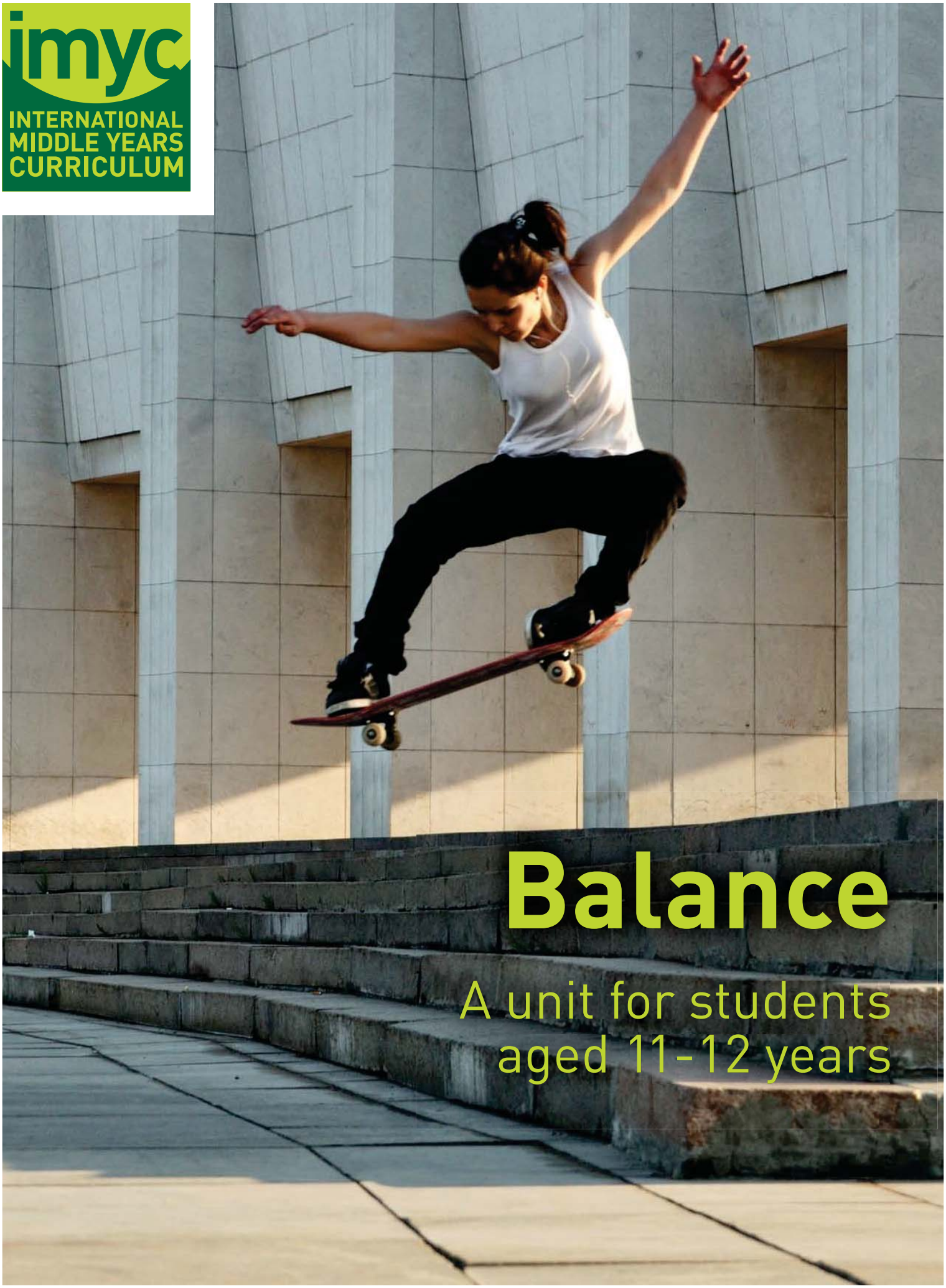
imyc
INTERNATIONAL MIDDLE YEARS CURRICULUM



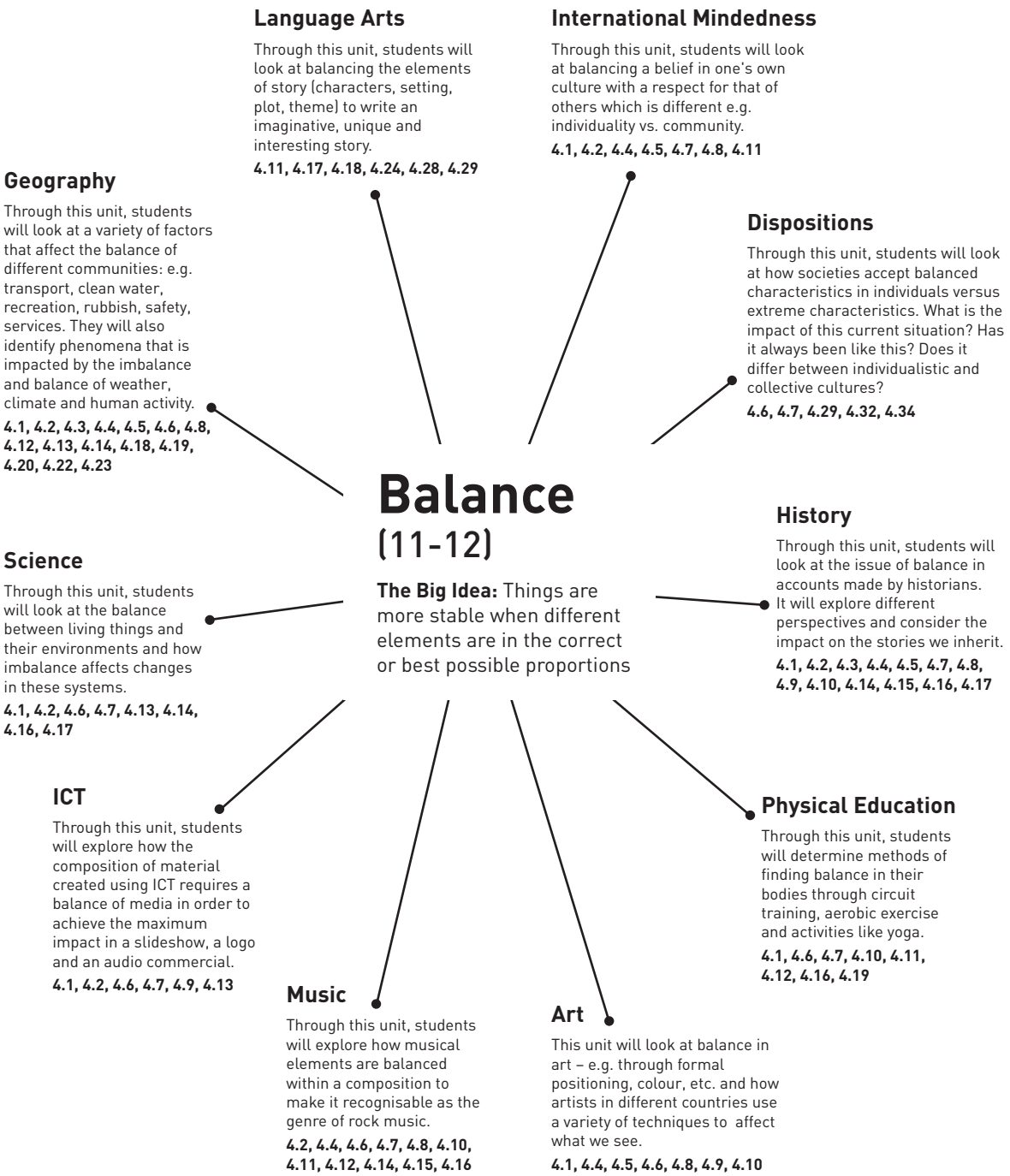
Balance

A unit for students aged 11-12 years

Contents

BALANCE

The International Middle Years Curriculum Mind Map



Learning Goals

Assessment for Learning opportunities

Opportunities to assess your children's skills progress exist throughout the unit. Wherever you see the symbol, you can use the teachers' and children's rubrics in the IPC Assessment for Learning Programme.

Each task also highlights possible Assessment for Learning opportunities.

Geography Learning Goals

Students will:

- **4.1 Know that the study of geography is concerned with places and environments in the world**
- **4.2 Know about the main physical and human features and environmental issues in particular localities**
- **4.3 Know about varying geographical patterns and physical processes of different places**
- 4.4 Know about the geography, weather and climate of particular localities
- 4.5 Know about similarities and differences between particular localities
- **4.6 Know how the features of particular localities influence the nature of human activities within them**
- 4.8 Know how people and their actions affect the environment and physical features of a place
- **4.12 Know how the combination of geographical, environmental and economic features of a region impact human distribution patterns**
- **4.13 Be able to use and interpret globes, maps, atlases, photographs, computer models, and satellite images in a variety of scales**
- **4.14 Be able to make plans and maps using a variety of scales, symbols and keys**
- 4.18 Be able to explain the relationships between physical characteristics and human behaviours that shape a region
- 4.19 Be able to use maps in a variety of scales to locate the position, geographical features and social environments of other countries and continents to gain understanding of daily life

4.20 Be able to explain how physical and human processes lead to similarities and differences between places

4.22 Develop an understanding of how localities are affected by natural features and processes

4.23 Develop an understanding of how and why people seek to manage and sustain their environment

History Learning Goals

Students will:

4.1 Know the characteristic features of particular periods and societies

4.2 Know that the study of history is concerned with the past in relation to the present

4.3 Know the history of the periods being studied

4.4 Know about the ideas, beliefs, attitudes and experiences of people in the past

4.5 Know about the social, cultural, religious and ethnic diversity of the periods studied

4.7 Be able to enquire into historical questions

4.8 Be able to describe how the countries studied have responded to the conflicts, social changes, political changes and economic developments that represent their history

4.9 Be able to describe aspects of the past from a range of sources

4.10 Be able to describe and identify causes for and results of historical events, situations, and changes in the periods they have studied

4.14 Be able to select and record information relevant to an historical topic

4.15 Be able to place the events, people and changes in the appropriate periods

Language Arts Learning Goals

Students will:

4.11 Be able to determine the theme of a text and its relationship to plot, setting and characters

4.17 Be able to write in a range of different forms appropriate for their purpose and readers

4.18 Be able to write narratives to communicate real or imagined events using descriptive details and event sequences

4.24 Be able to write neatly and legibly

4.28 Be able to recognise different forms, genres and themes

4.29 Be able to explain and describe the main features, ideas, themes, events, information and characters in a text

Science Learning Goals

Students will:

4.1 Know that the study of science is concerned with investigating and understanding the animate and inanimate world around them

4.2 Be able to conduct scientific investigations with increasing rigour

- **Choosing an appropriate way to investigate a scientific issue**
- **Making systematic and accurate measurements from their observations**
- **Explaining and justifying their predictions, investigations, findings and conclusions**
- **Recording and communicating their findings accurately using the most appropriate medium and the appropriate scientific vocabulary and conventions**
- **Using scientific language to explain any differences found in the results of investigations**
- **Generating a hypothesis**
- **Gathering and analysing data to test a hypothesis**

4. 6 Know about taxonomy: the classifications of living things

4.7 Know that living things benefit and suffer due to internal and external influences in their environments

4.13 Know about the energy flow in a food chain, pyramid or web and describe its process

4.14 Develop an understanding of the relationship between living things and the environment in which they live.

4.16 Develop and understand that gradual and sudden changes in the environment affect organisms and the overall environment

4.17 Develop an understanding for the diversity of living things

Art Learning Goals

Students will:

- **4.1 Know that the study of art is concerned with visual, tactile and personal expression used to share and express emotions, ideas and values**
- **4.4 Be able to recognise influential artists from particular countries, genres or periods and the pieces of art they produced**
- **4.5 Be able to evidence how artists, craftspeople and designers from a variety of traditions from around the world use materials, forms and techniques to express their feelings, observations and experiences**
- **4.6 Be able to use the elements of art and principles of design to discuss and critique works of art showing understanding, respect and enjoyment as appropriate**
- 4.8 Be able to create art to achieve a particular purpose so that the idea goes beyond art being exclusively for self-expression and creativity
- **4.9 Be able to evaluate their initial artistic products and adjust the work to better suit their expression**
- **4.10 Be able to describe works of art in terms of meaning, design, materials, technique, place and time**

ICT Learning Goals

Students will:

- 4.1 Know that the study of ICT is concerned with applying technology to gather, use and exchange information
- 4.2 Know about an increasing number of applications of ICT for work, communication and leisure
- **4.6 Be able to manipulate and combine different forms of information from different sources in an organized and efficient way**
- **4.7 Be able to use ICT to present information in a variety of forms**
- 4.9 Be able to use ICT to plan and control events
- 4.13 Understand the importance of considering audience and purpose when presenting information

Music Learning Goals

Students will:

4.2 Know the uses of the elements of music

4.4 Know characteristics of representative music genres and styles from a variety of cultures

4.6 Be able to use music vocabulary and apply the elements of music to analyse and describe musical forms

4.7 Be able to interpret standard notation symbols

4.8 Be able to sing and/or play a melody with accompaniment

4.10 Be able to create or compose short pieces within specified parameters

4.11 Be able to perform a repertoire of music, alone or with others, with attention to performance practice, breath -control, posture, and tone quality

4.12 Be able to make judgements about pieces of music, showing understanding, appreciation, respect and enjoyment as appropriate

4.14 Be able to improvise, extend or create music to express emotion, ideas, creativity and imagination

4.15 Be able to perform as part of an ensemble and contribute to the overall experience of the collaboration

4.16 Be able to consider pieces of music in terms of meaning, mood, structure, place and time

Physical Education Learning Goals

Students will:

4.1 Know the study of physical education is concerned with healthy lifestyle choices and activity which lead to physical, emotional and mental balance

4.6 Be able to steadily improve performance with control, coordination, precision and consistency in a range of physical skills and techniques whenever possible

4.7 Be able to select a physical activity they enjoy and decide how they will participate in their chosen activity

4.10 Be able to use safe and acceptable tactics to steadily improve their own performance and that of a team

4.11 Be able to identify the features of a good physical performance

4.12 Be able to evaluate their own performance objectively and make a plan of action

4.16 Develop an understanding of how physical activity affects the body, mind and emotions

4.19 Develop an understanding of how attitudes towards health, practices and behaviours differ based on cultural values and beliefs

International Learning Goals

Students will:

4.1 Know about the key features related to the different lives of people in their home country and, where appropriate, their parents' home countries

4.2 Know about the key features related to the different lives of people in the countries they have studied

4.4 Know about similarities and differences between the lives of people in different countries

4.5 Be able to explain how the lives of people in one country or group are affected by the activities of other countries or groups

4.7 Be able to develop an increasingly mature response to the 'other'

4.8 Be able to appreciate another country, culture, society while still valuing and taking pride in one's own

4.11 Develop an understanding that there is value in knowing and understanding both the similarities and differences between different countries

Dispositions Learning Goals

Students will:

4.6 Know about a range of views, cultures and traditions

4.7 Be able to consider and respect the views, cultures and traditions of other people

4.29 Be better able to communicate effectively and appropriately with individuals, and reflect upon how their actions affect themselves and others

4.32 Be able to consider and respect alternative points of view

4.34 Be able to reflect on what they have learned and its implications for their own lives and the lives of other people

Geography Introduction

Big Idea

Things are more stable when different elements are in the correct or best possible proportions.

