but there aren't so many trees. There are no farms or fishing boats, and we buy our food in the supermarket. It has changed so much since you were young, Grandma. I wonder how much it will have changed by the time I'm your age!'

3 **Read the story again. Complete the table with the positive and negative changes in Soha's town. Some changes can be both.**

Positive	Negative	Both
		more shops

4 **Read the texts. Why do places change?**

Humans need energy to heat or cool homes, to cook food, for light, and to make cars run. They take raw materials, like natural gas, coal, or petroleum to make petrol. They use natural gas or coal in power stations to generate electricity.

Humans need food to eat and clean water to drink. To provide food, they clear forests to create farm land. To provide water, they build dams or change the direction of rivers.

People change the environments where they live in many ways.

Humans need houses and ways to move from place to place. That's why they construct buildings, roads, and railways. They build airports and ports, too.

5 **Read the texts again. Circle the correct answer.**
1 People build houses for **farm land** / **energy** / **homes**.
2 People build dams to provide **farm land** / **water** / **food**.
3 People clear forests to **provide water** / **generate energy** / **provide farm land**.
4 People build roads to **improve communications** / **make cars run** / **create farm land**.
5 People build power stations to **make raw materials** / **provide water** / **generate energy**.

6 **Look and think. Discuss the questions with a partner.**

Dubai in the 1960s

Dubai now

1 What was Dubai like in the 1960s?
2 What does Dubai look like today?
3 What is different about the city?
4 Do you think the changes are positive or negative?

Values
I understand that changes can be both positive and negative.

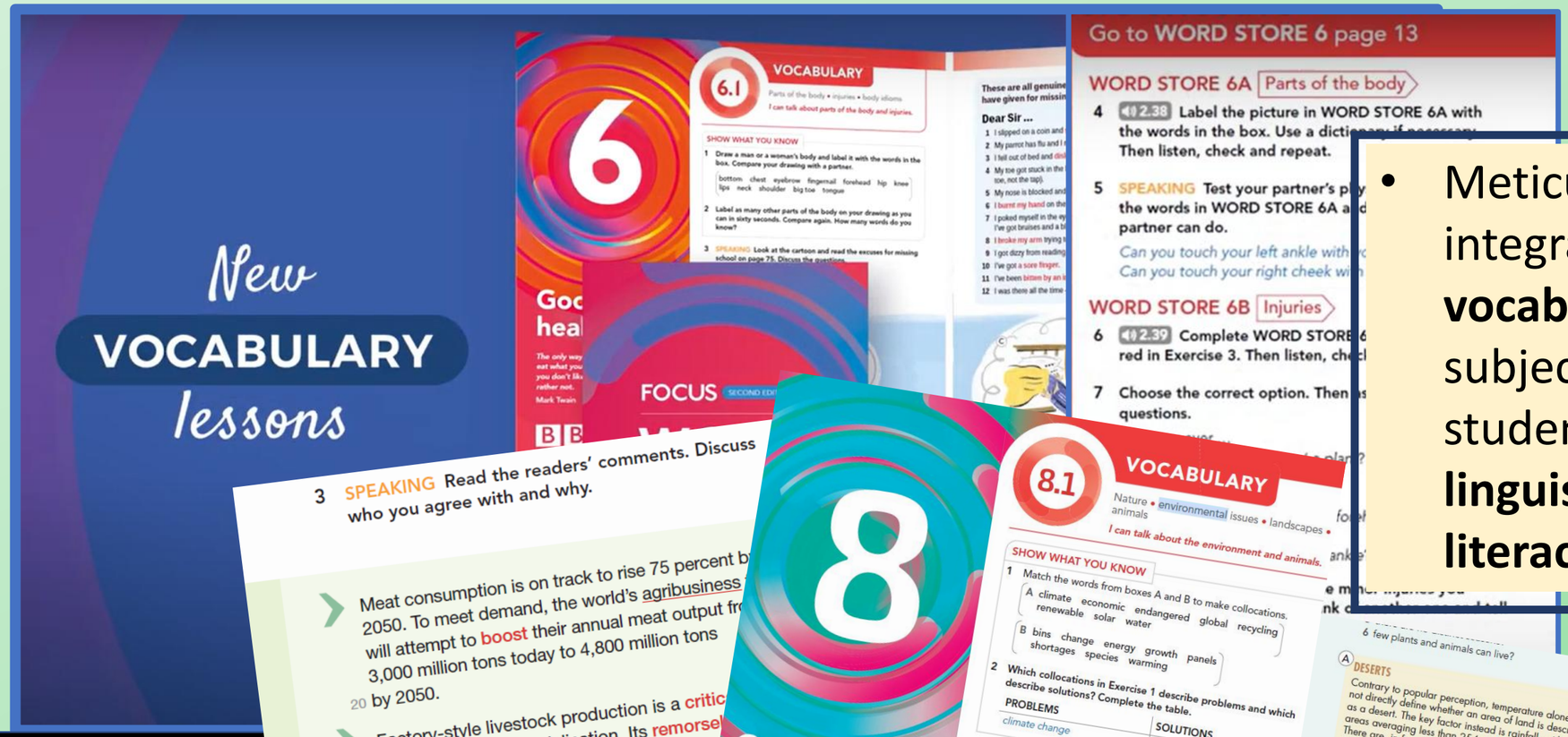
7 **Find photos of your town or city in the past and now. Write a paragraph in your notebook to describe how it has changed. Give your opinion about the changes.**

What can I do?
I can describe ways that humans change the environment. ☐
I can identify the positive and negative consequences of changes to the environment. ☐

Subject Specific Approach

English Language Learning

FOCUS
SECOND EDITION



- Meticulously designed to integrate Sustainability **vocabulary** across various subjects, ensuring students foster both **linguistic and scientific literacy**

Subject Specific Approach

English Language Learning

FOCUS
SECOND EDITION

3 SPEAKING Read the readers' comments. Discuss who you agree with and why.

Meat consumption is on track to rise 75 percent by 2050. To meet demand, the world's agribusiness firms will attempt to boost their annual meat output from 3,000 million tons today to 4,800 million tons by 2050.

Factory-style livestock production is a critical driver of agricultural industrialisation. Its remorseless expansion is contributing to radical climate change, deforestation, biodiversity loss and human-rights violations.

One major problem with factory-style livestock production is that it leads to considerable greenhouse gas emissions – and not just because the digestive processes of ruminant animals produce methane. The waste from the animals, together with the fertilizers and pesticides used to produce feed, generate large quantities of nitrogen oxide.

Nearly half of all water used in the US goes to raising animals for food. It takes more than 15,000 litres of water to produce one kilogram of beef. To produce one kilogram of wheat takes 220 litres.

8

Costing the Earth

We do not inherit the Earth from our ancestors, we borrow it from our children.

Native American wisdom

8.1 VOCABULARY

Nature • environmental issues • landscapes • animals

I can talk about the environment and animals.

SHOW WHAT YOU KNOW

1 Match the words from boxes A and B to make collocations.

A climate economic endangered global recycling renewable solar water

B bins change energy growth panels shortages species warming

2 Which collocations in Exercise 1 describe problems and which describe solutions? Complete the table.

PROBLEMS	SOLUTIONS
climate change	

3 SPEAKING Discuss the questions.

1 Are you optimistic or pessimistic about the future of our planet? Wh
2 Which environmental problems are the most serious? Which one have you personally noticed?
3 Do you or your family use any of the solutions in Exercise 2? Why?/Why not? Are they effective?

The Life Journey of a PLASTIC BOTTLE

Plastic has only existed for around 100 years, but it's everywhere. 70 PERCENT of plastic water bottles are not recycled.

6 page 13

of the body

n WORD STORE 6A with

6 few plants and animals can live?

A DESERTS

Contrary to popular perception, temperature alone does not directly define whether an area of land is described as a desert. The key factor instead is rainfall, with desert areas averaging less than 254 millimetres of rain a year. There are, in fact, what are known as 'cold deserts', such as in the Antarctic, where temperatures can be below freezing. Even the hot, dry deserts we most typically think of, such as the Sahara, can experience very dramatic temperature drops at night. This is because the lack of cloud cover allows hot air to escape very quickly once the sun has set.

B RAINFORESTS

As their name suggests, rainforests are found in areas with consistently high levels of rainfall, typically in tropical regions of the world around the equator. They may receive more than 2,000 millimetres of rain a year and with an average daily temperature of around 28 degrees Celsius, they are hot and humid. This climate is consistent all year round which creates the perfect habitat for an incredibly diverse range of plants and animals and makes them some of the most biodiverse environments on the planet.

C TUNDRAS

9 Ask and answer the questions.

1 What could be done to persuade peo more?
2 How can you use social media to pron environmentally-friendly lifestyle?
3 Is the work of environmental organisat What makes you think so?
4 What are the advantages of living nex areas?

WORD STORE 6C

9 2.40 Listen to six dialogues. Complete the English idioms with the correct body part.

1 I'm pulling your _____.
2 She broke his _____.
3 I laughed my _____ off.
4 Can you give me a _____?
5 I couldn't believe my _____.

Meticulously designed to

Subject Specific Approach

English Language Learning

FOCUS
SECOND EDITION

- Diverse array of **reading texts** that are specifically selected to cover key topics, designed to enhance students' **language comprehension** while simultaneously exposing them to **real-world contexts**

Subject Specific Approach

English Language Learning

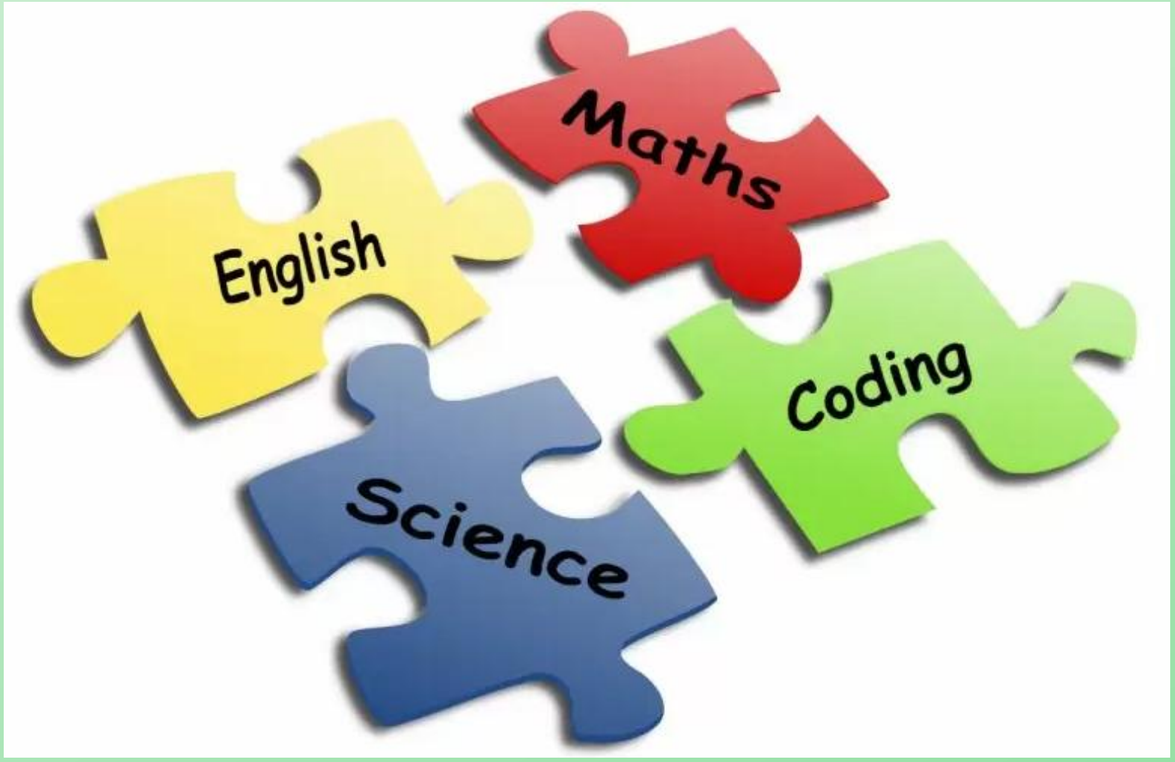
FOCUS
SECOND EDITION

- Diverse array of **reading texts** that are specifically selected to cover ke
  to

Cross - Curricular Approach

A cross-curricular curriculum is an educational approach **that integrates the content and skills of different subject areas** into a cohesive learning experience.