Explaining the Theme

During this part of the unit, students will look at the idea of balanced and unbalanced communities. What does a community need to maintain equilibrium balance? How do communities become unbalanced (e.g. transport, clean water, recreation, rubbish, safety)? They will identify and think about a phenomenon that impacts on imbalance and balance (e.g. weather, climate, and Earth movements).

Geography Learning Goals

Students will:

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- 4.23 Develop an understanding of how and why people seek to manage and sustain their environment

Geography Task 1

Learning Goals 4.1, 4.2, 4.5, 4.6, 4.12, 4.18

Assessment for Learning Opportunities

(NB: it is recommended that only one skill should be assessed at a time)

4.1 Know that the study of geography is concerned with places and environments in the world

4.2 Know about the main physical and human features and environmental issues in particular localities

4.6 Know how the features of particular localities influence the nature of human activities within them

4.12 Know how the combination of geographical, environmental and economic features of a region impact human distribution patterns

Research activity

Ask students to think about the idea of balance in communities. What elements are essential to ensure a community is balanced? Ask the students to think about whether they would describe their school community as balanced. Share their responses and record and analyse the reasons they gave for their answer. (These are likely to do with unfairness in allocation of resources, number of resources, quality of resources and so on.) Discuss the criteria they used to measure balance in a particular community? Give them some additional criteria to measure balance against (e.g. average income, house prices, quality of schools, number of public spaces, sustainable use of local resources or quality of public transport). Discuss which of these is the most effective measure of balance and why.

Recording activity

Ask students to work individually, pairs or threes to produce a plan of action that would make the school community as balanced as possible. Tell the students that they will have to present and justify their responses. As they do so, look for the similarities and differences in their responses.

[Mathematical-Logical, Interpersonal Intelligences]

Geography Task 2

Learning Goals 4.1, 4.2, 4.6, 4.13, 4.19

Assessment for Learning Opportunities

(NB: it is recommended that only one skill should be assessed at a time)

4.1 Know that the study of geography is concerned with places and environments in the world

4.2 Know about the main physical and human features and environmental issues in particular localities

4.6 Know how the features of particular localities influence the nature of human activities within them

4.13 Be able to use and interpret globes, maps, atlases, photographs, computer models, and satellite images in a variety of scales

Research activity

Ask students to think about the idea of balance in larger communities. What elements are essential to ensure a community is balanced? Ask the students to think about whether they would describe their local community as balanced. Share their responses and record and analyse the reasons they gave for their answer. Discuss the criteria they used to measure balance in a particular community? Give them some additional criteria to measure balance against (e.g. average income, house prices, quality of schools, number of public spaces, sustainable use of local resources or quality of public transport). Discuss which of these is the most effective measure of balance and why.

Recording activity

Give the students some statistics about your local areas (e.g. population, public transport, schools' performance ratings, average income, number of doctors per person, house prices, leisure facilities, crime figures, etc.)

Using a small scale map of the local areas, ask the students to think about the extent to which communities are balanced. For example, what areas have more crime, nicer schools and access to health care? Ask the students to identify patterns on their maps; do some areas have better facilities than others? Are the schools balanced? The proportion of social housing? House prices? Hospitals?

Ask the students to draw conclusions about their community. Which parts are well balanced and which less so? Have there been any issues in the local media recently that reflect an imbalance in services or goods available? Do they match their findings? What reasons could there be for the balance/lack of balance? Which indicators are the most meaningful and useful? Why?

[Logical-Mathematical, Naturalist Intelligences, Interpersonal Intelligence]

Geography Task 3

Learning Goals 4.1, 4.2, 4.3, 4.12, 4.18, 4.19, 4.20

Assessment for Learning Opportunities

(NB: it is recommended that only one skill should be assessed at a time)

4.1 Know that the study of geography is concerned with places and environments in the world

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4.3 Know about varying geographical patterns and physical processes of different places

4.12 Know how the combination of geographical, environmental and economic features of a region impact human distribution patterns

Research activity

Ask students to research the public facilities in two different cities, in two different countries around the world. Throughout their research students should be looking for factors that create a balanced community and those which threaten that balance. To challenge them further, ask them to analyse the similarities and differences between the cities and the countries (e.g. cultural, religious, racial discrimination; social differences; desire for material wealth; environmental issues, etc.).

Divide the students into two groups, one to investigate one city from one country and one group to investigate the other city from another country (e.g. Auckland, Toronto, London, Madrid, Mexico City, Mumbai, Rio de Janeiro, Cape Town). Divide the groups further to investigate particular elements of balance in these communities (e.g. public transport, police, quality of housing, racial divisions, etc.).

They can use the Internet, non-fiction books, pictures or stories from the media to identify key facts about each of these areas.

Recording activity

Ask the groups to generate a poster, focusing on the particular city they have been researching. Ask them to make clear the balanced and unbalanced elements they think they have identified and the evidence for

their conclusions. The posters can be placed together to make a collage of all the different elements in that city and provide a big picture of how effectively the city has achieved balance. If the students can agree on a colour code for depicting particular aspects (e.g. blue = balanced, red = favours higher income families, green = favours minority population, purple = working with the local environment), the overall effect will be enhanced.

Ask the students to carefully study each others' collage and reflect on the following questions:

- What factors can create a balanced community?
- How do people in power affect the balance in different communities?
- Can the same things also create imbalance?
- Are there any similarities between the challenges to balance in the developed and developing world?
- Are there any major differences?

[Naturalist, Visual-Spatial, Logical-Mathematical, Interpersonal Intelligences]

Geography Task 4

Learning Goals 4.1, 4.2, 4.4, 4.6, 4.12, 4.18, 4.19, 4.20, 4.22

Assessment for Learning Opportunities

(NB: it is recommended that only one skill should be assessed at a time)

4.1 Know that the study of geography is concerned with places and environments in the world

4.2 Know about the main physical and human features and environmental issues in particular localities

4.6 Know how the features of particular localities influence the nature of human activities within them

4.12 Know how the combination of geographical, environmental and economic features of a region impact human distribution patterns

Research activity

Ask the students to investigate how topography and culture can affect the balance of a community. Provide a list of cities in the country you are studying from which individual students or pairs can choose to look at one. Without telling students, make sure that each city provides an example of advantaged and disadvantaged groups which are caused by balanced and imbalanced resources or topography. For example in America you could chose: New Orleans, New York, Boston, Baltimore, Los Angeles.

Ask students to use an Atlas or Google Earth to investigate the topography of the city to determine differences between the places, for example: is one part more protected by its topography than the other? Does one part have more or less public spaces? Which offers better access routes? Which has more areas of greenery/natural beauty? Which have been important/unvalued sites in the past?

Use the website: **www.dailymail.co.uk/news/article-1315078/Race-maps-America.html**

This will facilitate a comparison of the population distribution in regards to the topography they have discovered. Who lives in areas that would be less pleasurable to populate? What ethnic/cultural groups live in the areas of natural beauty? Does the topography of certain areas look advantageous for enjoyable living? Who might live in those places? Why?

Recording activity

Split the class into groups and ask students to create a guided tour for a group of town planners who are at a conference in the city. One group will create a city guide for one part of the city studied and the other group will create a guided tour for the other part. Consider what the planners would see/experience. How would they find the public services? What about important sites to visit? What about areas of natural beauty? They can add pictures or maps to emphasise the key points.

Once finished, have the two groups present their guided tour to one another. Students could then consider to what extent topography and culture has on balance in a community? To what extent can people balance their communities when they are disadvantaged or divided?

[Verbal-Linguistic, Naturalist, Interpersonal Intelligences]

Geography Task 5 (2 sessions)

Learning Goals 4.1, 4.2, 4.3, 4.4, 4.8, 4.14, 4.18, 4.19, 4.22, 4.23

Assessment for Learning Opportunity

(NB: it is recommended that only one skill should be assessed at a time)

4.1 Know that the study of geography is concerned with places and environments in the world

4.2 Know about the main physical and human features and environmental issues in particular localities

4.3 Know about varying geographical patterns and physical processes of different places

4.14 Be able to make plans and maps using a variety of scales, symbols and keys

Research activity

Share with the students photographs of a phenomena exacerbated by human activity (e.g. mudslides in the Amazon rainforest from deforestation, mine collapses in Chile from over extending shafts, avalanches in areas that are over used, forest fires in Australia from climate change, the spread of desert in the Sahara due to increased desire for agriculture and water sourcing).

Ask the students to identify the phenomena taking place, the consequences to the local community and the human behaviour that is perpetuating the problem. Discuss the following questions:

- What impact is human behaviour having on the situation?
- What motivates that human behaviour?
- Are the people of that community working in balance with the environment?
- What could be done to ensure the phenomena does not continue and worsen?
- What will be the consequences if the phenomena continues?

The students need to choose one of the phenomena to study in detail in preparation for the second part of the task. Once they have decided, they

will use the Internet or other digital resources to search solutions to the consequences of their phenomena occurring. The students need to consider the cost of each idea, its impact on the local environment, its sustainability and the effectiveness over time. The students need to make notes to inform the second part of the task.

- **www.newton.dep.anl.gov/askasci/eng99/eng99392.htm**
- **www.bamboogrove.com/blog/tag/preventing-mudslides/**
- **www.nd.edu/~techrev/Archive/Spring2000/a2.html**
- **http://science.howstuffworks.com/nature/natural-disasters/avalanche4.htm**
- **http://geography.about.com/od/physicalgeography/a/avalanches.htm**
- **http://news.bbc.co.uk/1/hi/world/americas/2043476.stm**
- **www.howtoprevent.com/enviroment/how-to-prevent-a-forest-fire/**
- **http://news.bbc.co.uk/1/hi/technology/8166929.stm**
- **www.noruega.ao/News_and_events/research/biomembran/**

Recording activity

Explain to the students the National Geographic Society has appointed them as the geographical impact consultant for their chosen phenomena. They must design an action plan for the short and long term to minimise the impact of these phenomena caused by human activities.

Their plan needs to include diagrams, budget, and alternative ways of achieving the same goals. They must consider how to address the current motivation for treating the environment in this way. Challenge the students to justify each point with topical issues (e.g. value for money, impact on the economy and sustainability).

Once the action plans are complete the rest of the class will sit in session as the National Geographic Society. Other members of the community could be invited to attend the discussion (e.g. teachers, parents, the governing body of the school, members of the local community). Encourage the students to generate questions about each action plan, challenging the speaker to show how their action plan balances the needs of the local community and secures protection for the environment and the people who live in it.

[Verbal-Linguistic, Interpersonal, Logical-Mathematical Intelligences]

Geography Task 6

Learning Goals 4.1, 4.2, 4.3, 4.4, 4.8, 4.18, 4.19, 4.22

Assessment for Learning Opportunities

(NB: it is recommended that only one skill should be assessed at a time)

4.1 Know that the study of geography is concerned with places and environments in the world

4.2 Know about the main physical and human features and environmental issues in particular localities

4.3 Know about varying geographical patterns and physical processes of different places

Research activity

Ask the students to mind map what they already know about climate change. Focus in particular on their thoughts about the causes and the effects. Show them a graph of the pattern in the Earth's temperature over time (**www.cru.uea.ac.uk/cru/info/warming**) explaining that the natural undulation of this pattern has been affected by the increased amount of Carbon Dioxide in the atmosphere. The balance between warming and cooling has been affected.

Allow the students to choose one of the following examples, or think of their own, showing a geographical relationship that could be detrimentally affected by climate change: polar bears and solid ice streams, feeding grounds for migratory birds, droughts and sand storms extending the desert, loss of biodiversity as rainforest shrinks and some animals coming out of hibernation too early.

Watch some of the hand drawn animations available on Youtube (e.g. Neglected Sky **http://jmtb02.com/neglectedsky**, Global Warming (Copenhagen Treaty), Animated Editorial Cartoon).

(There is an opportunity to collaborate with the science section of this unit which explores the balance of living organisms in relation to changing environments.)

Recording activity

The students create sequence of images, drawn or taken from internet, depicting the balanced relationship and how it is threatened by global warming.

Challenge the students to work together to create their own hand drawn animation, possibly using digital images and animation software. If no animation software is available, the students could make a flick book or cartoon strip depicting the same idea. The focus of their cartoon should be on the key statistics and persuasive arguments about the effect of global warming on the balance of the immediate environment and of the international community as a whole.

[Visual-Spatial, Logical-Mathematical Intelligences]

Geography Task 7

Learning Goals 4.1, 4.2, 4.12, 4.14, 4.18, 4.23

Assessment for Learning Opportunities

(NB: it is recommended that only one skill should be assessed at a time)

4.1 Know that the study of geography is concerned with places and environments in the world

4.2 Know about the main physical and human features and environmental issues in particular localities

4.12 Know how the combination of geographical, environmental and economic features of a region impact human distribution patterns

4.14 Be able to make plans and maps using a variety of scales, symbols and keys

Research activity

What does it take to create a balanced community? Ask the students to reflect on what they have learned so far in this unit and consider what the elements of a balanced community are and what proportion they must be in. They could organise their ideas into different categories (e.g. topography, public services, quality of housing, education).

Recording activity

Using these criteria, ask the students to design their own community. They could use computer modelling software, virtual world software (e.g. Second Life, or a generic map of an area to a small scale). Ask them to include housing, public services, open spaces, health, education and recreational facilities.

The students can then annotate their map with justifications, based upon what they have learned from the unit. The students can be given specific communities to integrate and cultural buildings/services they will require (e.g. Muslim community requiring a mosque and halal butchery, Sikh community requiring Gurdwara and perhaps specific clothing or fabric shops, etc.).

Once complete, the students study each others' community and identify areas where balance has been achieved or where the community might be threatened with imbalance.

[Visual-Spatial, Interpersonal, Logical-Mathematical, Naturalist Intelligences]

Geography Journaling Questions

- Do you contribute to making your community at home balanced?
- Is your own community where you live balanced?
- What impact has balance/imbalance in your community had on you personally?
- What factors affecting balance in your own community apply to other communities you have studied?
- To what extent do you think 'universal challenges', threatening the balance in communities, exist all over the world?
- What factors affect the balance between humans and the natural world?
- What motivates the human behaviour that can create a negative imbalance to the environment?
- In the long term, what compromises need to be made in order to establish and maintain a balanced community?
- What are the major consequences when a community becomes unbalanced?
- Is it possible to have a truly balanced community?

History Introduction

Big Idea

Things are more stable when different elements are in the correct or best possible proportions.