It is a framework that is designed to allow learners to make **connections between various disciplines**, promoting a more comprehensive understanding of **concepts** and their **real-world applications.**



Cross - Curricular Approach

Project-Based Learning

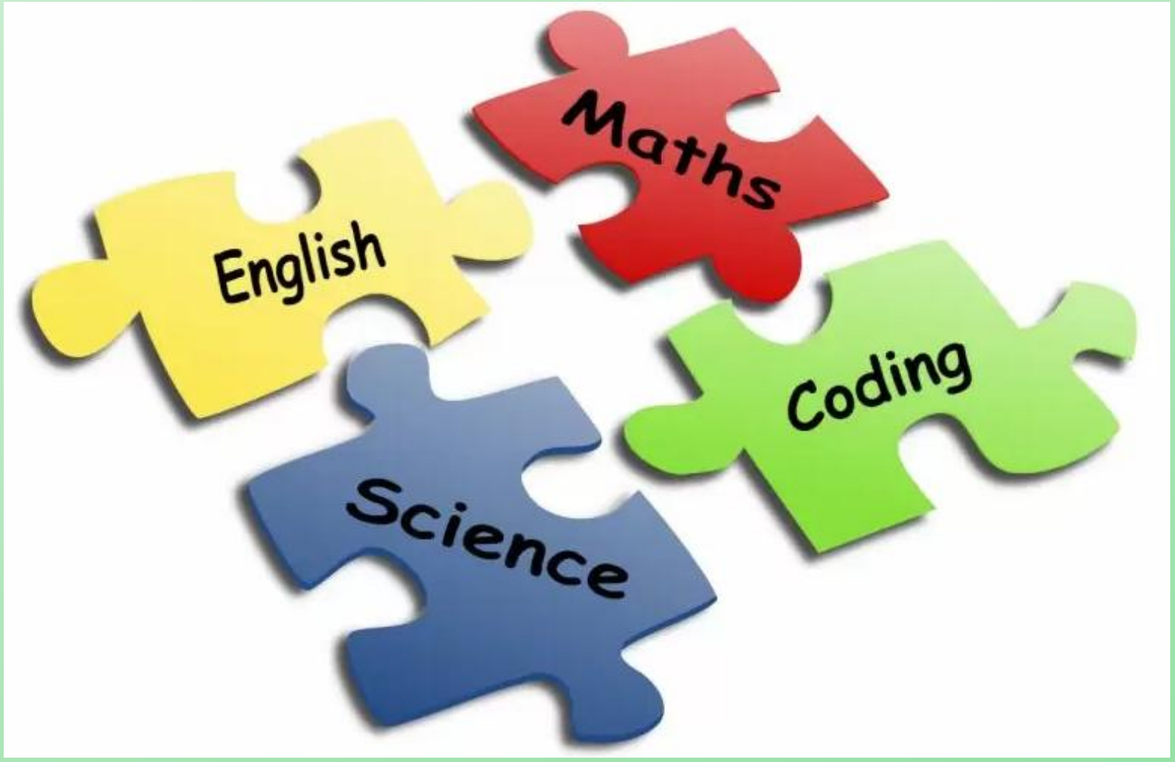
Encourage interdisciplinary projects that require students to apply knowledge from multiple subjects towards solving real-world issues.

School-wide Initiatives

Implement recycling programs, energy-saving campaigns, or a school garden, involving students in planning and execution.

Guest Speakers and Field Trips

Invite experts in sustainability and organize visits to eco-friendly businesses or conservation areas to provide practical learning experiences.



Cross - Curricular Approach

Integration with Art and Literature

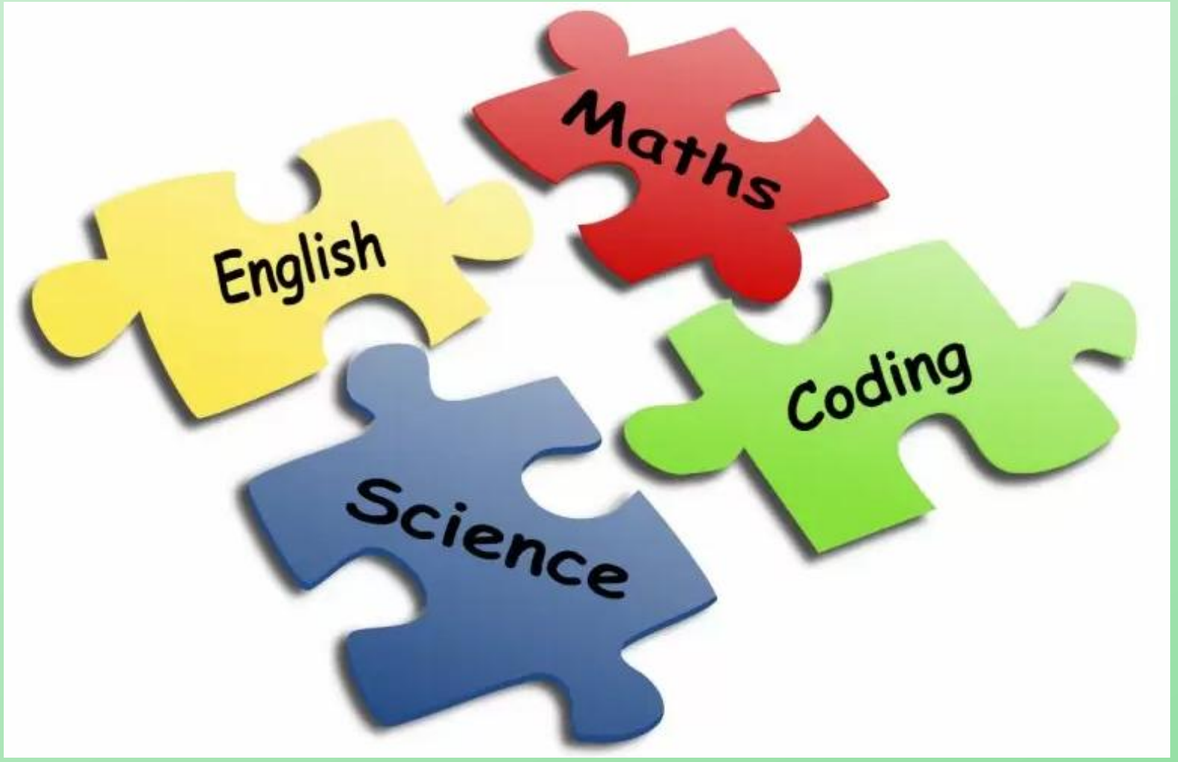
Use art and literature to explore environmental themes, encouraging creative expression and deeper emotional connections to sustainability topics.

Global Perspectives

Foster an understanding of global interdependence through studies of how sustainability issues impact different parts of the world.

Ethics and Philosophy

Debate the moral implications of environmental stewardship and the responsibility of individuals and societies in promoting sustainability.

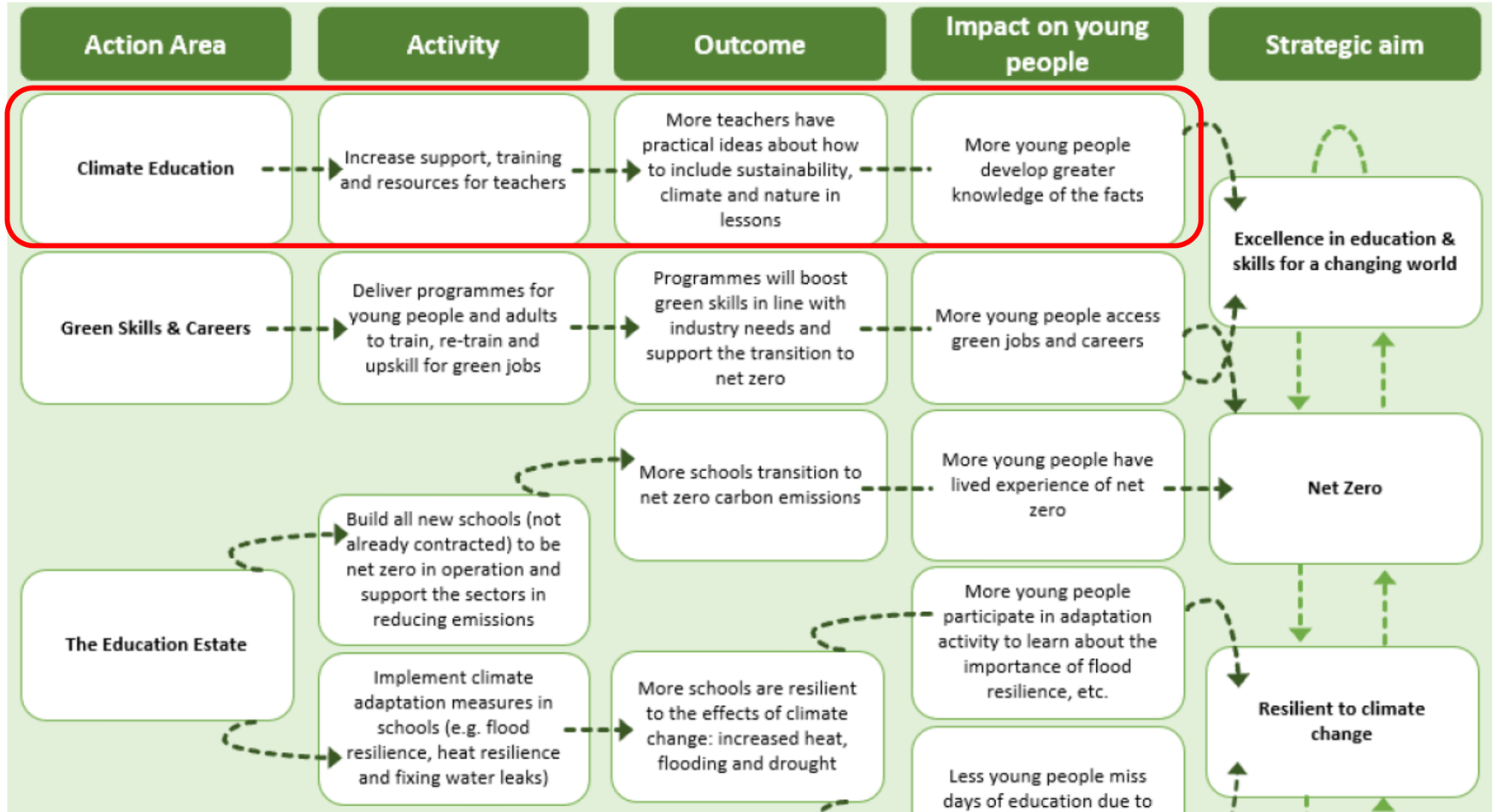


Curriculum Framework Model 1 – United Kingdom - Sustainability and Climate Change

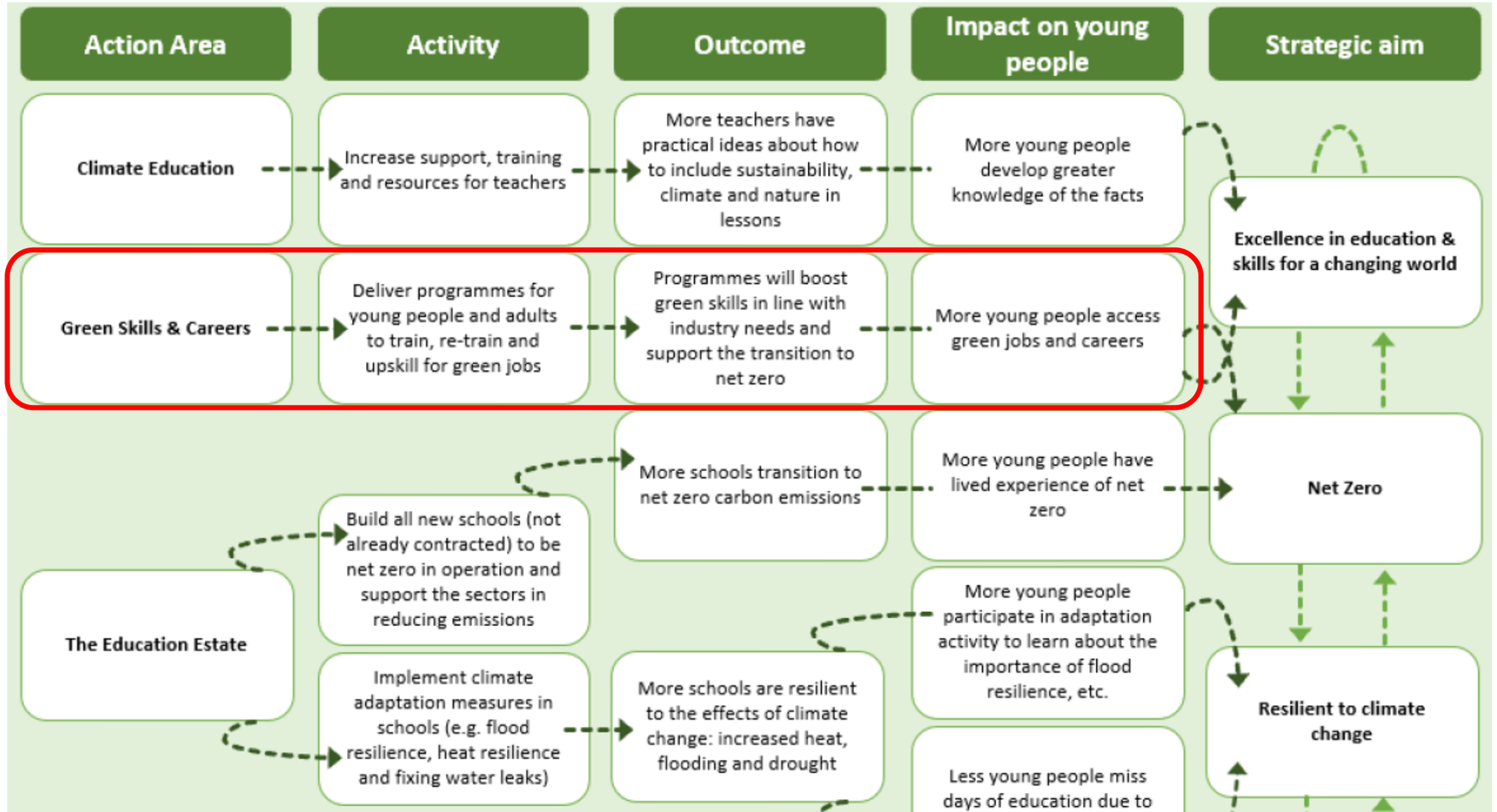
Department for Education

Sustainability & Climate Change

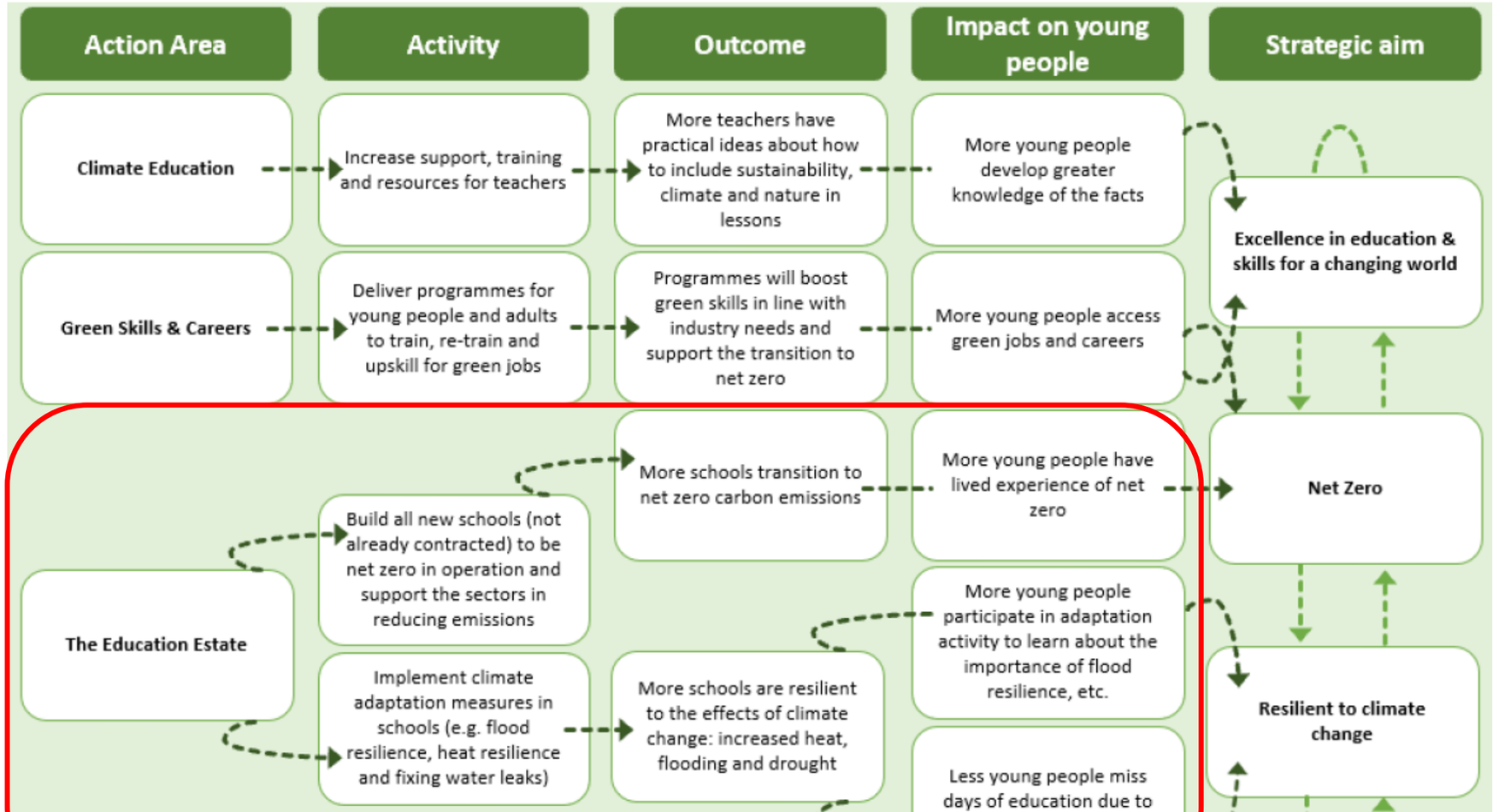
Curriculum Framework Model 1 – United Kingdom - Sustainability and Climate Change