Explaining the Theme

We live in an age when we are bombarded with information from a multitude of sources. A lot of that information is trying to give a specific point of view or present a one sided perspective of certain events, and is often 'unbalanced'. It is important that students learn to recognize this and seek to find a balanced picture of important people, issues and events. This unit aims to help students gain an understanding of how reputations are created, why people form unbalanced opinions and what skills help determine whether historians are presenting balanced accounts.

Students will begin the unit investigating how a historical figure has been portrayed in film. Although suggestions of historical figures have been given, teachers can chose figures appropriate to their lessons. They will then investigate what people thought about this figure during the time they lived and test the reliability of sources. Students will research historical facts about this figure to test whether their depiction through film and other sources is accurate. They will study how and why views of this figure have changed over the years. The final task will give the students the opportunity to investigate other historical figures whose popular view has been disproportionate or unbalanced for better or worse.

History Learning Goals

Students will:

- **4.1 Know the characteristic features of particular periods and societies**
- **4.2 Know that the study of history is concerned with the past in relation to the present**
- **4.3 Know the history of the periods being studied**
- 4.4 Know about the ideas, beliefs, attitudes and experiences of people in the past
- 4.5 Know about the social, cultural, religious and ethnic diversity of the periods studied
- **4.7 Be able to enquire into historical questions**
- **4.8 Be able to describe how the countries studied have responded to the conflicts, social changes, political changes and economic developments that represent their history**
- 4.9 Be able to describe aspects of the past from a range of sources
- **4.10 Be able to describe and identify causes for and results of historical events, situations, and changes in the periods they have studied**
- **4.14 Be able to select and record information relevant to an historical topic**
- **4.15 Be able to place the events, people and changes in the periods they have studied into a chronological framework**
- 4.16 Be able to describe how certain aspects of the past have been represented and interpreted in different ways
- 4.17 Develop an understanding of how historical sources can be different from and contradict one another and that they reflect their context of time, place and viewpoint

History Task 1 or Entry Point

Learning Goals 4.2

Assessment for Learning Opportunity

4.2 Know that the study of history is concerned with the past in relation to the present

Linking the past to the present

If possible, carry out this introductory activity in a single lesson before you start working on the specific history tasks. The point of this activity is to help students make a connection between what is relevant to their lives now and what happened 'long ago'. Give time for the students to absorb this lesson to a degree before relating it to the core history work of this unit.

Show your students a list of names of celebrities important to them at the time you do this unit. You might want to listen for celebrities they seem to speak of favourably or unfavourably.

Ask students to work in twos and threes and discuss good things and bad things about each celebrity. Give each pair or trio a chance to present their ideas and let everyone in the class express their own positive or negative views about the celebrities.

When students have finished expressing their own views – and it is a good idea not to restrict what they say- ask the students from where this information came. Try not to do this as a lesson, but as an open discussion where ideas are given free reign.

If you can, finish the Entry Point by showing an example of how someone's reputation has been besmirched without real evidence. Don't discuss this at this point. Just show it and ask them this question for example: If you were Brittney Spears (or whatever celebrity), would you feel you were getting a balanced description of who you are?

History Task 2

Learning Goals 4.1, 4.3, 4.9, 4.16, 4.17

Assessment for Learning Opportunities

(NB: it is recommended that only one skill should be assessed at a time)

4.1 Know the characteristic features of particular periods and societies

4.3 Know the history of the periods being studied

Research activity

How 'balanced' is film when presenting historical figures?

Continue by asking the students what they understand about the word reputation and what it means when you 'have a reputation'. Discuss how some people get reputations, such as athletes, celebrities or even people in school. Are these 'reputations' always fair and balanced? Do they reflect what these people are really like? What does it mean to have a balanced view of someone? Are famous or well known people represented by one or two characteristics rather than the full range of their personality? Ask students about their own experiences and those of their friends. If you can, provide examples from your own life experience.

Explain to the students that part of the difficulties with history is knowing whether the source information is valid or not. Let them know that they are going to investigate someone from the past –effectively, a celebrity or important figure— who has a reputation and decide whether it is balanced. They are going to start by seeing how this figure has been portrayed in film, which will lead into an investigation of how fair and balanced the portrayal is. Possible film choices could include but are not limited to:

- King John of England – 'Robin Hood'
- Saladin – 'Kingdom of Heaven'
- Alexander the Great – 'Alexander'
- Joan of Arc – 'Messenger'
- Rani Lakshmibai – 'The Tiger and the Flame'

Students will need to watch enough of the film to gain some awareness of what is being said about this historical figure. This will require some prep

work and editing by the teacher unless you intend to have them watch the entire film.

As students watch the film, ask them to think about how the chosen historical figure is being represented. They may want to write notes down. To help them, you might use the following prompt list:

- Does the figure studied come across as aggressive? Dishonest? Scheming?
- What type of techniques are used (e.g. lighting, music or sound effects used when the character is involved in a scene)?
- What do other people say about them?
- What can they find out about the people who produced the chosen media (director, writer, producer)?
- Are there any reasons or motivations why they might present a particular view (political reason, religious belief, social cause)?

Recording activity

Once students have finished watching the film or the excerpts from the film, have them write down the answers to the following questions giving specific examples from the film:

- Does the figure studied come across as aggressive? Dishonest? Scheming?
- What type of techniques are used (e.g. lighting, music or sound effects used when the character is involved in a scene)?
- What do other people say about them?
- What can they find out about the people who produced the chosen media (director, writer, producer)?

Ask them to discuss whether or not historians give the most balanced view of people. After they discuss, make sure they understand that the best historians aim to give a balanced picture of people from the past.

[Verbal-Linguistic, Logical-Mathematical Intelligences]

History Task 3

Learning Goals 4.4, 4.9, 4.14, 4.16, 4.17

Assessment for Learning Opportunity

4.14 Be able to select and record information relevant to an historical topic

Research activity

What was said about this historical figure when they were alive?

You will need to provide for students three different sources (written by different people) that present views of this historical figure during his/her lifetime. Ask students to read each of them.

Ask them to think about who wrote these accounts and whether the things that were written about him/her are reliable and balanced? Do they accurately represent the full picture of this person? Encourage them to make connections between the celebrity they discussed earlier and this 'historical' celebrity.

Recording activity

In pairs, have students read, think and discuss the following questions about authors of the three sources they read:

1. Who are they? Do they have any reasons to like or dislike them?
2. Why did they write this source? Did they want to make this person look bad? Are they trying to be balanced or give an askew view?
3. When did they write the source? Was it during the time the person you are studying lived? Did they know him, or know people who knew him? Did they witness any of the events they talk about?
4. What is its content like? Is it mainly factual information or opinions? Does the language chosen indicate that the author disliked the historical character you are studying?

After discussing in pairs, ask students to then write an explanation of how reliable they think each source is. They could use the following phrases to help them:

Source A is...

- Totally trustworthy and reliable because...
- Very reliable because... However, you do have to be a little bit careful in trusting it because...
- Quite reliable because... However, you do have to be careful in trusting it because...
- Mainly unreliable because... Although, it has some good points...
- Totally unreliable... because...

[Naturalist, Verbal-Linguistic Intelligences]

History Task 4

Learning Goals 4.1, 4.3, 4.4, 4.7, 4.9, 4.10, 4.14, 4.15

Assessment for Learning Opportunities

(NB: it is recommended that only one skill should be assessed at a time)

4.3 Know the history of the periods being studied

4.7 Be able to enquire into historical questions

4.10 Be able to describe and identify causes for and results of historical events, situations, and changes in the periods they have studied

4.14 Be able to select and record information relevant to an historical topic

4.15 Be able to place the events, people and changes in the periods they have studied into a chronological framework

Research activity

What evidence is there to support or contradict the film's depiction of the historical figure?

Students should now be given a detailed overview of the historical figure's life which should (as far as possible) include only factual information and steer clear of opinions. They can use that information to place the person's life into a chronological framework. As well as putting the main events of that person's life in the correct place on the timeline, they should also place each major event on a scale of 1-5 (5 being for events that were very successful for the person, with 1 being for very unsuccessful events).

Recording activity

They should now use the knowledge they now have of the person's life to select information and record it in a table like the one below:

Evidence of successes e.g. intelligence, bravery, kindness, etc.	Evidence of failures e.g. mistakes, cruelty, unfairness, etc.	Evidence that Supports or Contradicts the film

[Verbal-Linguistic, Naturalist, Logical-mathematical intelligences]

History Task 5

Learning Goals 4.1, 4.2, 4.4, 4.5, 4.8, 4.14, 4.15, 4.16, 4.17

Assessment for Learning Opportunities

(NB: it is recommended that only one skill should be assessed at a time)

4.1 Know the characteristic features of particular periods and societies

4.2 Know that the study of history is concerned with the past in relation to the present

4.8 Be able to describe how the countries studied have responded to the conflicts, social changes, political changes and economic developments that represent their history

4.14 Be able to select and record information relevant to an historical topic

4.15 Be able to place the events, people and changes in the periods they have studied into a chronological framework

Research activity

Have people always thought the same things about this historical figure and what is thought about him/her today?

Start with looking at some celebrities today and (perhaps look at how Michael Jackson was an amazing performer singer who then became known for his bizarre personal decisions) how society's view of them changed over time.

How and why can views change and become more or less imbalanced? Tell the students that what historians think about people changes over the years and ask them to think about how and why this happens. (One main reason is that historians' views are influenced by the times they live in, particularly common held beliefs and also events.) For example, consider how different groups both then and now would feel about this figure depending on how he/she impacted their situations- different socioeconomic groups, countries, religious groups, sexual orientation, race.

Give students a few accounts about the 'historical' celebrity from different time periods. Did the view of this person change depending on when the account was written, what country it was written in and by whom? Some recent views about the historical figure would also be useful to give the students a perspective of whether his/her reputation has changed from past to present.

(An example would be King John who the Tudors had a lot of sympathy for because of his stance against the Church, but the Victorians despised him because of his immoral behaviour. Joan of Arc has been used by different groups to support their own views and opinions (e.g. during the Second World War her image was used by the Vichy government and by the resistance).

Recording activity

After reading the accounts, answer the following questions in pairs:

Who wrote the account?	Where are they from?	What is their purpose?	How is this view consistent or inconsistent with today's popular view?

[Naturalist, Logical-Mathematical Intelligences]

History Task 6

Learning Goals 4.1, 4.4, 4.5, 4.7, 4.9, 4.14, 4.16, 4.17

Assessment for Learning Opportunities

(NB: it is recommended that only one skill should be assessed at a time)

4.1 Know the characteristic features of particular periods and societies

4.7 Be able to enquire into historical questions

4.14 Be able to select and record information relevant to an historical topic

Research activity

Students should research evidence about the following historical figures that balances out the dominant view. (The examples in this table can be easily altered to suit your particular requirements.) A few examples are:

Recording activity

	Dominant view	Historically balanced view
Mahatma Ghandi	Single-handedly achieved independence for India through his non-violent protests.	
Martin Luther King		
Nelson Mandela		
British generals of the First World War		
Mao Tse-Tung		
Marie Antoinette		

When they finish, ask students to consider the following questions:

1. Choose one person or group from the table: What factors contribute to the dominant view of this person or group of people?
2. What types of evidence must be represented in order to give a balanced account of any person?
3. Do you think people from different parts of the world may think differently about this person? If so, why?

History Journaling Questions

- What elements must you consider in order to form the most stable and balanced view of a person?
- How do different perspectives and experiences impact on the histories we inherit?
- Do you think the person you studied would be surprised by the way they have been remembered?
- How important are various media forms in depicting and shaping the way we remember events or people from the past?
- Can you think of anyone in the current media spotlight who people (or even you) have an 'unbalanced' opinion of?
- Is it important to think about what you say and write about people you know or don't know? Do you give fair and balanced accounts of the people in your school, your home, your community, etc? Is it important to be a person who does this?

Language Arts Introduction

Big Idea

Things are more stable when different elements are in the correct or best possible proportions.

Explaining the Theme

In this unit, the students will explore the balance of some familiar stories, looking at different elements and analysing their effect. They will investigate characters, plot and setting in depth, thinking about how an author creates balance in these areas and experimenting with their own ideas. The learning journey culminates in planning their own narrative, using drama and digital technology to improve their ideas, before creating a unique and well balanced story.

Language Arts Learning Goals

Students will:

- **4.11 Be able to determine the theme of a text and its relationship to plot, setting and characters**
- **4.17 Be able to write in a range of different forms appropriate for their purpose and readers**

4.18 Be able to write narratives to communicate real or imagined events using descriptive details and event sequences

4.24 Be able to write neatly and legibly

4.28 Be able to recognise different forms, genres and themes

4.29 Be able to explain and describe the main features, ideas, themes, events, information and characters in a text

Language Arts Task 1

Learning Goal 4.11

Assessment for Learning Opportunity

4.11 Be able to determine the theme of a text and its relationship to plot, setting and characters

Research activity

Note to teacher: These tasks can be adaptive to a variety of works of literature.

Before the session ask the students to think of their favourite narrative piece. It could be a book, film, cartoon or an oral story. They must be prepared to share it with the rest of the class and be able to recall the main features of it. It would be beneficial if they could bring it to class.

Ask the students how balance is achieved in the story? Is the balance between good and evil? Right and wrong? Joy and sorrow? Humour and sadness? Hope and despair?

Give them time to think it through, share their ideas and talk to classmates.

Recording activity

Have students choose two or three examples from their narrative piece to plot in a visual way to show how balance is achieved. They will annotate the action, choices or characters or message of the story to show how balance is maintained.

[Verbal-Linguistic, Naturalist, Logical-Mathematical Intelligences]

Language Arts Task 2

Learning Goals 4.11, 4.17, 4.18, 4.28, 4.29

Assessment for Learning Opportunities

(NB: it is recommended that only one skill should be assessed at a time)

4.11 Be able to determine the theme of a text and its relationship to plot, setting and characters

4.17 Be able to write in a range of different forms appropriate for their purpose and readers

Research activity

Select, or ask the students to identify stories that have a balance between two central characters e.g. Lord Voldemort and Harry in *Harry Potter*, The White Witch and Aslan in the *Chronicles of Narnia*, Jacob and Edward in *Twilight*, etc.

Using a section of the story where the two characters share dialogue, ask the students to mark the text, identifying key words or phrases that reflect the characters personality. Model mapping to them onto a chalkboard or an interactive whiteboard, turning the piece of dialogue into a description of their personality e.g. "nothing will ever stop me" = egotistical. Split the board into two sides, with one side representing 'positive character traits' and the other 'negative character traits'. As a class, decide where each trait should be placed and assign a colour scheme to represent the extent to which they are positive or negative.

Considering the characters again, it should now be possible to create a colour chart of each one. Analyse the chart – is a character always positive? Does an individual character need balance? Would a third character change the situation? How does a colour representation influence your ideas about the characters?

Recording activity

Provide the students with another example of dialogue between two central characters. To make it more challenging, a third character could be introduced. Ask them to repeat the process they followed as a whole class, working in pairs to create a colour map of the two characters. Their conclusions about the personality should be justified with evidence from the

text, either dialogue or behaviour. Sticky note labels could be used when initially deciding which traits to put where, then progress to coloured paper or coloured labels when sorting the personalities along the spectrum. Challenge the students to categorise their conclusions in different ways e.g. selfish traits versus generous traits, shy traits versus outgoing traits.

[Linguist, Naturalist, Interpersonal Intelligences]

Language Arts Task 3

Learning Goals 4.17, 4.18, 4.24

Assessment for Learning Opportunity

4.17 Be able to write in a range of different forms appropriate for their purpose and readers

Research activity

Start this task by showing the students images of famous people, characters or cartoons that are opposites. Then have them brain storm personality traits that are opposing.

Ask the students to create a character that they would like to use in a story of their own. Students will mind map the main personality traits of that character, only including their appearance where necessary. Once this is done, ask them to consider what kind of personality would be the opposite and add these ideas to the mind map in a different colour. For example, a character that is honest and generous would have an opposite character that lies and is selfish or greedy.

Using these two characters with opposing personality traits, the students need to create a scene between these two characters, a conversation or interaction that they can act out. They should try to represent the characters' personalities as much as possible, using dialogue, body language, accents, etc.

Divide the students into small groups to watch each other perform. Encourage students to give feedback to collect ideas about how two characters can balance each other.

Recording activity

Using the ideas they have collected, the students will create two main characters for a story of their own. They should record each character on either side of a weighing scale diagram, choosing a personality trait for one, and then balancing it out with a choice for the other character. Challenge them to attempt a creative balance e.g. egotistical and altruistic, as opposed to the obvious good versus evil. Encourage them to begin to think of a plot for these characters for the next class.

[Interpersonal, Verbal-Linguistic, Naturalist Intelligences]

Language Arts Task 4

Learning Goals 4.11, 4.28, 4.29

Assessment for Learning Opportunity

4.11 Be able to determine the theme of a text and its relationship to plot, setting and characters

Research activity

Discuss with the students the idea of the plot in a story being like a rollercoaster, taking the reader up and down on purpose, always trying to balance the highs and the lows.

Read a short passage from a novel that includes these undulations in the plot, modelling to the students how they can be mapped onto a rollercoaster shaped diagram.

Provide the students with another passage from a story and in pairs ask them to identify the rise and fall nature of the text. They could map their responses onto the same diagram, including suggestions about the author's motivation. How have they made the reader feel elated? Why did they choose to create a negative response in this section? What is the overall effect? What if every element of the story was just positive? Just negative?

Recording activity

Prepare a selection of plot lines that can be explored without a context (e.g. kidnap, lost on the way home, searching for something special, separated from an important person, seeking to right a wrong) and write them onto pieces of paper or card stock, enough for one per student. Ask the students to select one at random and attempt to generate ideas they can map onto the rollercoaster diagram. Challenge the students to find the balance between positive and negative, considering the impact on the reader and the desired end result. Ensure there are a minimum number of steps in each diagram, preventing the students from concluding their story too soon.

[Verbal-Linguistic, Naturalist, Logical-Mathematical Intelligences]

Language Arts Task 5

Learning Goals 4.28, 4.29

Research activity

The students use a selection of still digital images from a familiar film to create a sequence of settings. They experiment with adjusting colours, brightness, the number of objects and their proportion. What effect does it have on the viewer? How does it alter the atmosphere? How does the setting help to tell the story? Does the setting ever dominate the narrative and cloud what's happening? When the setting is calm and quiet, how is that reflected in the narrative?

The students create a word bank of descriptive language, by annotating each of the slides and saving the most effective words to a shared folder, or recording them in the same place somewhere in the classroom.

Recording activity

Use the Internet, digital stills or images the students have brought in to create a sequence of settings the students are thinking of using for their story. They could use a photo editing software package to alter the tone, contrast, colours and size of the image. Challenge them to consider the balance in each setting and between the settings; is there enough detail in each setting? Can you create a story idea that would match the setting? Would the same idea work for every setting? Is the mood or atmosphere enhanced by the setting? What kind of character would be reflective of this setting?

Language Arts Task 6

Learning Goals 4.17, 4.18, 4.24

Assessment for Learning Opportunity

4.17 Be able to write in a range of different forms appropriate for their purpose and readers

Research activity

At this stage the students should have thought about the plot of their story. With the setting and the characters established, the plot may emerge naturally. However, if the students are struggling then make two large dice, one with a variety of problems written on (lost, escape, duel, searching for something) and one with a variety of solutions (someone helps, secret power, use clues to find answer).

In pairs, the students roll the problem die then the solution die, recording the combinations they find. They can then analyse the different combinations and find the one they feel would provide the most balance to their story e.g. work with both the setting and the characters.

Recording activity

The students need to collect their ideas and record them, creating a story plan.

Once the students have recorded their ideas, ask them to assign a numerical value to each character in the story, for example the main character = 5, an occasional character = 2. Each time the character appears, acts or take part in the story, they score that number of points. Having completed this task, the students can calculate a value for each character in the story e.g. main character appears 6 times, 6 x 5 = 30. This will provide the students with a visual representation of the proportion each character represents in the story.

The students share their character values with a partner and discuss; is there anything that surprises them? Did they intend for each character to feature to that extent?

Language Arts Task 7

Learning Goals 4.17, 4.18, 4.24

Assessment for Learning Opportunity

4.17 Be able to write in a range of different forms appropriate for their purpose and readers

Recording activity

Students use their planning materials to write their story.

The students should be encouraged to write in silence, as this helps the creative process and allows them to focus completely on their story. Short breaks during the session may help them to maintain their concentration. These can be filled with quick idea bubbles e.g. why not make it night in your setting? Why not make your main character lose an attribute temporarily?

Once complete the students should share their work with each other, reading and enjoying the stories. Using the success criteria, they can then peer assess the balance of each other's writing, giving specific focus to what they identified during the early stages of the unit. The students provide feedback to each other, allow time for them to consider their responses and discuss to what extent they have achieved a balanced story.

Language Arts Task 8

Learning Goals 4.11, 4.24, 4.28, 4.29

Assessment for Learning Opportunity

4.11 Be able to determine the theme of a text and its relationship to plot, setting and characters

Research activity

Discuss in pairs the extent to which their narrative is balanced by different elements, considering:

- Characters
- The setting
- Theme
- Plot

Have a few students share their narrative and how they think the story is balanced by the author, narrator, director, etc.

The students then need to record a particular element of their narrative e.g. the plot, characters, etc. onto a storyboard or mind map. Ask them to write down in five sections the element they have chosen. Model this to them first so they understand.

Recording activity

Using their storyboard, ask the students to temporarily ignore one of the sections they have recorded, then verbally recount the story to their partner with that part missing. What effect did it have? Did the balance of the story change? Why or why not? How do you know that something is a stabilising element of the story?

The students can repeat this activity by omitting other sections of the story, or adding a new section. Once complete, reflect with the students on how the story felt when it was changed. Did some things affect the balance more than others? What were they and why do you think they had such an effect?

[Verbal-Linguistic, Naturalist, Interpersonal Intelligences]

Language Arts Extension Task

As a class, read an extract from a story that involves the character's personality or thoughts being explicitly represented, either as an animal or a spoken thought e.g. *Northern Lights*, the *Secret Diary of Adrian Mole*. Explore the idea of balancing a character's thoughts and actions. Build up a comparison chart of thoughts and actions that do not match or contradict each other. Why would an author want to use this style? What is the effect on the reader? Does it make the character more complex or easier to understand?

Ask the students to produce a short piece of writing, placing themselves in the story. Experiment with the technique of making thoughts explicit, through one of the methods already described. Do they seem more balanced? Does it add interest to the narrative?

Language Arts Journaling Questions

- How balanced are the stories you know?
- What elements are in the correct proportion?
- What effect does changing those proportions have?
- To what extent does an author need to consider balance in their narrative?
- Can balance be achieved in a variety of ways?
- How does the interaction between characters create balance?
- Is the balance in a story different for every reader? Why?
- Does a formula exist for balancing a story? If not, why not?

Science Introduction

Big Idea

Things are more stable when different elements are in the correct or best possible proportions.

Explaining the Theme

Through this unit, students will look at the balance between living things and their environments and how imbalance affects changes in these systems.

They will study food chains, food webs and the pyramid of numbers. They will research both natural and 'man-made' changes to the environment that lead to imbalance or a new equilibrium for living organisms.

Science Learning Goals

Students will:

4.1 Know that the study of science is concerned with investigating and understanding the animate and inanimate world around them

4.2 Be able to conduct scientific investigations with increasing rigour

- **Choosing an appropriate way to investigate a scientific issue**
- **Making systematic and accurate measurements from their observations**
- **Explaining and justifying their predictions, investigations, findings and conclusions**
- **Recording and communicating their findings accurately using the most appropriate medium and the appropriate scientific vocabulary and conventions**
- **Using scientific language to explain any differences found in the results of investigations**
- **Generating a hypothesis**
- **Gathering and analysing data to test a hypothesis**

4.6 Know about taxonomy: the classifications of living things

4.7 Know that living things benefit and suffer due to internal and external influences in their environments

4.13 Know about the energy flow in a food chain, pyramid or web and describe its process

4.14 Develop an understanding of the relationship between living things and the environment in which they live

4.16 Develop an understanding that gradual and sudden changes in the environment affect organisms and the overall environment

4.17 Develop an understanding for the diversity of living things

Science Task 1

Learning Goals 4.1, 4.2, 4.6, 4.14

Assessment for Learning Opportunities

(NB: it is recommended that only one skill should be assessed at a time)

4.1 Know that the study of science is concerned with investigating and understanding the animate and inanimate world around them

4.2 Be able to conduct scientific investigations with increasing rigour

- **Choosing an appropriate way to investigate a scientific issue**
- **Making systematic and accurate measurements from their observations**
- **Explaining and justifying their predictions, investigations, findings and conclusions**
- **Recording and communicating their findings accurately using the most appropriate medium and the appropriate scientific vocabulary and conventions**
- **Using scientific language to explain any differences found in the results of investigations**
- **Generating a hypothesis**
- **Gathering and analysing data to test a hypothesis**

4.6 Know about taxonomy: the classifications of living things

Begin this activity by revising with students (or introducing students to) the following key scientific vocabulary about trophic levels that will be used throughout these activities. Remember that knowledge is all about repetition and hooks, so try to give students help in memorising these terms by repeating them frequently (for example at the beginning and end of lessons) and by providing some hooks for the more difficult to remember terms.

Classification	Sub-classification	Animal
Producer		Grass, seaweed
Consumer	primary consumer	Rabbit, grasshopper
	secondary consumer	Rat, spider
	tertiary consumer	Snake
	quaternary consumer	Hawk
Decomposer		Bacteria, fungi
Predator		Fox, lion
Prey		Rabbit, wildebeest
Herbivore		Rabbit, wildebeest
Omnivore		Bear, human
Carnivore		Hawk, lion, shark
Detrivore		Vulture, worm, crab
Ecosystem		
Biome		
Habitat		

Research activity

Take your students for a walk outside (preferably in an area where there is a variety of natural life) and make a list of plants, animals, insects, birds, etc. that they come across or see evidence of. Ask students to note down names, take photographs or collect samples (where appropriate) for later identification. They should also look at the number/amount of each of the living things they notice.

Then ask students to identify the plants, animals, insects, birds, etc. they have found evidence of. They can use books, species cards, photographs, the internet, an expert, etc.

Recording activity

Using the correct vocabulary, ask students to define, sort and then record what they saw or found using the categories that have been discussed.

Herbivore	Omnivore	Carnivore

Producer	Primary consumer	Secondary consumer	Tertiary consumer

These should be displayed for discussion, including pictures if taken or collected.

[Naturalistic, Logical-Mathematical Intelligences]

Science Task 2

Learning Goals 4.1, 4.2, 4.6, 4.14, 4.17

Assessment for Learning Opportunities

(NB: it is recommended that only one skill should be assessed at a time)

4.1 Know that the study of science is concerned with investigating and understanding the animate and inanimate world around them

4.2 Be able to conduct scientific investigations with increasing rigour

- **Choosing an appropriate way to investigate a scientific issue**
- **Making systematic and accurate measurements from their observations**
- **Explaining and justifying their predictions, investigations, findings and conclusions**
- **Recording and communicating their findings accurately using the most appropriate medium and the appropriate scientific vocabulary and conventions**
- **Using scientific language to explain any differences found in the results of investigations**
- **Generating a hypothesis**
- **Gathering and analysing data to test a hypothesis**

4.6 Know about taxonomy: the classifications of living things

Research activity

Ask students to work in groups and analyse their recording in the previous task.

Give them the following questions to discuss and report back on:

- What do you notice about the numbers of living things in each trophic level?
- Are all herbivores consumers? Using examples, explain how herbivores can belong to different consumer groups.
- Are all tertiary consumers carnivores? Using examples, explain how carnivores can belong to different consumer groups.

- Where do omnivores appear in the producers and consumers chart?
- Explain how omnivore behaviour is similar to herbivores and carnivores
- During the report back, encourage students to use the evidence others produce to add to their own notes

Recording activity

Ask students to display their findings in an appropriate way. Remind students of the different ways in which information can be recorded through mind maps, visual display, tables, etc. Whichever method students choose, make sure they complete the task with rigour.

[Naturalist, Visual, Logical-Mathematical Intelligences]

Science Task 3

Learning Goals 4.1, 4.7, 4.13, 4.14

Assessment for Learning Opportunities

(NB: it is recommended that only one skill should be assessed at a time)

4.1 Know that the study of science is concerned with investigating and understanding the animate and inanimate world around them

4.13 Know about the energy flow in a food chain, pyramid or web and describe its process

Research activity

Ask students to look again at the results from Tasks 1 and 2. Taking examples, students will create a food chain.

Explain to students that every organism needs energy to live. A food chain is a sequence showing how different living organisms get their nutrition for that energy.