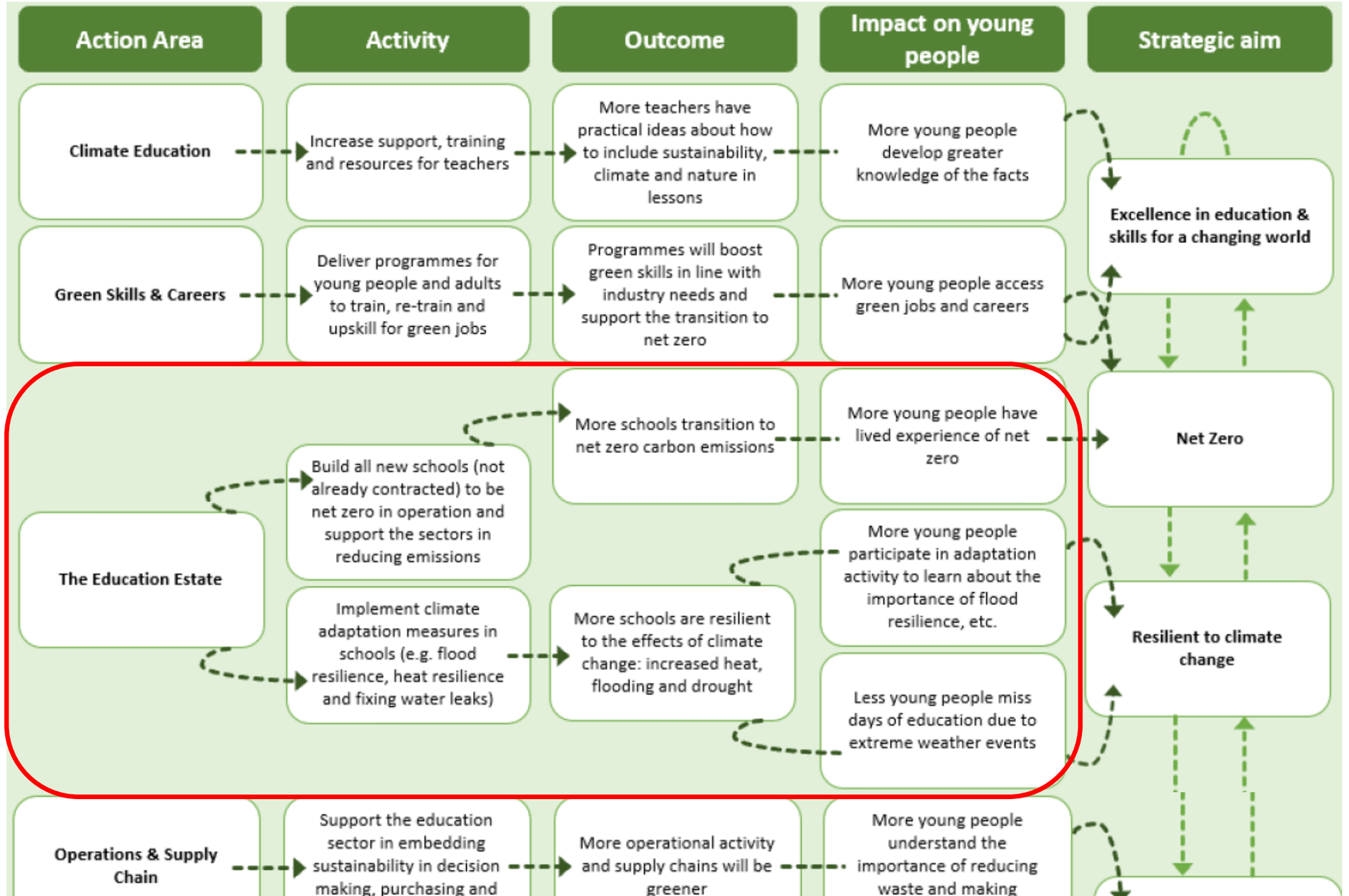


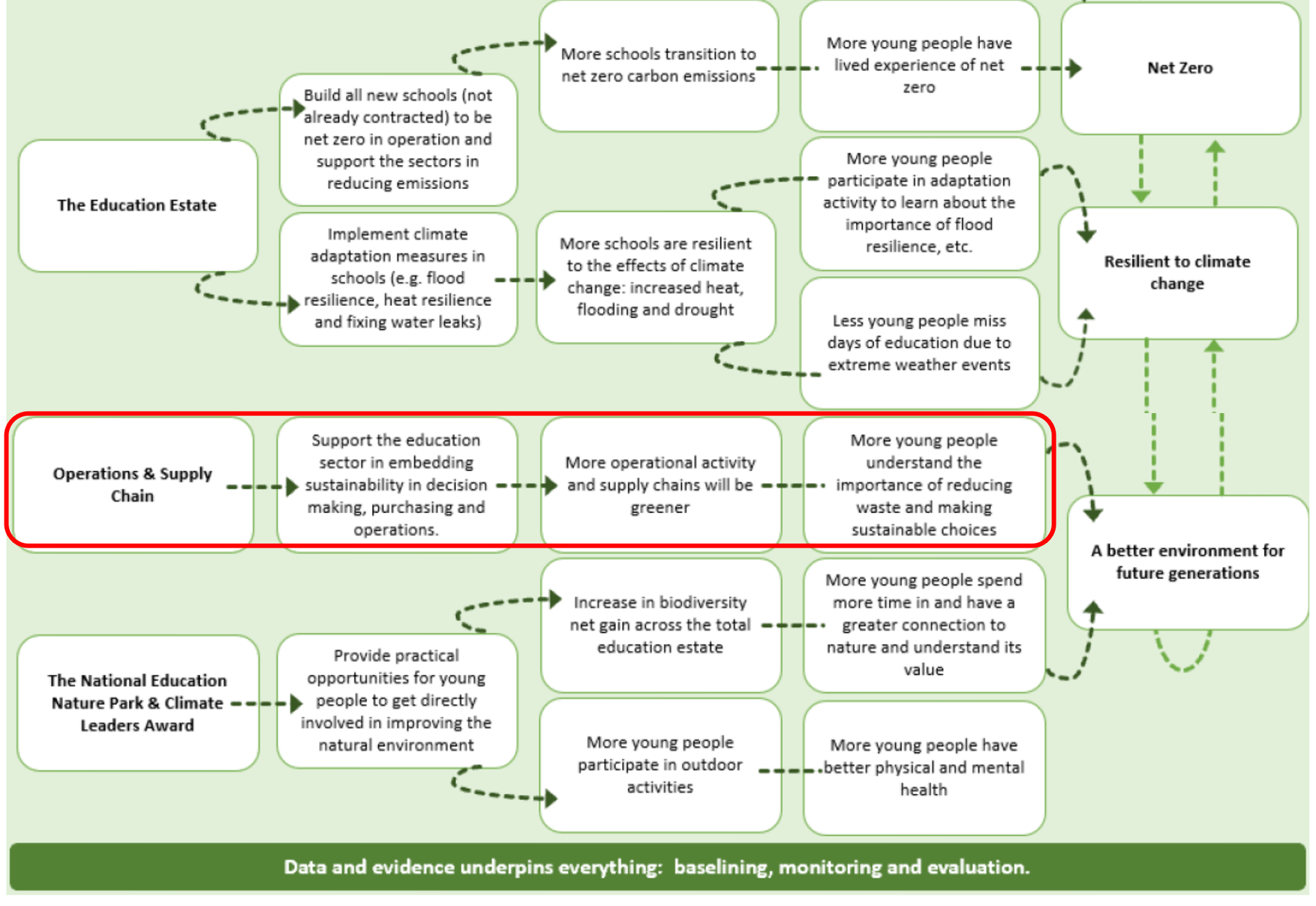
Curriculum Framework Model 1 – United Kingdom - Sustainability and Climate Change

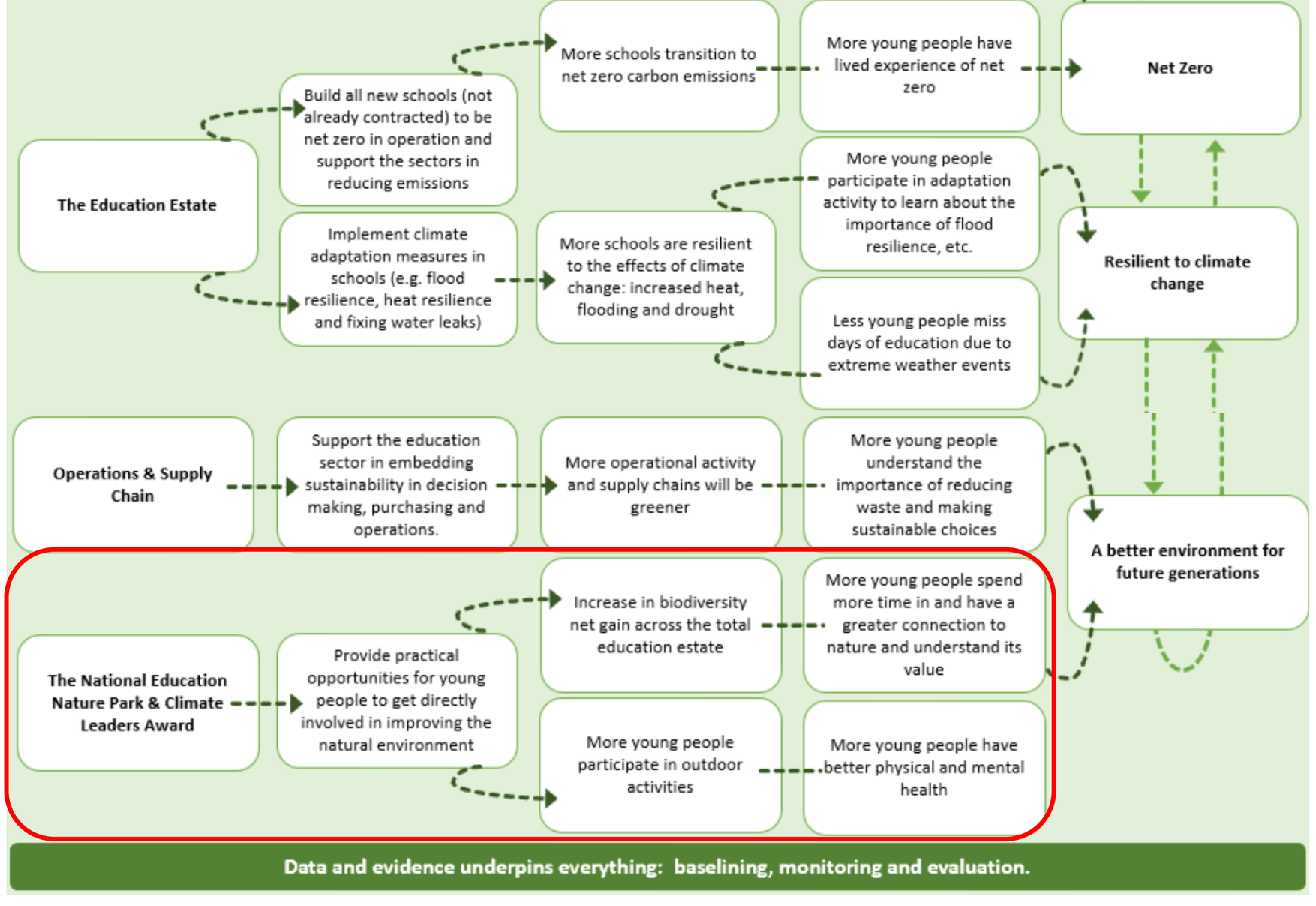


Curriculum Framework Model 1 – United Kingdom - Sustainability and Climate Change

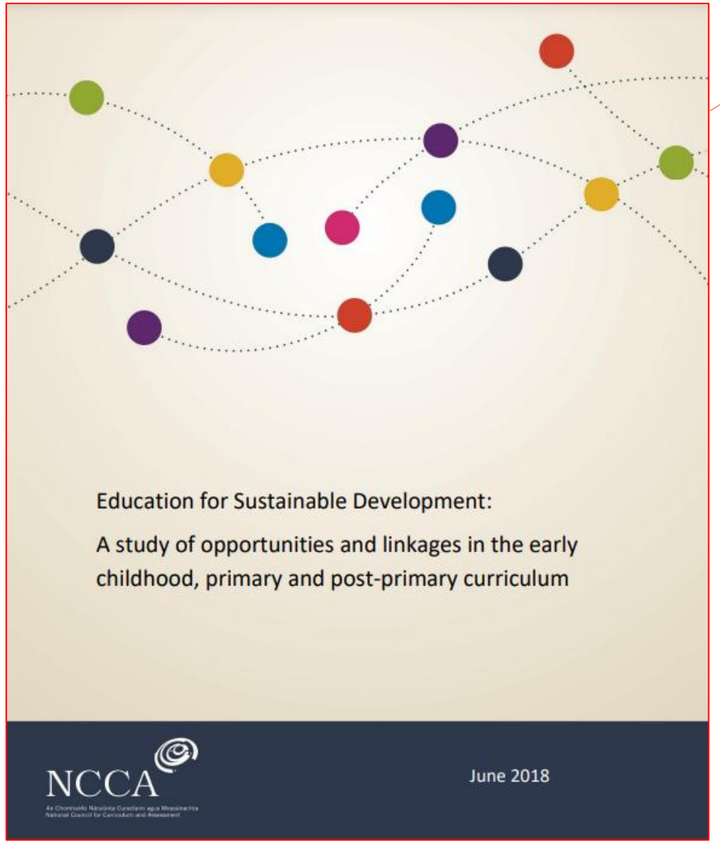



Action Area
Activity
Outcome
Impact on young people
Strategic aim
Climate Education
Increase support, training and resources for teachers
More teachers have practical ideas about how to include sustainability, climate and nature in lessons
More young people develop greater knowledge of the facts
Excellence in education & skills for a changing world
Green Skills & Careers
Deliver programmes for young people and adults to train, re-train and upskill for green jobs
Programmes will boost green skills in line with industry needs and support the transition to net zero
More young people access green jobs and careers
The Education Estate
Build all new schools (not already contracted) to be net zero in operation and support the sectors in reducing emissions
More schools transition to net zero carbon emissions
More young people have lived experience of net zero
Net Zero
Implement climate adaptation measures in schools (e.g. flood resilience, heat resilience and fixing water leaks)
More schools are resilient to the effects of climate change: increased heat, flooding and drought
More young people participate in adaptation activity to learn about the importance of flood resilience, etc.
Less young people miss days of education due to extreme weather events
Resilient to climate change
Operations & Supply Chain
Support the education sector in embedding sustainability in decision making, purchasing and
More operational activity and supply chains will be greener
More young people understand the importance of reducing waste and making


The Education Estate
Build all new schools (not already contracted) to be net zero in operation and support the sectors in reducing emissions
More schools transition to net zero carbon emissions
More young people have lived experience of net zero
Net Zero
Implement climate adaptation measures in schools (e.g. flood resilience, heat resilience and fixing water leaks)
More schools are resilient to the effects of climate change: increased heat, flooding and drought
More young people participate in adaptation activity to learn about the importance of flood resilience, etc.
Resilient to climate change
Less young people miss days of education due to extreme weather events
Operations & Supply Chain
Support the education sector in embedding sustainability in decision making, purchasing and operations.
More operational activity and supply chains will be greener
More young people understand the importance of reducing waste and making sustainable choices
A better environment for future generations
The National Education Nature Park & Climate Leaders Award
Provide practical opportunities for young people to get directly involved in improving the natural environment
Increase in biodiversity net gain across the total education estate
More young people spend more time in and have a greater connection to nature and understand its value
More young people participate in outdoor activities
More young people have better physical and mental health
Data and evidence underpins everything: baselining, monitoring and evaluation.


The Education Estate
Build all new schools (not already contracted) to be net zero in operation and support the sectors in reducing emissions
More schools transition to net zero carbon emissions
More young people have lived experience of net zero
Net Zero
Implement climate adaptation measures in schools (e.g. flood resilience, heat resilience and fixing water leaks)
More schools are resilient to the effects of climate change: increased heat, flooding and drought
More young people participate in adaptation activity to learn about the importance of flood resilience, etc.
Resilient to climate change
Less young people miss days of education due to extreme weather events
Operations & Supply Chain
Support the education sector in embedding sustainability in decision making, purchasing and operations.
More operational activity and supply chains will be greener
More young people understand the importance of reducing waste and making sustainable choices
A better environment for future generations
The National Education Nature Park & Climate Leaders Award
Provide practical opportunities for young people to get directly involved in improving the natural environment
Increase in biodiversity net gain across the total education estate
More young people spend more time in and have a greater connection to nature and understand its value
More young people participate in outdoor activities
More young people have better physical and mental health
Data and evidence underpins everything: baselining, monitoring and evaluation.

Curriculum Framework Model 2 - Ireland - Education for Sustainable Development



Sample specific Learning Objectives for fifth and sixth-class Science

Strand: Environmental awareness and care

Strand Unit: Science and the environment

The child should be enabled to

- examine some ways that science and technology have contributed positively to the use of the Earth's resources

purifying water, mixing materials to produce new materials, medicines, processing food, preserving food, generating electricity, using fertilisers for increased agricultural yields

- recognise the contribution of scientists to society

work of scientists in the past and present

- recognise and investigate aspects of human activities that may have positive or adverse effects on environments

activities that protect flora and fauna, such as creating a wildlife area and planting trees enhance built environments affect the quality of air, soil, water and the built environment.

[NB: This example excludes learning objectives that are less explicitly relevant to ESD]

Curriculum Framework Model 2 - Ireland - Education for Sustainable Development

Sample specific Learning Objectives for fifth and sixth class History
Strand: Local studies

Strand Unit: Buildings, sites or ruins in my locality

The child should be enabled to:

- actively explore some features of the local environment; suitable items or places might include: *streetscape (including building styles and features, street furniture), area of a town or village, industrial site (e.g. factories, mills), local canal, bridges, road patterns, railways, ruined building (e.g. towerhouse), site of an old monastery, graveyard, Mass path, Mass rock, holy well, prehistoric site (e.g. rath, portal tomb), farmyard, field and farm patterns, landlord's house, houses of tenants, ice house, sweat house, battle sites, local rights of way*
- investigate various aspects of these sites: *origins and location; maps of site then and now; appearance of site now and formerly; purpose of construction elements which have changed and the reasons for change; elements which have remained unchanged; lives of people in this place over time*
- identify opportunities to become involved in enhancing and protecting the environmental features
- present findings using a variety of media and appropriate timelines

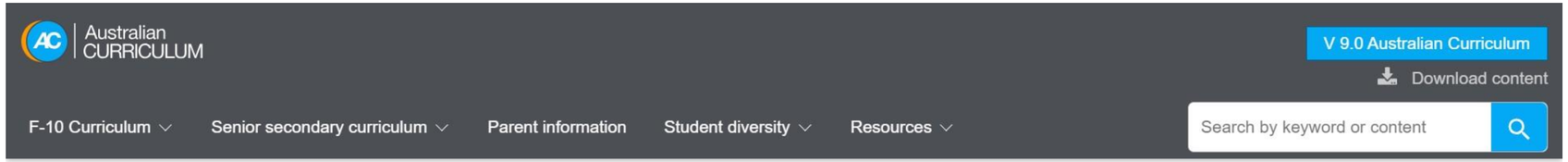
Sample specific Learning Objectives for third and fourth-class Geography
Strand: Human environments

Strand Unit: People and other lands

The child should be enabled to

- study some aspects of the environments and lives of people in one location in Europe and one location in another part of the world
- location of these areas; peoples and communities that live there; language(s); myths and stories, art and culture; clothes; play and pastimes; features of the natural environment; interrelationships of the lives of people and these features; settlements: homes and other buildings; common building materials and features; foods and farming; work and work-places; similarities to and contrasts with Ireland
- develop an awareness of the interdependence of these people and people in Ireland

Curriculum Framework Model 3 - Australia



Sustainability (Version 8.4)

Overview

The Australian Curriculum places emphasis on Sustainability as a priority for study that connects and relates relevant aspects of content across learning areas and subjects.

Cross-curriculum learning is fundamental to:

- understanding the ways social, economic and environmental systems interact to support and maintain human life
- appreciating and respecting the diversity of views and values that influence sustainable development
- participating critically and acting creatively in determining more sustainable ways of living.

Through the priority of Sustainability, students develop the knowledge, skills, values and world views necessary to contribute to more sustainable patterns of living.

The Sustainability cross-curriculum priority

Sustainability addresses the ongoing capacity of Earth to maintain all life.

Sustainable patterns of living meet the needs of the present without compromising the ability of future generations to meet their needs. Actions to improve sustainability are individual and collective endeavours shared across local and global communities. They necessitate a renewed and balanced approach to the way humans interact with each other and the environment.

Education for sustainability develops the knowledge, skills, values and world views necessary for people to act in ways that contribute to more sustainable patterns of living. It enables individuals and communities to reflect on ways of interpreting and engaging with the world. Sustainability education is futures-oriented, focusing on protecting environments and creating a more ecologically and socially just world through informed action. Actions that support more sustainable patterns of living require consideration of environmental, social, cultural and economic systems and their interdependence.

Key ideas

Key concepts

Sustainability (Version 8.4)

Overview

The Australian Curriculum places emphasis on Sustainability as a priority for study that connects and relates relevant aspects of content across learning areas and subjects.

Cross-curriculum learning is fundamental to:

- understanding the ways social, economic and environmental systems interact to support and maintain human life
- appreciating and respecting the diversity of views and values that influence sustainable development
- participating critically and acting creatively in determining more sustainable ways of living.

Through the priority of Sustainability, students develop the knowledge, skills, values and world views necessary to contribute to more sustainable patterns of living.

The Sustainability cross-curriculum priority

Sustainability addresses the ongoing capacity of Earth to maintain all life.

Sustainable patterns of living meet the needs of the present without compromising the ability of future generations to meet their needs. Actions to improve sustainability are individual and collective endeavours shared across local and global communities. They necessitate a renewed and balanced approach to the way humans interact with each other and the environment.

Education for sustainability develops the knowledge, skills, values and world views necessary for people to act in ways that contribute to more sustainable patterns of living. It enables individuals and communities to reflect on ways of interpreting and engaging with the world. Sustainability education is futures-oriented, focusing on protecting environments and creating a more ecologically and socially just world through informed action. Actions that support more sustainable patterns of living require consideration of environmental, social, cultural and economic systems and their interdependence.

Key ideas

Key concepts

The Sustainability priority has been developed around the three key concepts of systems, world views and futures.

The first key concept explores the interdependent and dynamic nature of systems that support all life on Earth and our collective wellbeing.

The second concept enables a diversity of world views on ecosystems, values and social justice to be discussed and recognised when determining individual and community actions for sustainability.

The third concept is aimed at building capacities for thinking and acting in ways that are necessary to create a more sustainable future. The concept seeks to promote reflective thinking processes in young people and empower them to design action that will lead to a more equitable and sustainable future.

Education for sustainability develops the knowledge, skills, values and world views necessary for people to act in ways that contribute to more sustainable patterns of living. It enables individuals and communities to reflect on ways of interpreting and engaging with the world. Sustainability education is futures-oriented, focusing on protecting environments and creating a more ecologically and socially just world through informed action. Actions that support more sustainable patterns of living require consideration of environmental, social, cultural and economic systems and their interdependence.

Key ideas

Key concepts

The Sustainability priority has been developed around the three key concepts of systems, world views and futures.

The first key concept explores the interdependent and dynamic nature of systems that support all life on Earth and our collective wellbeing.

The second concept enables a diversity of world views on ecosystems, values and social justice to be discussed and recognised when determining individual and community actions for sustainability.

The third concept is aimed at building capacities for thinking and acting in ways that are necessary to create a more sustainable future. The concept seeks to promote reflective thinking processes in young people and empower them to design action that will lead to a more equitable and sustainable future.

Organising ideas

Code	Organising ideas
Systems	
OI.1	The biosphere is a dynamic system providing conditions that sustain life on Earth.
OI.2	All life forms, including human life, are connected through ecosystems on which they depend for their wellbeing and survival.
OI.3	Sustainable patterns of living rely on the interdependence of healthy social, economic and ecological systems.
World views	
OI.4	World views that recognise the dependence of living things on healthy ecosystems, and value diversity and social justice, are essential for achieving sustainability.
OI.5	World views are formed by experiences at personal, local, national and global levels, and are linked to individual and community actions for sustainability.
Futures	
OI.6	The sustainability of ecological, social and economic systems is achieved through informed individual and community action that values local and global equity and fairness across generations into the future.
OI.7	Actions for a more sustainable future reflect values of care, respect and responsibility, and require us to explore and understand environments.
OI.8	Designing action for sustainability requires an evaluation of past practices, the assessment of scientific and technological developments, and balanced judgements based on projected future economic, social and environmental impacts.
OI.9	Sustainable futures result from actions designed to preserve and/or restore the quality and uniqueness of environments.

Learning Areas

Learning area statements

All Australian Curriculum learning areas have a potential to contribute to the sustainability cross-curriculum priority. Sustainability is included in each learning area in ways that are consistent with the content and purpose of the area of study. Each learning area contributes differently to the Sustainability cross-curriculum priority, its key concepts and organising ideas. For example, some have content that enables students to work with ecological and human systems and to appreciate their interdependence. Others contribute to the development of world views necessary for students to act to create a

Education for sustainability develops the knowledge, skills, values and world views necessary for people to act in ways that contribute to more sustainable patterns of living. It enables individuals and communities to reflect on ways of interpreting and engaging with the world. Sustainability education is futures-oriented, focusing on protecting environments and creating a more ecologically and socially just world through informed action. Actions that support more sustainable patterns of living require consideration of environmental, social, cultural and economic systems and their interdependence.

Key ideas

Key concepts

The Sustainability priority has been developed around the three key concepts of systems, world views and futures.

The first key concept explores the interdependent and dynamic nature of systems that support all life on Earth and our collective wellbeing.

The second concept enables a diversity of world views on ecosystems, values and social justice to be discussed and recognised when determining individual and community actions for sustainability.

The third concept is aimed at building capacities for thinking and acting in ways that are necessary to create a more sustainable future. The concept seeks to promote reflective thinking processes in young people and empower them to design action that will lead to a more equitable and sustainable future.

Organising ideas

Code	Organising ideas
Systems	
OI.1	The biosphere is a dynamic system providing conditions that sustain life on Earth.
OI.2	All life forms, including human life, are connected through ecosystems on which they depend for their wellbeing and survival.
OI.3	Sustainable patterns of living rely on the interdependence of healthy social, economic and ecological systems.
World views	
OI.4	World views that recognise the dependence of living things on healthy ecosystems, and value diversity and social justice, are essential for achieving sustainability.
OI.5	World views are formed by experiences at personal, local, national and global levels, and are linked to individual and community actions for sustainability.
Futures	
OI.6	The sustainability of ecological, social and economic systems is achieved through informed individual and community action that values local and global equity and fairness across generations into the future.
OI.7	Actions for a more sustainable future reflect values of care, respect and responsibility, and require us to explore and understand environments.
OI.8	Designing action for sustainability requires an evaluation of past practices, the assessment of scientific and technological developments, and balanced judgements based on projected future economic, social and environmental impacts.
OI.9	Sustainable futures result from actions designed to preserve and/or restore the quality and uniqueness of environments.

Learning Areas

Learning area statements

All Australian Curriculum learning areas have a potential to contribute to the sustainability cross-curriculum priority. Sustainability is included in each learning area in ways that are consistent with the content and purpose of the area of study. Each learning area contributes differently to the Sustainability cross-curriculum priority, its key concepts and organising ideas. For example, some have content that enables students to work with ecological and human systems and to appreciate their interdependence. Others contribute to the development of world views necessary for students to act to create a

	economic, social and environmental impacts.
OI.9	Sustainable futures result from actions designed to preserve and/or restore the quality and uniqueness of environments.

Learning Areas

Learning area statements

All Australian Curriculum learning areas have a potential to contribute to the sustainability cross-curriculum priority. Sustainability is included in each learning area in ways that are consistent with the content and purpose of the area of study. Each learning area contributes differently to the Sustainability cross-curriculum priority, its key concepts and organising ideas. For example, some have content that enables students to work with ecological and human systems and to appreciate their interdependence. Others contribute to the development of world views necessary for students to act to create a more socially and ecologically just world. There are others that provide content that challenges students to consider sustainable futures and to design and take action that recognises projected future economic, social and environmental impacts.

While some learning areas do not address sustainability directly in their content descriptions, they may still contribute to learning that is essential for understanding sustainability issues by providing the analytical, measurement and persuasive skills needed to advocate effectively for sustainability.

Across the Australian Curriculum, content descriptions and elaborations tagged with the sustainability symbol illustrate how content might be taught in relation to the Sustainability cross-curriculum priority.

English

The Australian Curriculum: English helps students develop the skills necessary to investigate, analyse and communicate ideas and information related to sustainability, and to advocate, generate and evaluate actions for sustainable futures. The content in the language, literature and literacy strands is key to developing and sharing knowledge about social, economic and ecological systems and world views that promote social justice. In this learning area, students may interrogate a range of texts to shape their decision-making in relation to sustainability. They develop the understanding and skills necessary to act responsibly and create texts that inform and persuade others to take action for sustainable futures.

Mathematics

In the Australian Curriculum: Mathematics, students can develop the proficiencies of problem-solving and reasoning essential for the exploration of sustainability issues and their solutions. Students apply spatial reasoning, measurement, estimation, calculation and comparison to gauge local ecosystem health and can cost proposed actions for sustainability. Mathematical understandings and skills are necessary to measure, monitor and quantify change in social, economic and ecological systems over time and statistical analysis enables the prediction of probable futures based on findings and helps inform decision-making and actions that will lead to preferred futures.