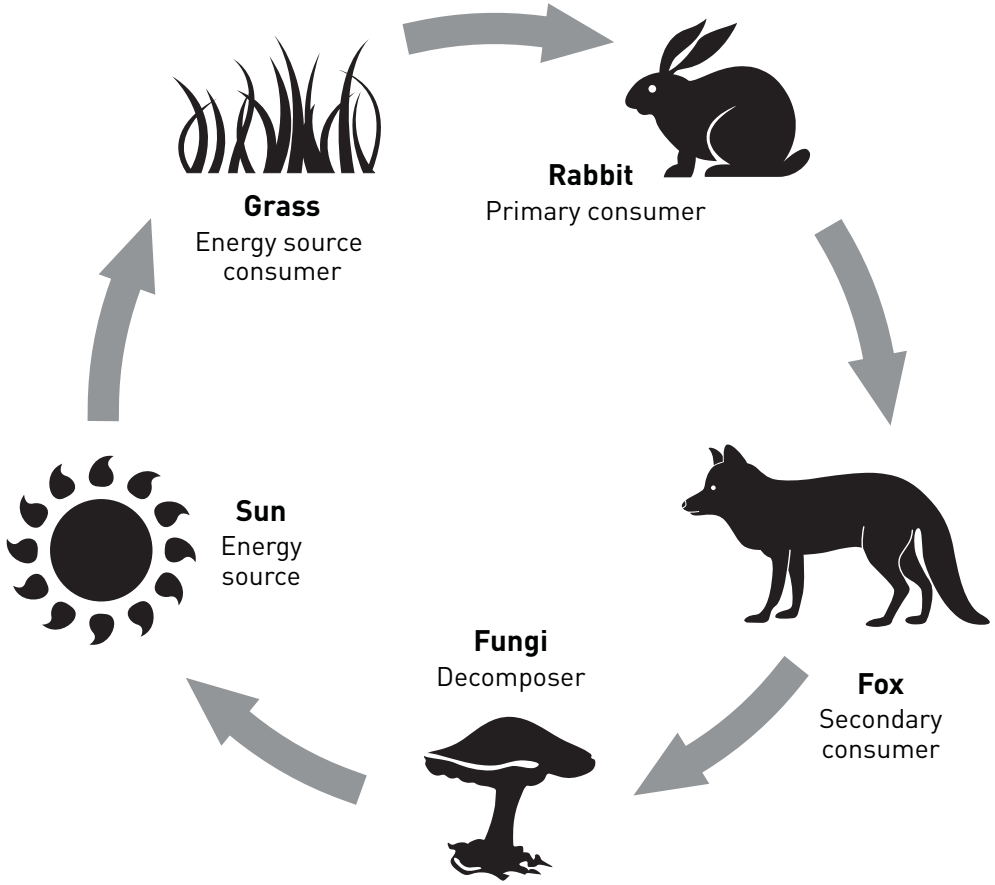
Explain to students that a food chain begins with an energy source, usually the sun, although it could be a deep sea hot water vent. This energy is absorbed and used by a producer, generally a plant. Plants make their food by photosynthesis, drawing energy from sunlight. Some bacteria draw their food energy from boiling hot water vents.

The producer is consumed by the primary consumer (an animal that eats plants, either an herbivore or an omnivore); this in turn is consumed by a secondary consumer and so on. A food chain will end with a top predator, an animal with few or no natural enemies. This animal eventually dies and is broken down by bacteria or a fungus which returns nutrients to the producer to help it grow.

A simple example is given overleaf.

Ask students to produce a food chain from the elements they saw or collected on their walk. They should research the different living organisms to find out their different diets. Simply, what eats what?

Have students compare elements found in the local environment with those of another region and, preferably by using links with other schools and exchanging data, from another country. Are patterns emerging even though examples of living things are different? What are the similarities and differences?



Recording activity

Using their list of living organisms from Task 1, students record food chains found locally. Make sure that they think carefully about the order, aiming to begin with a 'producer' and finish with a 'predator'.

Ask students to share their food chains.

- Do any organisms appear in more than one food chain?
- In situations where an organism appears in different food chains, compare the number in each chain and provide an explanation for why this is so
- Why do certain organisms appear in certain food chains?
- Would you expect to see a balance of producers or consumers in a food chain? Why?

[Naturalist, Visual-Spatial, Logical-Mathematical Intelligences]

Science Task 4

Learning Goals 4.1, 4.2, 4.7, 4.13, 4.14. 4.17

Assessment for Learning Opportunities

(NB: it is recommended that only one skill should be assessed at a time)

4.1 Know that the study of science is concerned with investigating and understanding the animate and inanimate world around them

4.2 Be able to conduct scientific investigations with increasing rigour

- **Choosing an appropriate way to investigate a scientific issue**
- **Making systematic and accurate measurements from their observations**
- **Explaining and justifying their predictions, investigations, findings and conclusions**
- **Recording and communicating their findings accurately using the most appropriate medium and the appropriate scientific vocabulary and conventions**
- **Using scientific language to explain any differences found in the results of investigations**
- **Generating a hypothesis**
- **Gathering and analysing data to test a hypothesis**

4.13 Know about the energy flow in a food chain, pyramid or web and describe its process

Research activity

Ask students to research what happens when one part of a food chain is endangered or goes 'missing'. This might be the 'producer' or a primary or secondary consumer. You might ask students to think about deforestation, the recent decline in bee population in some parts of the world or any other similar occurrence that is either of local importance or that has received national or international publicity recently.

As students carry out their work, make sure their focus is on the consequences of what happens to other species – including humans – rather than the extent of what happens.

Discuss with students how each element of the food chain forms a delicate balancing act with the other elements. Food chains are an almost perfect example of the Big Idea of this unit that 'things are more stable when different elements are in the correct or best possible proportions.'

Ask students to go back to the simple food chains they created earlier from their local observations. Working in pairs, students should think about the consequences if different individual elements of the food chain are removed.

Recording activity

Ask students to write a report of their reflections and thoughts, focusing on how the food chain represents a 'balance', how that balance can be easily affected and the consequences for different species.

[Naturalist, Logical-Mathematical, Verbal-Linguistic, Interpersonal, Intrapersonal Intelligences]

Science Task 5

Learning Goals 4.1, 4.6, 4.7, 4.13, 4.14, 4.17

Assessment for Learning Opportunities

(NB: it is recommended that only one skill should be assessed at a time)

4.1 Know that the study of science is concerned with investigating and understanding the animate and inanimate world around them

4.6 Know about taxonomy: the classifications of living things

4.13 Know about the energy flow in a food chain, pyramid or web and describe its process

Research activity

Using evidence from previous activities, students should notice that many of the food chains are interlinked: organisms appear in more than one chain.

Organisms that have many links could be considered as 'keystone' species, e.g. Tiger Shark or Sea Otter. They are important to the balance of the habitat.

Ask students to sit in a circle and each take the name (and picture) of one of the living organisms used as examples of the different trophic levels at the beginning of this unit. (Make sure that a good range of organisms from different trophic levels is taken.)

Give one of the students holding a producer a ball of wool. Ask the student to say the name of their organism and then the name of another organism that they are consumed by. They should then pass the ball of wool to this next organism, remembering to hang on to the end of the wool. This second person then picks an organism that they are consumed by and passes the ball of wool holding on to the line, and so on until the top predator is reached. Repeat the process several times, with different coloured wool, beginning with a producer each time. The same producer should be used several times, whilst encouraging students to pick different consumers.

Students should notice the interlinking that creates a web shape. Using copies of the pictures on a wall display, they can be linked together as the game progresses to create a food web display of the local natural habitat.

Draw this web on the whiteboard as it becomes created by students. You can reinforce this by using an image of a web that can be found at: http://ejad.best.vwh.net/java/population/facts_foodchain.html

Work with your students to identify a 'keystone' species within the web.

Discuss with students what would happen to the balance of the web if something happened to this species and it was no longer part of the web?

Ask this person representing that species to drop their wool; if other students feel the wool go loose they should also let go of their wool and so on. What do students notice about the web?

Ask students to work together in pairs to research a more complex food web similar to the one you may have shown them from the web site. As they research this web, ask students to think about the increased implications of different elements of this complex web disappearing.

Recording activity

Ask students to draw their complex web. Then ask them to write what happens when one element of the web is removed. So: If *x* is removed then... If *y* is removed then...

Ask students to report back on their conclusions. Discuss with them how balance in food webs is both simple but also increasingly complex. In your discussions, include humans as a species, too, so that students can begin to see that this is not an issue that affects 'other' species or food sources but all species.

[Mathematical-Logical, Naturalist, Interpersonal, Intrapersonal Intelligences]

Science Task 6

Learning Goals 4.1, 4.6, 4.7, 4.13, 4.14, 4.16

Assessment for Learning Opportunities

(NB: it is recommended that only one skill should be assessed at a time)

4.1 Know that the study of science is concerned with investigating and understanding the animate and inanimate world around them

4.6 Know about taxonomy: the classifications of living things

4.13 Know about the energy flow in a food chain, pyramid or web and describe its process

Research activity

Discuss with students the idea of predation. Animals often compete for food because they require the energy from food to survive. The balance between different animals can be recorded and a natural cycle is set up that maintains that balance between predator and prey. For example:

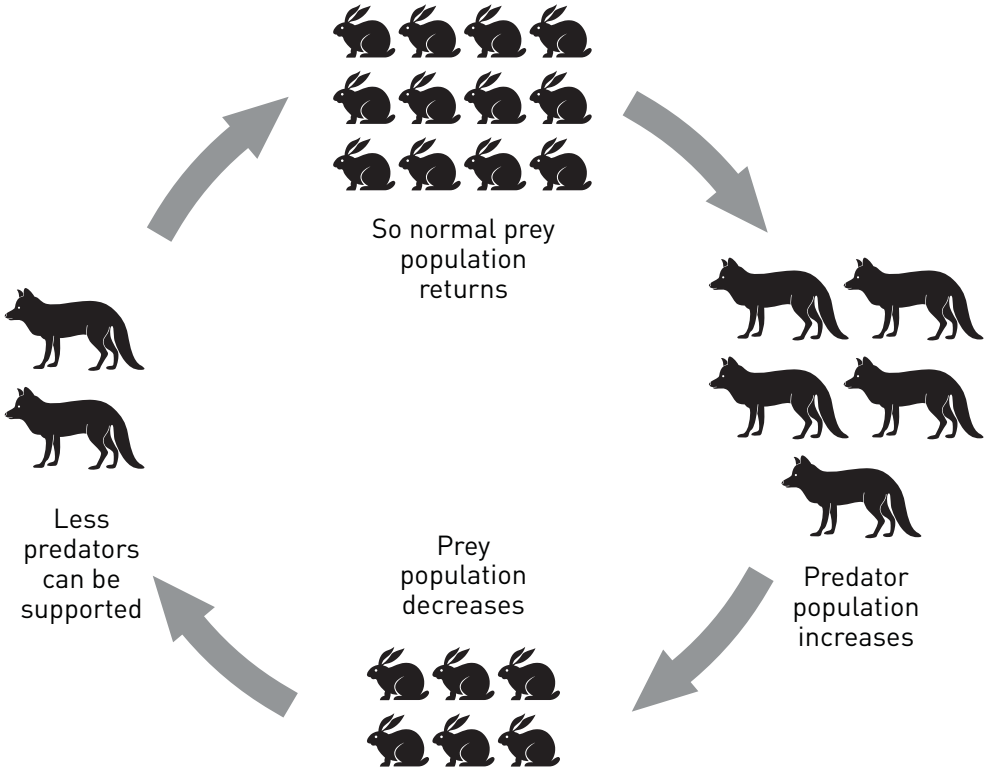
1. Food is plentiful for rabbits, so the rabbit population increases
2. There is more prey (rabbits) for the predator (fox) to catch, so its population numbers increase
3. The larger predator (fox) population reduces the prey (rabbit) population by catching more prey (rabbits)
4. The number of prey (rabbits) goes down and so there is less food for the (predators) foxes, so the predator (fox) population falls
5. With fewer predators (the fox) the prey (rabbit) population starts to increase again and the cycle continues

Ask students to research examples of predation in differing habitats around the world. (If you have links with schools in other parts of the world, your students can exchange information with other students.)

Recording activity

Ask students to record pictorially or graphically the predator/prey cycle (using the example above or ones from their own research from different habitats around the world), showing how the balance is maintained.

BALANCE



[Naturalist, Visual-Spatial, Logical-Mathematical Intelligences]

Science Task 7

Learning Goals 4.1, 4.2, 4.7, 4.14, 4.16

Assessment for Learning Opportunities

(NB: it is recommended that only one skill should be assessed at a time)

4.1 Know that the study of science is concerned with investigating and understanding the animate and inanimate world around them

4.2 Be able to conduct scientific investigations with increasing rigour

- **Choosing an appropriate way to investigate a scientific issue**
- **Making systematic and accurate measurements from their observations**
- **Explaining and justifying their predictions, investigations, findings and conclusions**
- **Recording and communicating their findings accurately using the most appropriate medium and the appropriate scientific vocabulary and conventions**
- **Using scientific language to explain any differences found in the results of investigations**
- **Generating a hypothesis**
- **Gathering and analysing data to test a hypothesis**

Research activity

Using the idea of predation from Task 6, ask students to research what natural phenomena will have an effect on the balance of an ecosystem.

What would cause a population to either fall or rise within a species of organism? If possible, choose two species, one of which should be humans, e.g. disease, parasites, migration, fire, drought, flood, abundant food supply, volcanic eruption.

Ask students to research an example of where a natural phenomenon has had an effect on the balance of an ecosystem. Ask them to find both a national example and an international one.

- What was the cause?

- What were the effects?
- When did this occur?
- Has this occurred over a long period of time or a short period of time?
- Has the ecosystem recovered – is it rebalanced?
- Has the ecosystem been forever changed – has it reached a new equilibrium?
- Has a completely new ecosystem formed?

Recording activity

Incorporating vocabulary from the very beginning of this unit (Producer, Consumer: primary, secondary, tertiary, quaternary consumer, Decomposer, Predator, Prey, Herbivore, Omnivore, Carnivore, Detrivore, Ecosystem, Biome, Habitat) and focussing on how an imbalance has occurred in an ecosystem, ask students to produce a fact card listing the cause and effect of each phenomenon on the balance of the ecosystem and what has occurred subsequently to the ecosystem. Fact cards will generally include a picture of the organism and then concise information under bullet points or headings, ensuring that information can be gained quickly by the reader.

Ask students to create a fact card for the natural phenomena they have researched either nationally or internationally (e.g. parasites, fire, flood). The fact card will be two-sided (one side will have a visual of the phenomena, the other side will contain the answers in bullet points to the research questions). Divide the class into two teams and play a game where each team presents their phenomena cards and the opposing team has to name the cause of these and effects on the ecosystem in order to win points. The team with the most points at the end wins.

[Naturalist, Logical-Mathematical, Verbal-Linguistic Intelligences]

Science Task 8

Learning Goals 4.1, 4.2, 4.7, 4.14, 4.16

Assessment for Learning Opportunities

(NB: it is recommended that only one skill should be assessed at a time)

4.1 Know that the study of science is concerned with investigating and understanding the animate and inanimate world around them

4.2 Be able to conduct scientific investigations with increasing rigour

- **Choosing an appropriate way to investigate a scientific issue**
- **Making systematic and accurate measurements from their observations**
- **Explaining and justifying their predictions, investigations, findings and conclusions**
- **Recording and communicating their findings accurately using the most appropriate medium and the appropriate scientific vocabulary and conventions**
- **Using scientific language to explain any differences found in the results of investigations**
- **Generating a hypothesis**
- **Gathering and analysing data to test a hypothesis**

Research activity

Following on from Task 7, ask students to research not just what happens to humans but the impact of human behaviour on the balance of an ecosystem.

Examples of how humans affect the balance include:

- Pollution (e.g. oil spill) and poisons
- Fertiliser (e.g. DDT)
- The introduction of non-native species (e.g. King Crab, English Ivy)
- Deforestation
- Use of natural resources

- Soil erosion

Allocate one of the human activities above to pairs or trios of students and orient their research by asking the following questions:

- What was the human action?
- What is the problem with the human action?
- Has this occurred over a long period of time or a short period of time?
- What are the effects of the action on the balance of the ecosystem?
- What are the long term effects to the balance of the ecosystem if nothing changes?
- What, if anything, are humans doing to right the imbalance they have created?

Recording activity

Students should record what they have found out in response to each of the questions. Ask them to design posters that show the questions and the answers to those questions. (Make sure that students take care over the posters so that when they are displayed in or outside the classroom they have an impact.)

Conclude this unit by setting up a debate around one of the issues that is important in the local area, or was recently in the news or about which the students feel particularly strong. Students will need to debate whether the imbalances that humans have caused in ecosystems can be justified by the returns they have brought. Students can also consider whether the humans causing the harm to the ecosystems are actually affected themselves or whether their actions have repercussions for other groups.

This provides an opportunity to link with another school in another country who can share their debate through video-conferencing. The motion for the debate(s) should be 'This class believes that the actions and consequences occurring locally show that things are more stable when different elements are in the correct or best possible proportions.' Students should use the evidence they have to argue for and against this motion.

[Interpersonal, Verbal-Linguistic, Logical-Mathematical Intelligences]

Science Journaling Questions

- What examples can you cite of where human activity has helped the balance of an ecosystem?
- What examples can you cite of where human activity has created an imbalance of an ecosystem?
- Can a balance be struck between human needs and conserving the environment?
- Is this issue of balance simply something scientific or is it true of your own everyday lives?

Art Introduction

Big Idea

Things are more stable when different elements are in the correct or best possible proportions.

Explaining the Theme

In this unit students will look at balance in art through formal positioning, colour, etc. and how artists from different countries and cultures use balance or imbalance to affect what we see. Students will deconstruct a piece of art work to understand use of texture and create pieces of symmetrical and asymmetrical art. Finally, students will explore 3D structures asking how things are more stable when different elements are in the correct or best possible proportion. Try to make sure that examples you choose to share with your students come from different cultures so that students can think about whether 'balance' is specific to certain cultures but not others.

Art Learning Goals

Students will: Know that products in everyday use have an effect on people's lives

- **4.1 Know that the study of art is concerned with visual, tactile and personal expression used to share and express emotions, ideas and values**
- **4.4 Be able to recognise influential artists from particular countries, genres or periods and the pieces of art they produced**
- **4.5 Be able to evidence how artists, craftspeople and designers from a variety of traditions from around the world use materials, forms and techniques to express their feelings, observations and experiences**
- **4.6 Be able to use the elements of art and principles of design to discuss and critique works of art showing understanding, respect and enjoyment as appropriate**
- 4.8 Be able to create art to achieve a particular purpose so that the idea goes beyond art being exclusively for self-expression and creativity
- **4.9 Be able to evaluate their initial artistic products and adjust the work to better suit their expression**
- **4.10 Be able to describe works of art in terms of meaning, design, materials, technique, place and time**

Art Task 1

Learning Goals 4.1, 4.6, 4.10

Assessment for Learning Opportunities

(NB: it is recommended that only one skill should be assessed at a time)

4.1 Know that the study of art is concerned with visual, tactile and personal expression used to share and express emotions, ideas and values

4.6 Be able to use the elements of art and principles of design to discuss and critique works of art showing understanding, respect and enjoyment as appropriate

4.10 Be able to describe works of art in terms of meaning, design, materials, technique, place and time

Research activity

Ask students what is meant by the word 'balance'. And then, ask what they think is meant by the word 'balance' in relation to art? In groups students generate mind maps in response to the question. Discuss responses and conclude that it is one of the principles of design and is an important tool used in creating a composition.

Show the students an example of a piece of 'balanced' art and discuss how the artist has achieved balance.

Ask students to further explore symmetrical, asymmetrical and radial balance in pieces of art from national and international artists. Students should research pieces of art identifying how the artist has used balance. You could ask groups of students to look for symmetrical balance, asymmetrical balance and radial balance or ask individual or pairs of students to find examples of all three.

Symmetrical group: (e.g. Da Vinci's human form, *Warrior's Cross*, Bernardo Daddi's *Madonna and Child*, works of Gilbert and George, Islamic Art, Georgia O'Keefe's *Cow's Skull,* etc.). Allow students to research artists who painted historical and traditional stroke work and utilised symmetrical balance. Ask students whether they think artists use symmetrical balance in their work and why this might be.

Asymmetrical group: (e.g. Alexander Calder's *Mobile*, Vincent van Gogh's *The Starry Night*, Leonardo da Vinci's *Mona Lisa*, Jean-Albert Gorin's *#37*,

works of Kandinsky, etc. (here the sculpture is asymmetrically balanced)). Ask students how the artist uses asymmetry in this piece.

Radial group: (e.g. Jan Dibbets' *Cupola*, Pima coiled basketry, Mandala Art, Bella Coola mask, etc.). Ask students why an artist might choose to use radial balance. Can students identify focal points of various pieces?

Recording activity

Ask students to present a visual collage of their findings of symmetrical, asymmetrical and radial balance from a variety of artists. Make sure that students annotate their collage including examples of artwork, materials, forms and techniques used, as well as how balance has been achieved through each medium and style.

[Visual-Spatial, Logical-Mathematical Intelligences]

Art Task 2

Learning Goals 4.4, 4.5, 4.10

Assessment for Learning Opportunities

(NB: it is recommended that only one skill should be assessed at a time)

4.4 Be able to recognise influential artists from particular countries, genres or periods and the pieces of art they produced

4.5 Be able to evidence how artists, craftspeople and designers from a variety of traditions from around the world use materials, forms and techniques to express their feelings, observations and experiences

4.10 Be able to describe works of art in terms of meaning, design, materials, technique, place and time

Research activity

Introduce the task by looking at Maurice de Vlaminck's *The Blue House.* Give students time to discuss how balance has been achieved? Tell students that in this painting, balance is achieved through equal amounts of contrasting, complementary colours, the centrally placed house, and the even distribution of brushstrokes across the entire canvas.

Give students examples of various artists to investigate a style study: e.g. Calder, Rothko, Dali or artists from your own culture or location.

Ask students to use a variety of sources to investigate how various artists from particular countries, genres or periods achieved balance (through symmetrical, asymmetrical and radial balance, colour, texture, materials, forms, techniques, etc).

Recording activity

In pairs, students choose a piece of art from their research and label it to demonstrate how balance has been achieved through the distinct elements of art.

[Visual-Spatial, Logical-Mathematical Intelligences]

Art Task 3

Learning Goals 4.1, 4.6, 4.8, 4.10

Assessment for Learning Opportunity

4.1 Know that the study of art is concerned with visual, tactile and personal expression used to share and express emotions, ideas and values

4.6 Be able to use the elements of art and principles of design to discuss and critique works of art showing understanding, respect and enjoyment as appropriate

4.10 Be able to describe works of art in terms of meaning, design, materials, technique, place and time

Research activity

Using texture in asymmetry

Ask students to explore texture in asymmetrical art. (You might want to use Degas' Portrait of Mademoiselle Hortense Valpinçon as support for this.)

Give each student/groups of students several copies of this piece (or similar piece appropriate to your lesson or area) large enough to cut up. Explain that in this painting, represented texture plays an important part in creating asymmetrical balance.

Students can generate alternative versions by experimenting with the placement of different pieces. In each instance, students will move pieces around (without gluing) and in groups of four, share their version with the group. Their peers will move around the table to observe the change and how it has impacted the balance of the piece. Ask students to experiment by:

- Removing the main figure – what happens to the composition? What does its removal expose?
- Changing the background to a block colour – does this increase or lessen visual interest?
- Changing the colour of the figure's apron – what impact does this have?
- Removing the colourful embroideries – what happens to the balance from left to right?

Once they have experimented with all four changes, have them arrange the pieces that best represent balance in an asymmetrical composition. Invite students to walk around the room and observe their classmates' work.

Recording activity

Students can further experiment with a variety of pictures cut from magazines or from the internet. Get students to collect pictures of various landscape features. Students need to have a variety of different sized landscape features, e.g. trees, hills, cottages, etc. Use two block colours to create a horizontal divide between land and sky or grass and mountains, etc. Then place pictures in various places to create both symmetrical and asymmetrical scenes. Experiment with foreground and background, symmetry and asymmetry. Students could take photographs of their scenes to compare.

Ask students:

- Which type of balance creates the most interest?
- How else might balance be created? In which position(s) are the different elements in the correct or best possible proportions? How do they know?
- How might greater visual interest be created? (e.g. through texture)

Ask students to finally add texture to their compositions. Texture can be created in a tactile way by adding sand or by layering textured paper or visually by adding a variation of colour. Students then compare and evaluate their pieces observing visual interest created by texture/symmetry/asymmetry, etc.

Conclude by asking some students to present their piece to the rest of the class and answer the following questions: Have they created interest through the arrangement of objects or elements in their compositions? Have they manipulated the placement of elements in a particular way or used color, texture, or weight to create either a sense of symmetry or asymmetry? How have elements been arranged in the correct places to achieve balance?

[Visual-Spatial, Logical-Mathematical, Verbal-Linguistic Intelligences]

Art Task 4

Learning Goals 4.1, 4.6, 4.8, 4.10

Assessment for Learning Opportunity

4.1 Know that the study of art is concerned with visual, tactile and personal expression used to share and express emotions, ideas and values

4.6 Be able to use the elements of art and principles of design to discuss and critique works of art showing understanding, respect and enjoyment as appropriate

4.10 Be able to describe works of art in terms of meaning, design, materials, technique, place and time

Research activity

Creating an asymmetrical piece

Show students some examples of asymmetrical art from national or international artists (Matisse, Picasso). Students start with a few large shapes to break up a background colour using different proportions to add more interest. Add smaller and smaller shapes keeping the overall image both balanced and interesting. (Shape size is one of the few ways to create variety in an image where the shapes and colors are limited.) Students should explore best possible proportions of the shapes used.

Recording activity

Ask students to produce their own balanced composition using shape and colour. Support students in helping them create a flow or rhythm in the composition. The shapes should look like they are placed in relationship with each other and not just randomly placed.

Ask students to test the balance by turning the composition around, looking at it from several different directions. If elements are in the correct position or proportion, it should look balanced from any angle. There will, however, be one direction from which it looks best. Ask students to decide which direction is best? Do their peers agree?

[Visual-Spatial, Logical-Mathematical Intelligences]

Art Task 5

Learning Goals 4.1, 4.6, 4.8, 4.9, 4.10

Assessment for Learning Opportunities

(NB: it is recommended that only one skill should be assessed at a time)

4.1 Know that the study of art is concerned with visual, tactile and personal expression used to share and express emotions, ideas and values

4.6 Be able to use the elements of art and principles of design to discuss and critique works of art showing understanding, respect and enjoyment as appropriate

4.9 Be able to evaluate their initial artistic products and adjust the work to better suit their expression

4.10 Be able to describe works of art in terms of meaning, design, materials, technique, place and time

Research activity

Creating a symmetrically balanced piece

Ask students to collectively define the word symmetry. Challenge them to come up with examples of symmetry in art and in nature (Islamic artwork is a great example, butterflies in nature). Once they are comfortable with what symmetry is, have them play with the idea. Each student will take a piece of paper, fold it in half and cut shapes and designs into the fold. Once they are finished, they open the paper and see their own unique example of symmetry.

Ask students to make a symmetrically balanced collage using only circles, triangles and/or rectangles. The shapes can overlap or be trimmed to make new shapes. Up to four colors may be used. The composition must have at least a vertical axis of symmetry although biaxial symmetry (two axes of symmetry, both vertical and horizontal) is possible. This ensures balance, top and bottom as well as left and right. There should be no reference to subject matter. Make some of the shapes quite large to increase variety. Decide what colors will be used. Ensure students try to make all of the colors equally visible, but vary the amount of each to get more variety.

Recording activity

Students move all of the parts of the composition around trying different combinations, proportions and relationships before gluing. Students can also experiment with adding more pieces if part of the image lacks interest. Students use their sense of balance to determine if the image is correctly placed and proportioned. They should consider whether all elements are in the correct or best possible proportions. Final pieces should not look top or bottom heavy or be too crowded in the center or along the edges.

When students are happy with their compositions, they carefully glue the image together.

[Visual-Spatial, Logical-Mathematical Intelligences]

Art Task 6 (2 Sessions)

Learning Goals 4.1, 4.4, 4.5, 4.8, 4.9, 4.10

Assessment for Learning Opportunities

(NB: it is recommended that only one skill should be assessed at a time)

4.1 Know that the study of art is concerned with visual, tactile and personal expression used to share and express emotions, ideas and values

4.4 Be able to recognise influential artists from particular countries, genres or periods and the pieces of art they produced

4.5 Be able to evidence how artists, craftspeople and designers from a variety of traditions from around the world use materials, forms and techniques to express their feelings, observations and experiences

4.9 Be able to evaluate their initial artistic products and adjust the work to better suit their expression

4.10 Be able to describe works of art in terms of meaning, design, materials, technique, place and time

Research activity

Ask students to explore various sculptures and gather evidence of the materials, forms and techniques used: e.g. Alexander Liberman's *The Way*, Eero Saarinen's *Gateway Arch*, Joel Shapiro's *Untitled piece in bronze*, to conclude whether they agree or disagree with the statements below:

1. If a sculpture is symmetrical, it is balanced
2. If a sculpture is asymmetrical, it is more dynamic – it might look like it could move

Using scraps of wood or other materials, ask students to work individually or in pairs to construct a sculpture without using any glue or tape. The materials must stay together through gravity and balance. This can be done in groups or with the whole class. Ask them to reflect on the two questions in relation to their own trial efforts. Encourage them to use the language of balance used throughout this unit in their responses to the question.

Recording activity

Ask students to design and plan a 3D sculpture of their own applying the skills of balance to create visual impact. Their sculptures should include three or more parts. Students need to consider the stability of their pieces as well as exploring proportion and positioning. They can use media of their choice, e.g. clay, natural materials, junk, plastic bottles, tin cans, cardboard boxes, etc.

Students evaluate their final pieces by considering whether they have chosen the best possible positions and proportions creating balance and stability.

Complete the unit by asking students to review all of their work and create a small, annotated display about balance and art in the corridor, art room or classroom.

[Visual-Spatial, Kineasthetic, Logical-Mathematical, Interpersonal Intelligences]

Art Journaling Questions

- Did considering correct or best possible proportions lead to your end structure being more stable? Did this matter to you?
- Does balance or imbalance affect what we see or how we see?
- How can we alter what we see by the simple arrangement/rearrangement of different elements?
- Are the ideas of balance or imbalance relevant to other visual experiences such as the clothes we wear or the way we decorate our rooms?
- Are all cultures conscious of balance, symmetry, asymmetry, etc? Is this true of people everywhere?