Science

In the Australian Curriculum: Science, the Sustainability priority provides contexts for investigating and understanding chemical, biological, physical and Earth and space systems. Students explore a wide range of systems that operate at different time and spatial scales. By investigating the relationships between systems and system components and how systems respond to change, students develop an appreciation for the interconnectedness of Earth's biosphere, geosphere, hydrosphere and atmosphere. Relationships including cycles and cause and effect are explored, and students develop observation and analysis skills to examine these relationships in the world around them. In this learning area, students appreciate that science provides the basis for decision-making in many areas of society and that these decisions can impact on the Earth system. They understand the importance of using science to predict possible effects of human and other activity and to develop management plans or alternative technologies that minimise these effects.

Humanities and the Social Sciences

The Australian Curriculum: Humanities and Social Sciences helps students develop the ability to question, think critically, solve problems, communicate effectively, make decisions and adapt to change. Students respond to the challenges of sustainability requiring an understanding of the key historical, geographical, political, economic and societal factors involved, and how these different factors interrelate. The learning area provides content that supports the development of students' world views, particularly in relation to judgements about past social and economic systems, and access to and use of Earth's resources. It gives students opportunities to integrate their study of biophysical processes with investigations of the attitudinal, demographic, social, economic and political influences on human use and management of the environment. The curriculum prepares students to be informed consumers, to act in enterprising and innovative ways and to perceive business opportunities in changing local, regional and global economic environments. Students explore contemporary issues of sustainability and develop action plans and possible solutions to local, national and global issues which have social, economic and environmental perspectives.

The Arts

	economic, social and environmental impacts.
OI.9	Sustainable futures result from actions designed to preserve and/or restore the quality and uniqueness of environments.

Learning Areas

Learning area statements

All Australian Curriculum learning areas have a potential to contribute to the sustainability cross-curriculum priority. Sustainability is included in each learning area in ways that are consistent with the content and purpose of the area of study. Each learning area contributes differently to the Sustainability cross-curriculum priority, its key concepts and organising ideas. For example, some have content that enables students to work with ecological and human systems and to appreciate their interdependence. Others contribute to the development of world views necessary for students to act to create a more socially and ecologically just world. There are others that provide content that challenges students to consider sustainable futures and to design and take action that recognises projected future economic, social and environmental impacts.

While some learning areas do not address sustainability directly in their content descriptions, they may still contribute to learning that is essential for understanding sustainability issues by providing the analytical, measurement and persuasive skills needed to advocate effectively for sustainability.

Across the Australian Curriculum, content descriptions and elaborations tagged with the sustainability symbol illustrate how content might be taught in relation to the Sustainability cross-curriculum priority.

English

The Australian Curriculum: English helps students develop the skills necessary to investigate, analyse and communicate ideas and information related to sustainability, and to advocate, generate and evaluate actions for sustainable futures. The content in the language, literature and literacy strands is key to developing and sharing knowledge about social, economic and ecological systems and world views that promote social justice. In this learning area, students may interrogate a range of texts to shape their decision-making in relation to sustainability. They develop the understanding and skills necessary to act responsibly and create texts that inform and persuade others to take action for sustainable futures.

Mathematics

In the Australian Curriculum: Mathematics, students can develop the proficiencies of problem-solving and reasoning essential for the exploration of sustainability issues and their solutions. Students apply spatial reasoning, measurement, estimation, calculation and comparison to gauge local ecosystem health and can cost proposed actions for sustainability. Mathematical understandings and skills are necessary to measure, monitor and quantify change in social, economic and ecological systems over time and statistical analysis enables the prediction of probable futures based on findings and helps inform decision-making and actions that will lead to preferred futures.

Science

In the Australian Curriculum: Science, the Sustainability priority provides contexts for investigating and understanding chemical, biological, physical and Earth and space systems. Students explore a wide range of systems that operate at different time and spatial scales. By investigating the relationships between systems and system components and how systems respond to change, students develop an appreciation for the interconnectedness of Earth's biosphere, geosphere, hydrosphere and atmosphere. Relationships including cycles and cause and effect are explored, and students develop observation and analysis skills to examine these relationships in the world around them. In this learning area, students appreciate that science provides the basis for decision-making in many areas of society and that these decisions can impact on the Earth system. They understand the importance of using science to predict possible effects of human and other activity and to develop management plans or alternative technologies that minimise these effects.

Humanities and the Social Sciences

The Australian Curriculum: Humanities and Social Sciences helps students develop the ability to question, think critically, solve problems, communicate effectively, make decisions and adapt to change. Students respond to the challenges of sustainability requiring an understanding of the key historical, geographical, political, economic and societal factors involved, and how these different factors interrelate. The learning area provides content that supports the development of students' world views, particularly in relation to judgements about past social and economic systems, and access to and use of Earth's resources. It gives students opportunities to integrate their study of biophysical processes with investigations of the attitudinal, demographic, social, economic and political influences on human use and management of the environment. The curriculum prepares students to be informed consumers, to act in enterprising and innovative ways and to perceive business opportunities in changing local, regional and global economic environments. Students explore contemporary issues of sustainability and develop action plans and possible solutions to local, national and global issues which have social, economic and environmental perspectives.

The Arts

	economic, social and environmental impacts.
OI.9	Sustainable futures result from actions designed to preserve and/or restore the quality and uniqueness of environments.

Learning Areas

Learning area statements

All Australian Curriculum learning areas have a potential to contribute to the sustainability cross-curriculum priority. Sustainability is included in each learning area in ways that are consistent with the content and purpose of the area of study. Each learning area contributes differently to the Sustainability cross-curriculum priority, its key concepts and organising ideas. For example, some have content that enables students to work with ecological and human systems and to appreciate their interdependence. Others contribute to the development of world views necessary for students to act to create a more socially and ecologically just world. There are others that provide content that challenges students to consider sustainable futures and to design and take action that recognises projected future economic, social and environmental impacts.

While some learning areas do not address sustainability directly in their content descriptions, they may still contribute to learning that is essential for understanding sustainability issues by providing the analytical, measurement and persuasive skills needed to advocate effectively for sustainability.

Across the Australian Curriculum, content descriptions and elaborations tagged with the sustainability symbol illustrate how content might be taught in relation to the Sustainability cross-curriculum priority.

English

The Australian Curriculum: English helps students develop the skills necessary to investigate, analyse and communicate ideas and information related to sustainability, and to advocate, generate and evaluate actions for sustainable futures. The content in the language, literature and literacy strands is key to developing and sharing knowledge about social, economic and ecological systems and world views that promote social justice. In this learning area, students may interrogate a range of texts to shape their decision-making in relation to sustainability. They develop the understanding and skills necessary to act responsibly and create texts that inform and persuade others to take action for sustainable futures.

Mathematics

In the Australian Curriculum: Mathematics, students can develop the proficiencies of problem-solving and reasoning essential for the exploration of sustainability issues and their solutions. Students apply spatial reasoning, measurement, estimation, calculation and comparison to gauge local ecosystem health and can cost proposed actions for sustainability. Mathematical understandings and skills are necessary to measure, monitor and quantify change in social, economic and ecological systems over time and statistical analysis enables the prediction of probable futures based on findings and helps inform decision-making and actions that will lead to preferred futures.

Science

In the Australian Curriculum: Science, the Sustainability priority provides contexts for investigating and understanding chemical, biological, physical and Earth and space systems. Students explore a wide range of systems that operate at different time and spatial scales. By investigating the relationships between systems and system components and how systems respond to change, students develop an appreciation for the interconnectedness of Earth's biosphere, geosphere, hydrosphere and atmosphere. Relationships including cycles and cause and effect are explored, and students develop observation and analysis skills to examine these relationships in the world around them. In this learning area, students appreciate that science provides the basis for decision-making in many areas of society and that these decisions can impact on the Earth system. They understand the importance of using science to predict possible effects of human and other activity and to develop management plans or alternative technologies that minimise these effects.

Humanities and the Social Sciences

The Australian Curriculum: Humanities and Social Sciences helps students develop the ability to question, think critically, solve problems, communicate effectively, make decisions and adapt to change. Students respond to the challenges of sustainability requiring an understanding of the key historical, geographical, political, economic and societal factors involved, and how these different factors interrelate. The learning area provides content that supports the development of students' world views, particularly in relation to judgements about past social and economic systems, and access to and use of Earth's resources. It gives students opportunities to integrate their study of biophysical processes with investigations of the attitudinal, demographic, social, economic and political influences on human use and management of the environment. The curriculum prepares students to be informed consumers, to act in enterprising and innovative ways and to perceive business opportunities in changing local, regional and global economic environments. Students explore contemporary issues of sustainability and develop action plans and possible solutions to local, national and global issues which have social, economic and environmental perspectives.

The Arts

observation and analysis skills to examine these relationships in the world around them. In this learning area, students appreciate that science provides the basis for decision-making in many areas of society and that these decisions can impact on the Earth system. They understand the importance of using science to predict possible effects of human and other activity and to develop management plans or alternative technologies that minimise these effects.

Humanities and the Social Sciences

The Australian Curriculum: Humanities and Social Sciences helps students develop the ability to question, think critically, solve problems, communicate effectively, make decisions and adapt to change. Students respond to the challenges of sustainability requiring an understanding of the key historical, geographical, political, economic and societal factors involved, and how these different factors interrelate. The learning area provides content that supports the development of students' world views, particularly in relation to judgements about past social and economic systems, and access to and use of Earth's resources. It gives students opportunities to integrate their study of biophysical processes with investigations of the attitudinal, demographic, social, economic and political influences on human use and management of the environment. The curriculum prepares students to be informed consumers, to act in enterprising and innovative ways and to perceive business opportunities in changing local, regional and global economic environments. Students explore contemporary issues of sustainability and develop action plans and possible solutions to local, national and global issues which have social, economic and environmental perspectives.

The Arts

The Australian Curriculum: The Arts provides engaging and thought-provoking contexts in which to explore the nature of art making and responding. It enables the exploration of the role of The Arts in maintaining and transforming cultural practices, social systems and the relationships of people to their environment. Through making and responding in The Arts, students consider issues of sustainability in relation to resource use and traditions in each of The Arts subjects. The Arts provides opportunities for students to express and develop world views, and to appreciate the need for collaboration within and between communities to implement more sustainable patterns of living. In this learning area, students use the exploratory and creative platform of The Arts to advocate effective action for sustainability.

Technologies

The Australian Curriculum: Technologies enables consideration of preferred futures. When students identify and critique a problem, need or opportunity; generate ideas and concepts; and create solutions, they give prime consideration to sustainability by anticipating and balancing economic, environmental and social impacts. The curriculum focuses on the knowledge, understanding and skills necessary to design for effective sustainability action taking into account issues such as resource depletion and climate change. The learning area gives students opportunities to explore their own and competing viewpoints, values and interests. Understanding systems enables students to work with complexity, uncertainty and risk; make connections between disparate ideas and concepts; self-critique; and propose creative solutions that enhance sustainability. Students reflect on past and current practices, and assess new and emerging technologies from a sustainability perspective.

Health and Physical Education

In the Australian Curriculum: Health and Physical Education, students explore how they connect and interact with natural, managed and built environments, and with people in different social groups within their social networks and wider communities. They consider how these connections and interactions within systems play an important role in promoting, supporting and sustaining the wellbeing of individuals, the community and the environment as a whole, now and into the future. Students develop their world view by exploring concepts of diversity, social justice and consumerism as these relate to the promotion and maintenance of health and wellbeing. Through movement experiences, students are provided with opportunities to develop a connection in and with environments and to gain an appreciation of the interdependence of the health of people and that of environments.

Languages

The Australian Curriculum: Languages contributes to students' capabilities to investigate, analyse and communicate concepts and understandings related to sustainability in broad contexts, and to advocate, generate and evaluate actions for sustainable futures. Within each language, students engage with a range of texts focused on concepts related to sustainability.

In this way, students develop knowledge and understanding about sustainability within particular cultural contexts. This is crucial in the context of national and international concerns about, for example, climate change, food shortages and alternative ways of caring for land and agriculture. Through developing a capability to interact with others, negotiating meaning and mutual understanding respectfully and reflecting on communication, students learn to live and work in ways that are productive and sustainable.