ICT Introduction

Big Idea

Things are more stable when different elements are in the correct or best possible proportions.

Explaining the Theme

This unit will develop students' awareness of how different presentational forms need to take into account the audience and purpose they are intended for. During the unit, students will prepare a short presentation about themselves, a logo and a short radio commercial. All the tasks focus upon how elements within a presentation need to be in the correct proportion to achieve a stable successful solution. To be the most successful, text, image, sound and video need to be balanced properly.

ICT Learning Goals

Students will:

4.1 Know that the study of ICT is concerned with applying technology to gather, use and exchange information

4.2 Know about an increasing number of applications of ICT for work, communication and leisure

4.6 Be able to manipulate and combine different forms of information from different sources in an organized and efficient way

4.7 Be able to use ICT to present information in a variety of forms

4.9 Be able to use ICT to plan and control events

4.13 Understand the importance of considering audience and purpose when presenting information

ICT Task 1

Learning Goals 4.1, 4.2, 4.6, 4.7, 4.9, 4.13

Assessment for Learning Opportunities

(NB: it is recommended that only one skill should be assessed at a time)

4.6 Be able to manipulate and combine different forms of information from different sources in an organized and efficient way

4.7 Be able to use ICT to present information in a variety of forms

Research activity

The activities in this task focus upon presentational software and how different elements of design can be balanced in slideshows to have the greatest impact when delivering your message.

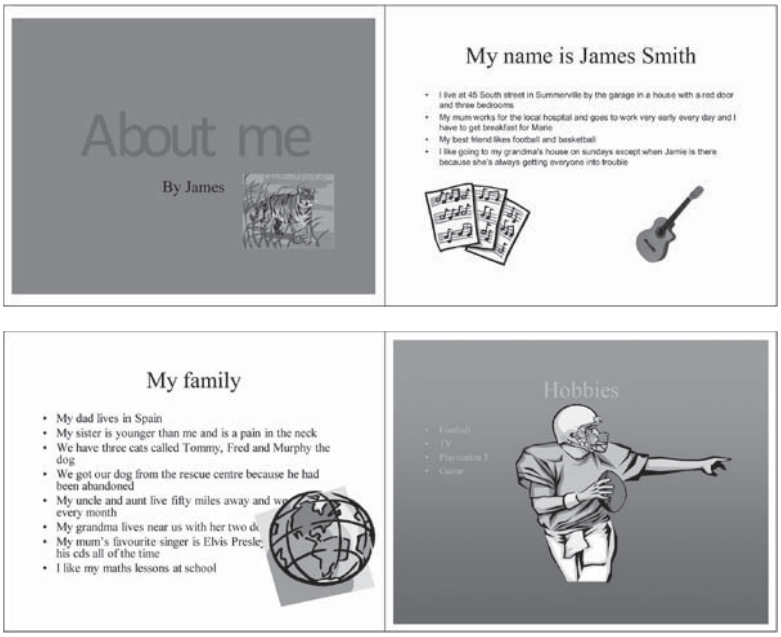
Begin the task by showing the class an example of a really bad and ineffective slideshow. You may need to put five or six slides together to illustrate the points you want to make before this sessions starts. Think of it as a 'what not to do' presentation.

Once students see the presentation, ask them to discuss what makes an effective presentation. Ask the students what they like and don't like about the presentation, and then reveal that you did a purposely bad one and let them tell you why it was so bad.

With the students, create a list of do's and don'ts about presentation. Compare the list the students have produced with the one below. If students have not mentioned anything on the list, ask them whether it should or should not be included. Let them know that the list will be used later as the success criteria against which their own presentations will be assessed.

Do	Don't
Use a consistent layout	Have too much information on one slide
Use a limited number of colours	Use different colours for each slide
Use the same background	Mix fonts
Use no more than two fonts	Use clashing colours
Use no more than three sizes of font	Use lots of sound effects
Use sound very sparingly	Use more than one type of animation
Use animation very sparingly	

Use the presentation below and discuss it with the students using the criteria developed earlier. Where does it work and where does it not work? How could it be improved against the criteria?



Finally ask students whether the needs of a younger 2-6 year old audience would be different and why. Discuss issues such as capturing interest, reading levels, voice-overs, etc. Allow time for students' thoughts on this to be shared and recorded on the whiteboard.

Relate these discussions to the Big Idea about balance and how it applies to presentations.

Recording activity

The recording activity enables students to apply what they have learned. Individually students are going to produce their own 'About me' presentation of four slides. They need to produce a version for their peers. For each version of the presentation, they must then copy each slide in turn and paste into a word processing package. Annotation by the way of call out or text boxes must be used to explain their choices of design: font, font size, background, images, sound, and transitions. Students must also comment on the balance of text to images and how they have achieved this.

At the end of the session allow time for peer assessment of individuals' work to happen. Have them use the criteria that they created in Task 1 to assess.

Remind students of the focus on how elements need to be in the correct or best possible proportions to achieve an effective presentation.

[Interpersonal, Visual, Mathematical-Logical, Visual-Spatial Intelligences]

ICT Task 2

Learning Goals 4.1, 4.2, 4.6, 4.7, 4.13

Assessment for Learning Opportunities

(NB: it is recommended that only one skill should be assessed at a time)

4.6 Be able to manipulate and combine different forms of information from different sources in an organized and efficient way

4.7 Be able to use ICT to present information in a variety of forms

Research activity

The second session focuses upon the theme of 'Balance' with an exploration of logos.

Organisations whose images are recognised internationally and are the most effective have the simplest logos with a balanced design, consistent colour schemes and layouts.

The research activity aims to allow students to explore examples in order to identify similarities and differences in corporate logos from around the world.

Collect images of as many logos as you can of famous brands or use some examples below. Make the activity into a game for students to identify as many logos as they can in five minutes. Go over the answers to see who was able to identify the most.

Next, give students time in pairs or small groups to identify elements in the design of the logos that make it balanced and therefore, effective. Ask them to create a list and help them to arrive at the following points:

- Simple graphics
- Limited choice of colour (many being black and white)
- Little or no text

Make this list into a set of success criteria that can be referred back to later in the lesson.

Develop students' answers by asking why the logos are designed in this way and how this makes them effective for their target audience. A comparison between Coca Cola and Pepsi logos is an interesting extension activity here. Both companies have a variety of designs for their products, some with and some without text. Some of the designs have the inclusion of water droplets, suggesting the thirst-quenching properties of their drinks.

Ask students to decide which is the most effective logo design and why. Be prepared for the discussion of how advertising and marketing work and the subtleties of product design and how designers balance elements in a logo to appeal to the broadest possible market.

Note to teachers: Time is needed for you to prepare the activity students will complete in the last part of the lesson. Explain that you are going to show how to create a simple logo. Also explain that particular file formats are more suited to particular purposes and demonstrate the difference between a vector-based image and a bitmapped image when they are rescaled. The vector-based image can be enlarged with no loss of quality, unlike the bitmapped one.

Explain the process to students of how they will design their logo and model an example for them as they watch.

- Choose a simple clipart graphic for your logo (e.g. a car or a dog- something that represents the company you are designing the logo for)
- Add Word Art text and alter its appearance. Demonstrate how to group the vector image and Word Art text to form one image that can be moved and resized easily
- Finally add a shape behind the logo. Ask students to assess whether your logo meets the success criteria established earlier.

Perhaps repeat this model with another example to make sure they remember the process

Recording activity

Now tell students that they have the opportunity to design their own logos for the company of their choice. Have some suggestions on hand for those who are having difficulty or encourage them to pick a shop or store in the area that they like. They can make up the name as well but some generic ideas are:

- A guitar or music shop
- An ice cream store
- A sports store
- A clothing centre
- A travel agency

Note to teachers: Students could use more sophisticated graphics packages for this session, e.g. Adobe Photoshop, but the timescale and level of functionality within the programme are sometimes obstacles to making this a purposeful activity. Some suitable and free graphics software packages for educators include: GIMP, Inkscape and Pinta.

Once students have sufficient time to create their logos, allow time for them to assess each others' designs and to apply the success criteria for a good logo design that they established in the research activity. Encourage them to link back to the Big Idea of Balance and reinforce that the best designs are the most stable/successful because they had the correct elements in the best possible proportions. Ask them to see what those are in each example.

Students need to annotate peers' work with examples of good design features and suggestions of how the logos could be improved. To complete the lesson, select work from a few students with the best logos and let them explain their design and the thought process they went through in creating the logo. Ask them how their logo balances the right elements to make it as effective as possible.

[Visual-Spatial, Visual, Interpersonal Intelligences]

ICT Task 3

Learning Goals 4.1, 4.2, 4.6, 4.7, 4.9, 4.13

Assessment for Learning Opportunities

(NB: it is recommended that only one skill should be assessed at a time)

4.6 Be able to manipulate and combine different forms of information from different sources in an organized and efficient way

4.7 Be able to use ICT to present information in a variety of forms

Research activity

In the third task, students will apply what they have learned about balance and ICT to create an audio recording.

Guidance for teachers: In audio commercials for products the creators successfully create a balance in terms of mood and message. In the research activity below, students will listen to a radio commercial and discover what features it contains in order to construct a set of success criteria for what an effective commercial should contain. In the recording task they will listen to a series of radio commercials, think about the purpose and audience of each one and judge them against the list of success criteria.

To prepare for the teaching of this task, you will need to record a mixture of national and international commercials, including one for a business, a current film or music release and a household product. You will also need to have the capability to convert the commercials into .mp3 files and add them to an area of the school intranet for students to access.

Choose an example of a great commercial, i.e. the one that has:

- A balance of speech
- Sound effects
- Music that is memorable and well mixed together
- Detail about how to purchase the product/service
- Where to find them or how to contact them

These will be the features around which students build their own commercial.

Play the commercial twice for the students and get them to make a list of what elements make the commercial good. If they are struggling, ask them:

- What makes you like the commercial?
- Does it make you want to buy the product?
- Do you remember its name and what it does?

To reinforce that good commercials have a combination of elements in the correct proportions, students are going to listen to several other examples of the radio commercials you have collected- some good, some bad. Use the grid below for students to record their assessments of the effectiveness of these commercials:

Commercial		Target audience		
Feature	Effective features	Ineffective features	Improvements	Explain improvements
The speech in the clip				
The combination of sounds				
Sound effects (e.g. door slam, clapping)				
Musical atmosphere				
Volume of the clip and how it changes				
How well it meets its purpose				
The impact/its effectiveness on the audience				

Give students time to share their results. This will allow time for a lot of information regarding the different ways that the commercials have been composed to be shared, especially the way that the information has been directed at the target audience, mood, humour, timings, etc.

Recording activity

Students will make an actual recording. Remind students that the best adverts are the ones where the correct elements are combined in the best possible proportions, to meet the needs of the intended audience.

Guidance for teachers: The best software to use for this is Soundforge's 'Audacity' (http://audacity.sourceforge.net/) a free programme that is excellent for students who have little or no experience creating a sound file. Online guidance on how to edit a sound file can be found at **http://www.youtube.com/user/voiceover1#p/search/5/LfSJzUX5hWs**

Tell students that they are going to be producing a 30 second radio commercial based on one of the businesses for which they made a logo in the previous task. Let them break into pairs or assign them a partner.

In pairs, have students first consider the purpose and intended audience for the commercial. Tell them to be clear about who the commercial is for.

Give the pairs ample time to spend deciding what components they will use in their commercial by completing the grid below:

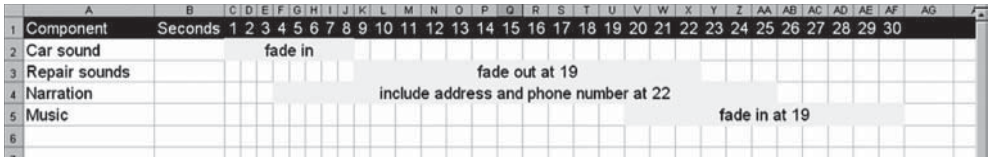
Features I will use/avoid	Reasons for my choice

Once they finish choosing what elements they will use, they need time to construct a script for their advert. They will also need to consider what sound effects they may wish to use. The websites below provide many free clips that could be used:

- **www.grsites.com/archive/sounds/**
- **www.pacdv.com/sounds/**
- **www.stonewashed.net/sfx.html**

The last step before the actual recording is for students to produce a timeline of how their commercial will be constructed, showing where all the sound clips are going to be, how long they will last for, how these might be overlapped or layered and any special instructions. Students need to

complete their own version of the spreadsheet below to map out their commercial.



	A	B	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	Component	Seconds																														
2	Car sound				fade in																											
3	Repair sounds															fade out at 19																
4	Narration															include address and phone number at 22																
5	Music																								fade in at 19							
6																																

Recording the commercial will take some time. You will need to offer support to students through this process.

Once the recordings are completed, time needs to be dedicated for students to present their finished commercials to their peers. They will need to describe their thought processes in both planning and creating their commercials.

Their peers will need to consider whether the commercials are indeed balanced, with the elements being in the best possible proportions and whether as 'critical friends' they can offer any advice as to how they may be improved upon.

[Verbal-Linguistic, Naturalist, Visual-Spatial, Interpersonal Intelligences]

ICT Journaling Questions

- How is ICT used to deliver balanced messages to different audiences?
- What factors must be considered when choosing appropriate messages for a given audience?
- What elements are proportionally balanced in internationally recognised brands?

Music Introduction

Big Idea

Things are more stable when different elements are in the correct or best possible proportions.

Explaining the Theme

The musical tasks that follow explore how different musical elements are balanced within a composition to make it instantly recognizable as genre of rock music across time and culture.

The activities introduce students to a range of rock music spanning five decades and various cultures to give students opportunities to develop a broad understanding of this genre alongside key musical skills. There are opportunities for students to develop their listening, composition and performance skills.

Students will use musical elements to analyse and describe examples of the genre and develop skills to compose and perform their own rock song.

These tasks can be adapted to meet the needs and interests of your students. The genre of rock has been provided as an example, but any genre of music will achieve the same musical outcomes for this unit.

Some activities require students to have a basic understanding of musical notation, so you may plan opportunities for the development of these skills throughout the unit.

Music Learning Goals

Students will:

4.2 Know the uses of the elements of music

4.4 Know characteristics of representative music genres and styles from a variety of cultures

4.6 Be able to use music vocabulary and apply the elements of music to analyse and describe musical forms

4.7 Be able to interpret standard notation symbols

4.8 Be able to sing and/or play a melody with accompaniment

4.10 Be able to create or compose short pieces within specified parameters

4.11 Be able to perform a repertoire of music, alone or with others, with attention to performance practice, breath -control, posture, and tone quality

4.12 Be able to make judgments about pieces of music, showing understanding, appreciation, respect and enjoyment as appropriate

4.14 Be able to improvise, extend or create music to express emotion, ideas, creativity and imagination

4.15 Be able to perform as part of an ensemble and contribute to the overall experience of the collaboration

4.16 Be able to consider pieces of music in terms of meaning, mood, structure, place and time

Music Task 1

Learning Goal4.4

Assessment for Learning Opportunity

4.4 Know characteristics of representative music genres and styles from a variety of cultures

Research activity

In preparation for this task, ask students to bring in examples of their favourite rock songs. Following discussions at home with adults in their lives, they may want to bring in examples from different time periods and cultures, too.