Work Studies

The Australian Curriculum: Work Studies provides opportunities for students to observe and reflect on ways individuals apply workplace practices that value and protect environments as well as the health and welfare of themselves and other workers. In reviewing work-related experiences, students reflect on personal behaviours and practices that contribute to more sustainable enterprises. Students recognise the relationship between social and environmental sustainability and how one is necessary for the other. Through study of the operation of organisations, students appreciate the interdependence of economic, social and environmental factors in moving towards more sustainable industries. When applying their skills and knowledge to solve problems or implement projects, they

observation and analysis skills to examine these relationships in the world around them. In this learning area, students appreciate that science provides the basis for decision-making in many areas of society and that these decisions can impact on the Earth system. They understand the importance of using science to predict possible effects of human and other activity and to develop management plans or alternative technologies that minimise these effects.

Humanities and the Social Sciences

The Australian Curriculum: Humanities and Social Sciences helps students develop the ability to question, think critically, solve problems, communicate effectively, make decisions and adapt to change. Students respond to the challenges of sustainability requiring an understanding of the key historical, geographical, political, economic and societal factors involved, and how these different factors interrelate. The learning area provides content that supports the development of students' world views, particularly in relation to judgements about past social and economic systems, and access to and use of Earth's resources. It gives students opportunities to integrate their study of biophysical processes with investigations of the attitudinal, demographic, social, economic and political influences on human use and management of the environment. The curriculum prepares students to be informed consumers, to act in enterprising and innovative ways and to perceive business opportunities in changing local, regional and global economic environments. Students explore contemporary issues of sustainability and develop action plans and possible solutions to local, national and global issues which have social, economic and environmental perspectives.

The Arts

The Australian Curriculum: The Arts provides engaging and thought-provoking contexts in which to explore the nature of art making and responding. It enables the exploration of the role of The Arts in maintaining and transforming cultural practices, social systems and the relationships of people to their environment. Through making and responding in The Arts, students consider issues of sustainability in relation to resource use and traditions in each of The Arts subjects. The Arts provides opportunities for students to express and develop world views, and to appreciate the need for collaboration within and between communities to implement more sustainable patterns of living. In this learning area, students use the exploratory and creative platform of The Arts to advocate effective action for sustainability.

Technologies

The Australian Curriculum: Technologies enables consideration of preferred futures. When students identify and critique a problem, need or opportunity; generate ideas and concepts; and create solutions, they give prime consideration to sustainability by anticipating and balancing economic, environmental and social impacts. The curriculum focuses on the knowledge, understanding and skills necessary to design for effective sustainability action taking into account issues such as resource depletion and climate change. The learning area gives students opportunities to explore their own and competing viewpoints, values and interests. Understanding systems enables students to work with complexity, uncertainty and risk; make connections between disparate ideas and concepts; self-critique; and propose creative solutions that enhance sustainability. Students reflect on past and current practices, and assess new and emerging technologies from a sustainability perspective.

Health and Physical Education

In the Australian Curriculum: Health and Physical Education, students explore how they connect and interact with natural, managed and built environments, and with people in different social groups within their social networks and wider communities. They consider how these connections and interactions within systems play an important role in promoting, supporting and sustaining the wellbeing of individuals, the community and the environment as a whole, now and into the future. Students develop their world view by exploring concepts of diversity, social justice and consumerism as these relate to the promotion and maintenance of health and wellbeing. Through movement experiences, students are provided with opportunities to develop a connection in and with environments and to gain an appreciation of the interdependence of the health of people and that of environments.

Languages

The Australian Curriculum: Languages contributes to students' capabilities to investigate, analyse and communicate concepts and understandings related to sustainability in broad contexts, and to advocate, generate and evaluate actions for sustainable futures. Within each language, students engage with a range of texts focused on concepts related to sustainability.

In this way, students develop knowledge and understanding about sustainability within particular cultural contexts. This is crucial in the context of national and international concerns about, for example, climate change, food shortages and alternative ways of caring for land and agriculture. Through developing a capability to interact with others, negotiating meaning and mutual understanding respectfully and reflecting on communication, students learn to live and work in ways that are productive and sustainable.

Work Studies

The Australian Curriculum: Work Studies provides opportunities for students to observe and reflect on ways individuals apply workplace practices that value and protect environments as well as the health and welfare of themselves and other workers. In reviewing work-related experiences, students reflect on personal behaviours and practices that contribute to more sustainable enterprises. Students recognise the relationship between social and environmental sustainability and how one is necessary for the other. Through study of the operation of organisations, students appreciate the interdependence of economic, social and environmental factors in moving towards more sustainable industries. When applying their skills and knowledge to solve problems or implement projects, they

observation and analysis skills to examine these relationships in the world around them. In this learning area, students appreciate that science provides the basis for decision-making in many areas of society and that these decisions can impact on the Earth system. They understand the importance of using science to predict possible effects of human and other activity and to develop management plans or alternative technologies that minimise these effects.

Humanities and the Social Sciences

The Australian Curriculum: Humanities and Social Sciences helps students develop the ability to question, think critically, solve problems, communicate effectively, make decisions and adapt to change. Students respond to the challenges of sustainability requiring an understanding of the key historical, geographical, political, economic and societal factors involved, and how these different factors interrelate. The learning area provides content that supports the development of students' world views, particularly in relation to judgements about past social and economic systems, and access to and use of Earth's resources. It gives students opportunities to integrate their study of biophysical processes with investigations of the attitudinal, demographic, social, economic and political influences on human use and management of the environment. The curriculum prepares students to be informed consumers, to act in enterprising and innovative ways and to perceive business opportunities in changing local, regional and global economic environments. Students explore contemporary issues of sustainability and develop action plans and possible solutions to local, national and global issues which have social, economic and environmental perspectives.

The Arts

The Australian Curriculum: The Arts provides engaging and thought-provoking contexts in which to explore the nature of art making and responding. It enables the exploration of the role of The Arts in maintaining and transforming cultural practices, social systems and the relationships of people to their environment. Through making and responding in The Arts, students consider issues of sustainability in relation to resource use and traditions in each of The Arts subjects. The Arts provides opportunities for students to express and develop world views, and to appreciate the need for collaboration within and between communities to implement more sustainable patterns of living. In this learning area, students use the exploratory and creative platform of The Arts to advocate effective action for sustainability.

Technologies

The Australian Curriculum: Technologies enables consideration of preferred futures. When students identify and critique a problem, need or opportunity; generate ideas and concepts; and create solutions, they give prime consideration to sustainability by anticipating and balancing economic, environmental and social impacts. The curriculum focuses on the knowledge, understanding and skills necessary to design for effective sustainability action taking into account issues such as resource depletion and climate change. The learning area gives students opportunities to explore their own and competing viewpoints, values and interests. Understanding systems enables students to work with complexity, uncertainty and risk; make connections between disparate ideas and concepts; self-critique; and propose creative solutions that enhance sustainability. Students reflect on past and current practices, and assess new and emerging technologies from a sustainability perspective.

Health and Physical Education

In the Australian Curriculum: Health and Physical Education, students explore how they connect and interact with natural, managed and built environments, and with people in different social groups within their social networks and wider communities. They consider how these connections and interactions within systems play an important role in promoting, supporting and sustaining the wellbeing of individuals, the community and the environment as a whole, now and into the future. Students develop their world view by exploring concepts of diversity, social justice and consumerism as these relate to the promotion and maintenance of health and wellbeing. Through movement experiences, students are provided with opportunities to develop a connection in and with environments and to gain an appreciation of the interdependence of the health of people and that of environments.

Languages

The Australian Curriculum: Languages contributes to students' capabilities to investigate, analyse and communicate concepts and understandings related to sustainability in broad contexts, and to advocate, generate and evaluate actions for sustainable futures. Within each language, students engage with a range of texts focused on concepts related to sustainability.

In this way, students develop knowledge and understanding about sustainability within particular cultural contexts. This is crucial in the context of national and international concerns about, for example, climate change, food shortages and alternative ways of caring for land and agriculture. Through developing a capability to interact with others, negotiating meaning and mutual understanding respectfully and reflecting on communication, students learn to live and work in ways that are productive and sustainable.

Work Studies

The Australian Curriculum: Work Studies provides opportunities for students to observe and reflect on ways individuals apply workplace practices that value and protect environments as well as the health and welfare of themselves and other workers. In reviewing work-related experiences, students reflect on personal behaviours and practices that contribute to more sustainable enterprises. Students recognise the relationship between social and environmental sustainability and how one is necessary for the other. Through study of the operation of organisations, students appreciate the interdependence of economic, social and environmental factors in moving towards more sustainable industries. When applying their skills and knowledge to solve problems or implement projects, they

observation and analysis skills to examine these relationships in the world around them. In this learning area, students appreciate that science provides the basis for decision-making in many areas of society and that these decisions can impact on the Earth system. They understand the importance of using science to predict possible effects of human and other activity and to develop management plans or alternative technologies that minimise these effects.

Humanities and the Social Sciences

The Australian Curriculum: Humanities and Social Sciences helps students develop the ability to question, think critically, solve problems, communicate effectively, make decisions and adapt to change. Students respond to the challenges of sustainability requiring an understanding of the key historical, geographical, political, economic and societal factors involved, and how these different factors interrelate. The learning area provides content that supports the development of students' world views, particularly in relation to judgements about past social and economic systems, and access to and use of Earth's resources. It gives students opportunities to integrate their study of biophysical processes with investigations of the attitudinal, demographic, social, economic and political influences on human use and management of the environment. The curriculum prepares students to be informed consumers, to act in enterprising and innovative ways and to perceive business opportunities in changing local, regional and global economic environments. Students explore contemporary issues of sustainability and develop action plans and possible solutions to local, national and global issues which have social, economic and environmental perspectives.

The Arts

The Australian Curriculum: The Arts provides engaging and thought-provoking contexts in which to explore the nature of art making and responding. It enables the exploration of the role of The Arts in maintaining and transforming cultural practices, social systems and the relationships of people to their environment. Through making and responding in The Arts, students consider issues of sustainability in relation to resource use and traditions in each of The Arts subjects. The Arts provides opportunities for students to express and develop world views, and to appreciate the need for collaboration within and between communities to implement more sustainable patterns of living. In this learning area, students use the exploratory and creative platform of The Arts to advocate effective action for sustainability.

Technologies

The Australian Curriculum: Technologies enables consideration of preferred futures. When students identify and critique a problem, need or opportunity; generate ideas and concepts; and create solutions, they give prime consideration to sustainability by anticipating and balancing economic, environmental and social impacts. The curriculum focuses on the knowledge, understanding and skills necessary to design for effective sustainability action taking into account issues such as resource depletion and climate change. The learning area gives students opportunities to explore their own and competing viewpoints, values and interests. Understanding systems enables students to work with complexity, uncertainty and risk; make connections between disparate ideas and concepts; self-critique; and propose creative solutions that enhance sustainability. Students reflect on past and current practices, and assess new and emerging technologies from a sustainability perspective.

Health and Physical Education

In the Australian Curriculum: Health and Physical Education, students explore how they connect and interact with natural, managed and built environments, and with people in different social groups within their social networks and wider communities. They consider how these connections and interactions within systems play an important role in promoting, supporting and sustaining the wellbeing of individuals, the community and the environment as a whole, now and into the future. Students develop their world view by exploring concepts of diversity, social justice and consumerism as these relate to the promotion and maintenance of health and wellbeing. Through movement experiences, students are provided with opportunities to develop a connection in and with environments and to gain an appreciation of the interdependence of the health of people and that of environments.

Languages

The Australian Curriculum: Languages contributes to students' capabilities to investigate, analyse and communicate concepts and understandings related to sustainability in broad contexts, and to advocate, generate and evaluate actions for sustainable futures. Within each language, students engage with a range of texts focused on concepts related to sustainability.

In this way, students develop knowledge and understanding about sustainability within particular cultural contexts. This is crucial in the context of national and international concerns about, for example, climate change, food shortages and alternative ways of caring for land and agriculture. Through developing a capability to interact with others, negotiating meaning and mutual understanding respectfully and reflecting on communication, students learn to live and work in ways that are productive and sustainable.

Work Studies

The Australian Curriculum: Work Studies provides opportunities for students to observe and reflect on ways individuals apply workplace practices that value and protect environments as well as the health and welfare of themselves and other workers. In reviewing work-related experiences, students reflect on personal behaviours and practices that contribute to more sustainable enterprises. Students recognise the relationship between social and environmental sustainability and how one is necessary for the other. Through study of the operation of organisations, students appreciate the interdependence of economic, social and environmental factors in moving towards more sustainable industries. When applying their skills and knowledge to solve problems or implement projects, they

observation and analysis skills to examine these relationships in the world around them. In this learning area, students appreciate that science provides the basis for decision-making in many areas of society and that these decisions can impact on the Earth system. They understand the importance of using science to predict possible effects of human and other activity and to develop management plans or alternative technologies that minimise these effects.

Humanities and the Social Sciences

The Australian Curriculum: Humanities and Social Sciences helps students develop the ability to question, think critically, solve problems, communicate effectively, make decisions and adapt to change. Students respond to the challenges of sustainability requiring an understanding of the key historical, geographical, political, economic and societal factors involved, and how these different factors interrelate. The learning area provides content that supports the development of students' world views, particularly in relation to judgements about past social and economic systems, and access to and use of Earth's resources. It gives students opportunities to integrate their study of biophysical processes with investigations of the attitudinal, demographic, social, economic and political influences on human use and management of the environment. The curriculum prepares students to be informed consumers, to act in enterprising and innovative ways and to perceive business opportunities in changing local, regional and global economic environments. Students explore contemporary issues of sustainability and develop action plans and possible solutions to local, national and global issues which have social, economic and environmental perspectives.

The Arts

The Australian Curriculum: The Arts provides engaging and thought-provoking contexts in which to explore the nature of art making and responding. It enables the exploration of the role of The Arts in maintaining and transforming cultural practices, social systems and the relationships of people to their environment. Through making and responding in The Arts, students consider issues of sustainability in relation to resource use and traditions in each of The Arts subjects. The Arts provides opportunities for students to express and develop world views, and to appreciate the need for collaboration within and between communities to implement more sustainable patterns of living. In this learning area, students use the exploratory and creative platform of The Arts to advocate effective action for sustainability.

Technologies

The Australian Curriculum: Technologies enables consideration of preferred futures. When students identify and critique a problem, need or opportunity; generate ideas and concepts; and create solutions, they give prime consideration to sustainability by anticipating and balancing economic, environmental and social impacts. The curriculum focuses on the knowledge, understanding and skills necessary to design for effective sustainability action taking into account issues such as resource depletion and climate change. The learning area gives students opportunities to explore their own and competing viewpoints, values and interests. Understanding systems enables students to work with complexity, uncertainty and risk; make connections between disparate ideas and concepts; self-critique; and propose creative solutions that enhance sustainability. Students reflect on past and current practices, and assess new and emerging technologies from a sustainability perspective.

Health and Physical Education

In the Australian Curriculum: Health and Physical Education, students explore how they connect and interact with natural, managed and built environments, and with people in different social groups within their social networks and wider communities. They consider how these connections and interactions within systems play an important role in promoting, supporting and sustaining the wellbeing of individuals, the community and the environment as a whole, now and into the future. Students develop their world view by exploring concepts of diversity, social justice and consumerism as these relate to the promotion and maintenance of health and wellbeing. Through movement experiences, students are provided with opportunities to develop a connection in and with environments and to gain an appreciation of the interdependence of the health of people and that of environments.

Languages

The Australian Curriculum: Languages contributes to students' capabilities to investigate, analyse and communicate concepts and understandings related to sustainability in broad contexts, and to advocate, generate and evaluate actions for sustainable futures. Within each language, students engage with a range of texts focused on concepts related to sustainability.

In this way, students develop knowledge and understanding about sustainability within particular cultural contexts. This is crucial in the context of national and international concerns about, for example, climate change, food shortages and alternative ways of caring for land and agriculture. Through developing a capability to interact with others, negotiating meaning and mutual understanding respectfully and reflecting on communication, students learn to live and work in ways that are productive and sustainable.

Work Studies

The Australian Curriculum: Work Studies provides opportunities for students to observe and reflect on ways individuals apply workplace practices that value and protect environments as well as the health and welfare of themselves and other workers. In reviewing work-related experiences, students reflect on personal behaviours and practices that contribute to more sustainable enterprises. Students recognise the relationship between social and environmental sustainability and how one is necessary for the other. Through study of the operation of organisations, students appreciate the interdependence of economic, social and environmental factors in moving towards more sustainable industries. When applying their skills and knowledge to solve problems or implement projects, they

changing local, regional and global economic environments. Students explore contemporary issues of sustainability and develop action plans and possible solutions to local, national and global issues which have social, economic and environmental perspectives.

The Arts

The Australian Curriculum: The Arts provides engaging and thought-provoking contexts in which to explore the nature of art making and responding. It enables the exploration of the role of The Arts in maintaining and transforming cultural practices, social systems and the relationships of people to their environment. Through making and responding in The Arts, students consider issues of sustainability in relation to resource use and traditions in each of The Arts subjects. The Arts provides opportunities for students to express and develop world views, and to appreciate the need for collaboration within and between communities to implement more sustainable patterns of living. In this learning area, students use the exploratory and creative platform of The Arts to advocate effective action for sustainability.

Technologies

The Australian Curriculum: Technologies enables consideration of preferred futures. When students identify and critique a problem, need or opportunity; generate ideas and concepts; and create solutions, they give prime consideration to sustainability by anticipating and balancing economic, environmental and social impacts. The curriculum focuses on the knowledge, understanding and skills necessary to design for effective sustainability action taking into account issues such as resource depletion and climate change. The learning area gives students opportunities to explore their own and competing viewpoints, values and interests. Understanding systems enables students to work with complexity, uncertainty and risk; make connections between disparate ideas and concepts; self-critique; and propose creative solutions that enhance sustainability. Students reflect on past and current practices, and assess new and emerging technologies from a sustainability perspective.

Health and Physical Education

In the Australian Curriculum: Health and Physical Education, students explore how they connect and interact with natural, managed and built environments, and with people in different social groups within their social networks and wider communities. They consider how these connections and interactions within systems play an important role in promoting, supporting and sustaining the wellbeing of individuals, the community and the environment as a whole, now and into the future. Students develop their world view by exploring concepts of diversity, social justice and consumerism as these relate to the promotion and maintenance of health and wellbeing. Through movement experiences, students are provided with opportunities to develop a connection in and with environments and to gain an appreciation of the interdependence of the health of people and that of environments.

Languages

The Australian Curriculum: Languages contributes to students' capabilities to investigate, analyse and communicate concepts and understandings related to sustainability in broad contexts, and to advocate, generate and evaluate actions for sustainable futures. Within each language, students engage with a range of texts focused on concepts related to sustainability.

In this way, students develop knowledge and understanding about sustainability within particular cultural contexts. This is crucial in the context of national and international concerns about, for example, climate change, food shortages and alternative ways of caring for land and agriculture. Through developing a capability to interact with others, negotiating meaning and mutual understanding respectfully and reflecting on communication, students learn to live and work in ways that are productive and sustainable.

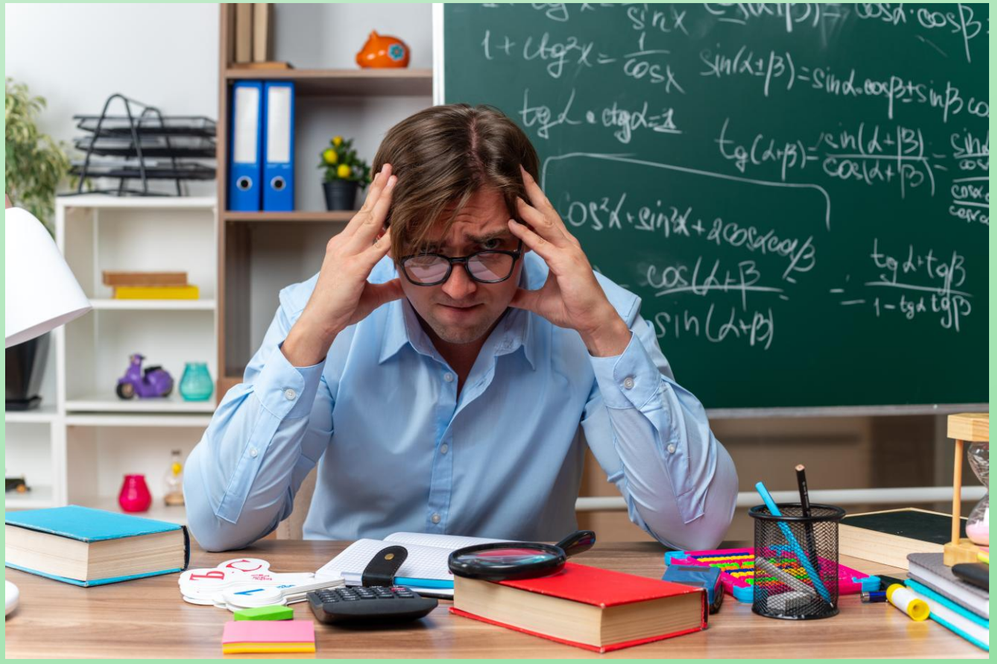
Work Studies

The Australian Curriculum: Work Studies provides opportunities for students to observe and reflect on ways individuals apply workplace practices that value and protect environments as well as the health and welfare of themselves and other workers. In reviewing work-related experiences, students reflect on personal behaviours and practices that contribute to more sustainable enterprises. Students recognise the relationship between social and environmental sustainability and how one is necessary for the other. Through study of the operation of organisations, students appreciate the interdependence of economic, social and environmental factors in moving towards more sustainable industries. When applying their skills and knowledge to solve problems or implement projects, they take into account sustainability as a key factor in realising solutions. They recognise the need for respecting diversity and social justice to achieve outcomes that lead to a more sustainable future.

Greening Schools – Educator Training and Professional Development

While 95% of teachers felt that teaching climate change is important, **less than 30%** expressed a readiness to teach it.

UNESCO, Greening Education Partnership



Greening Schools – Educator Training and Professional Development

- **Understanding of Green Concepts:**

Educators need to be well-versed in the principles and concepts of sustainability.

- **Pedagogical Skills:**

Green concepts require a shift from traditional teaching methods to more interactive, student-centred approaches – Inquiry Based Learning

- **Curriculum Integration:**

Educators must learn how to integrate topics into existing curricula across various subjects.

"Teachers who feel supported are more likely to be open to new ways of teaching and learning."

Greening Schools – Educator Training and Professional Development

- **Fostering Attitudes and Values:**

It is not just about knowledge but also about shaping attitudes and values.

- **Creating Relevant and Engaging Content:**

To keep students engaged, educators need to make topics relevant to their lives.

- **Continuous Professional Development:**

Education is dynamic and constantly evolving. Regular PD sessions required for teachers to keep up to date with current practices.

"By empowering teachers, we naturally empower learners."

Greening Schools – Whole-School and Community Integration

Whole school integration *ensures that green concepts are woven into the fabric of school life*, creating an environment where every member of the school community is engaged.

Campus	Curriculum	Community & Culture
Operations across the buildings and grounds model green and resilient practices, minimize disruption for learning, and serve as a lab for learning.	Curriculum integrates environmental and climate literacy as well as principles and practices for solutionary teaching and learning.	Evidence exists within the "walk" and "talk" of the school community. Importance in developing strategic partnerships with community based organizations.
Students Faculty and Staff Administrators Community Partners & Families		

Concluding Remarks

1. Embedding green concepts into curriculum, through subject specific or cross-curricular approaches **will provide students with the prerequisite knowledge and skills for a sustainable future.**

2. **Adequate and regular trainings/professional development for educators to ensure effective delivery on green topics is a non-negotiable.**

3. A cultural shift and **mindset change** from all stakeholders including policy makers, school administrations, parents, communities as well as teachers and students **is the most influential factor in making a green future possible.**

And remember…

✅ *"Empower students by embracing diverse learning styles—when we differentiate, we don't just teach, we inspire engagement, curiosity, and growth."*

✅ *"Great leaders don't just create followers; they cultivate future leaders. By leading with passion and purpose, we don't just teach subjects—we inspire confidence, resilience, and a love for learning."*

✅ *"Sustainability in education is not just about the environment—it's about building lasting impact. Invest in knowledge''*

Thank You!

Your Three-Part Workshop is complete!

Get in touch!

Patrick.Prendergast@york-press.com