In class, in groups of three or four, have students share these lists and play some of the songs from them. Once they have shared their lists, discuss different categories of rock music.

Britannica Online Encyclopaedia has some helpful information for you if you need to clarify the different categories of rock for yourself. Share the information with your students if necessary. Ask your students to organise the songs into categories of rock music.

Ask students to research the best selling or downloading charts of their own country to find out when some of these songs were most popular. Then ask them to research the lists from three other countries to see if the songs were universally popular. Discuss with your students their ideas about the ways in which some songs can transcend nationality and culture while others don't.

Recording activity

Ask students to classify and record the songs they brought into class against the different categories of rock music. Throughout the time spent on the unit, engage students in conversation about the different categories. When you hear them discussing or listening to different songs, use this as an opportunity to reinforce the categorizations.

[Naturalist, Musical, Intrapersonal Intelligences]

Music Task 2

Learning Goals 4.2, 4.4, 4.6, 4.12

Assessment for Learning Opportunities

(NB: it is recommended that only one skill should be assessed at a time)

4.4 Know characteristics of representative music genres and styles from a variety of cultures

4.6 Be able to use music vocabulary and apply the elements of music to analyse and describe musical forms

Research activity

Rock Music: How a genre evolves and changes but remains balanced throughout

At the end of this research activity there are examples of rock music spanning different times, categories and cultures. Play the students' examples from the different categories. They are all different, but also feature similarities. Ask the students to discuss the songs in small groups and suggest the similarities and differences between the different extracts. The grid below can be used to organize their research. Take the students suggestions and display. If you need it, there is guidance below on what these might be. Make sure that students use the correct musical language. By all means share these with students, but only after they have done the rigorous thinking first.

Guidance to teachers:

The main similarities and differences will occur around:

- Singable/catchy melodies
- Simple accompaniment
- Guitar hooks and riffs
- Strong rhythm in percussion and bass line
- **Rhythm** – similar beats in the rhythm sections
- **Melody** – unique to each song
- **Structure** – all rock songs contain verses and choruses
- **Texture** – the number of instruments playing is similar due to the traditional instrumentation and size of a rock band

- **Timbre** – the defining quality of a voice, noise or instrument, sometimes described as the tone colour
- **Harmony** – unique to each song
- **Dynamics** – rock music is usually loud (forte, mezzo forte perhaps fortissimo)
- **Tempo** – the majority of (but not all) rock songs are usually played at a fast tempo (allegro)

Discuss with your students that although there will be differences (unique attributes to each song), balance is maintained within Rock music through the similarities that all of these songs share. The way musical elements are arranged within rock songs makes them recognizable as the rock genre.

Music examples:

Early Rock

www.youtube.com/watch?v=N5Ts4M3irWM
Johnny Cash 'Folsom Prison Blues' (1955[e1])

www.youtube.com/watch?v=zRu3tw9fYxE
Elvis Presley 'Jailhouse Rock' (1957)

www.youtube.com/watch?v=HyHXaVWRKvQ
Cliff Richard 'Move it' (1958) – (First Rock and Roll hit in the UK)

British Invasion

www.youtube.com/watch?v=gWvurnpKjE4
The Beatles 'All my Loving' (1963)

Folk Rock

www.youtube.com/watch?v=LpbRG4ELD4s
Bob Dylan 'Blowing in the wind' (1963). Bob Dylan wrote anti war songs – possible link with History

Group Sounds (Japanese music movement)

www.youtube.com/watch?v=j19EFVZPbxI
The Tigers (1966) My Mary

Blues Rock

www.youtube.com/watch?v=AtVbBoPPWVg
Jimi Hendrix 'Purple Haze' (1967)

www.youtube.com/watch?v=fX5USg8_1gA
Derek and the Dominos feat. Eric Clapton on guitar 'Layla' (1970)

Psychedelic rock

www.youtube.com/watch?v=A7F2X3rSSCU
The Beatles 'Lucy in the sky with Diamonds' (1968)

Glam Rock

www.youtube.com/watch?v=sz0XIiIlATE
David Bowie 'Starman' (1972)

www.youtube.com/watch?v=d8vnVWfOzZI
Alice Cooper 'Schools out for Summer' (1972). Cultural development opportunity – impact on fashion at this time – History/Art link

Progressive Rock

www.youtube.com/watch?v=t9A60e16SvM
Mike Oldfield 'Tubular Bells' (1973)

Punk Rock

www.youtube.com/watch?v=sz0XIiIlATE
The Clash 'London Calling' (1979)

www.youtube.com/watch?v=iWj15rvUBoo
Boøwy (Japan) – (1986)

Icelandic Rock

www.youtube.com/watch?v=snS5DOt8c5w
Trúbrot 'Starlight' (1970)

www.youtube.com/watch?v=VU3JrXt_cPk
The Sugarcubes 'Deus' (1987)

Thrash Metal – Chinese Rock

www.youtube.com/watch?v=LTRvRV3FHgw
Overload 'The Shadow of Ancestor' (1993)

Australian Rock

www.youtube.com/watch?v=hkkL_aDrIyU
AC/DC 'Back in Black' (1980)

Heartland Rock (A USA movement)

www.youtube.com/watch?v=Xkpl70Rl5os
Bruce Springfield 'Born in the USA' (1984)

Heavy Metal

www.youtube.com/watch?v=oobDQ0vdm8M
USA -Guns n Roses 'Sweet Child O'Mine' (1988)

www.youtube.com/watch?v=LTRvRV3FHgw
China- Tang Dynasty 'Pathway' (1992)

Grunge

www.youtube.com/watch?v=hTWKbfoikeg
Nirvana 'Smells like teen spirit' (1991)

Britpop

www.youtube.com/watch?v=6hzrDeceEKc
Oasis 'Wonderwall' (1995)

www.youtube.com/watch?v=YSuHrTfcikU
Blur 'Parklife' (1994)

Recording activity

Ask students to classify the different songs they have listened to, accurately describing their similarities and differences using correct musical terms. There are many ways in which this can be represented from the simple chart below, through mind mapping and other visual displays.

Similarities	Differences

[Logical-Mathematical, Musical, Naturalist Intelligences]

Music Task 3

Learning Goals 4.2, 4.4, 4.6, 4.12, 4.16

Assessment for Learning Opportunities

(NB: it is recommended that only one skill should be assessed at a time)

4.4 Know characteristics of representative music genres and styles from a variety of cultures

4.6 Be able to use music vocabulary and apply the elements of music to analyse and describe musical forms

4.16 Be able to consider pieces of music in terms of meaning, mood, structure, place and time

Research activity

How are rock songs written? Is there a recipe for balancing the musical elements to make it successful?

Discuss with your students how different things in their life have both structure and balance. For example, sports games often have two equal halves or four equal quarters. Sports lessons will have a warm-up, skills practice, game and warm-down and so on. Once your students are at ease with the idea of this form of structure, introduce the concept of song structure to them.

The traditional structure of a rock song is:

Verse – Chorus – Verse – Chorus – Solo – Chorus
(A) (B) (A) (B) (C) (B)

Display the table overleaf for your students to help them become aware what each of these terms mean.

Point out that it is the verse and chorus that contribute to the balance of a rock song as they flow from one to another seamlessly. At the same time, each member of a rock band also has to find how they balance their contribution in the best possible proportion within the group.

For example:

- The drummer can't play at a faster tempo than bass player
- The vocals can't drown out the musicians
- The rhythm guitarist shouldn't be louder that the lead guitarist during the solo section, etc.

(i)	Introduction	Where the hook is often introduced that leads directly into verse one
A	**Verse**	Where the lyrics/vocals begin. The verse has the second melody of the song; this melody hardly changes throughout the song; what changes each time a new verse begins are the lyrics. The verses usually give details about the song topic.
B	**Chorus**	The chorus contains the primary melody and the lyrics usually include the song title. This is generally the section that your listener will remember from your song. *Student question – Have you ever found yourself singing the chorus of a song?*
A	**Verse**	As above
B	**Chorus**	As above
C	**Solo**	The third melody that only appears once usually towards the end of the song before the final chorus/climax of the song. In rock music, the bridge typically features the lead guitarist playing a solo with no lyrics.
B	**Chorus**	The melody and dynamics may vary during this final version of the chorus.

So balance in a rock song is created in two ways. First, by use of the verse/chorus structure and second, by each member of the group showing an awareness of the other. Dynamic and rhythmic balances are an important part of providing true balance within any musical ensemble, but in a rock band, these elements are crucial. It may be that some students already have their own beginning level band. If so, ask if they will play to the class and discuss how they are using both elements of balance.

If not – or, as well – ask the students to listen to the following songs and determine structures used in each song. Students should try to identify the verse/chorus pattern and the way that different members of the band balance each other's playing.

www.youtube.com/watch?v=C2NU98NZF8o
Queen – We Are The Champions (ABABB)
VERSE – CHORUS – VERSE – CHORUS – CHORUS

www.youtube.com/watch?v=xQ04WbgI9rg
Foo Fighters – All My Life (AABABCB)
VERSE – VERSE – CHORUS – VERSE – CHORUS – SOLO – CHORUS

www.youtube.com/watch?v=ZO2qO9FaIWU
Led Zepellin – Good Times, Bad Times (ABABCB)
VERSE – CHORUS – VERSE – CHORUS – SOLO – CHORUS

www.youtube.com/watch?v=tRcPA7Fzebw
David Bowie – Starman (ABCABC)
VERSE – CHORUS – SOLO – VERSE – CHORUS – SOLO

www.youtube.com/watch?v=ngqRqeLrLeI&feature=related
Beyond (Japan)
VERSE – CHORUS – SOLO – VERSE – CHORUS – SOLO – CHORUS – CHORUS

www.youtube.com/watch?v=7_IKcMl_a9A
Europe (Sweden) – The Final Countdown
INTRO – VERSE – CHORUS – VERSE – CHORUS – SOLO – CHORUS-CHORUS

Refer to the table where each section is given a letter: A = Verse, B = chorus, etc.

Listen to Deep Purple and watch the following video with your students.

www.youtube.com/watch?v=2WX_4FNoto4
Deep Purple – Smoke On The Water (ABABCBB)

OR

www.youtube.com/watch?v=ngqRqeLrLeI&feature=related
Beyond – (Japan) (ABCABCBB)

Listen to the video clip four times:

- **First time** – What musical features could you hear?
- **Second time** – Where was the hook introduced and was there a solo?
- **Third time** – How did the composer create balance? Explain using the musical elements.
- **Fourth time** – To determine the structure using the ABA format

Recording activity

Ask your students to record their analysis of the song. For your information, you will find below a simple analysis set out for you. Although you might want to share it with your students, don't worry if they don't include all the elements. The main purpose of this recording activity is for them to show their increased knowledge of and skills in identifying the balanced structures of rock music.

- **Introduction** – Guitar solo, joined by drums, and then the bass guitar mirroring the lead guitar hook
- **Verse 1** – Lead vocals, guitar, keyboards, bass and rhythm section
- **Chorus** – Lead and backing harmony vocals, guitar, keyboards, bass and rhythm section
- **Verse 2** – Lyrics different from verse 1 but continue the story – Lead

vocals, lead guitars, keyboards, bass and percussion

- **Chorus** – Lead and backing harmony vocals, guitar, keyboards, bass and percussion (main hook repeated here)
- **Solo** – Lead guitar solo, no lyrics, and percussion continues throughout providing a strong pulse
- **Verse 3** – Lead vocals, guitar, keyboards, bass and percussion
- **Chorus** – Lead and backing harmony vocals, guitar, keyboards, bass and percussion
- **Chorus** – Lead and backing harmony vocals, guitar, keyboards, bass and percussion
- **Outro** – Similar to introduction – lead guitar, rhythm guitar, keyboard and rhythm section

Ask the students to compare the structures they had noted down with the structure shown above. How does the structure create balance?

Discuss the following:

- How were you able to determine when each section (A or B) started and finished?
- Was an introduction and outro necessary in your opinion? Why?
- How are rock song structures different to other song genre structures?

You may like to talk about Rap, Pop, R&B, Gospel, Showtunes, Reggae, Blues, etc.

[Musical, Naturalist, Musical Intelligences]

Music Task 4

Learning Goals 4.4, 4.7, 4.10, 4.12, 4.14

Assessment for Learning Opportunity

4.4 Know characteristics of representative music genres and styles from a variety of cultures

Research activity

To recognise hooks and riffs in rock music and how hooks and riffs balance properly in rock songs

Talk to students about where hooks are used in everyday life and what they are used for. Having established the meaning of a 'hook,' ask students what it might mean in terms of a rock song. Can they describe a musical 'hook' or demonstrate it in a song that they know.

Ask the students what they think the characteristics of an effective hook are?

Be sure to highlight the following during the discussion:

- The hook itself should be balanced in terms of its melodic simplicity
- The hook provides the foundation upon which the rock song is based
- The repetition of the hook engages the listener as they become 'hooked' on this catchy melody
- Balance is achieved through all members of the band 'fitting in' around the hook and ensuring that their dynamics are balanced and tempos are the same

A balanced hook is melodically and rhythmically simple and therefore easy to remember.

Recording activity

Using a keyboard or guitar (or any other appropriate instrument) students should individually write a simple hook melody. (Although the hook will be simple remember it takes longer to write, so give your students stretch time for this.) You may wish to include a simple music theory lesson here about note placement, note values, rhythm or TAB depending on the

students within your class.

Introduce the term 'Performance Partners'. Explain that each student will be paired up with a peer who will become their performance partner. They will play their hooks for their partner. Then students should evaluate their own hook and their performance partner's hook and then determine whether they felt each hook was balanced (melodically and rhythmically simple, easy to remember and rhythmically simple) enough to be used as a Rock music hook. Ask students to play their hooks to the rest of the class and to record them.

[Interpersonal, Musical Intelligences]

Music Task 5

Learning Goals 4.2, 4.4, 4.6, 4.7,4 8, 4.10, 4.11, 4.12, 4.14, 4.15

Assessment for Learning Opportunities

(NB: it is recommended that only one skill should be assessed at a time)

4.4 Know characteristics of representative music genres and styles from a variety of cultures

4.6 Be able to use music vocabulary and apply the elements of music to analyse and describe musical forms

4.11 Be able to perform a repertoire of music, alone or with others, with attention to performance practice, breath -control, posture, and tone quality

4.15 Be able to perform as part of an ensemble and contribute to the overall experience of the collaboration

Research activity

This last activity brings together the different elements students have learned during this unit. You might want to tell students that they will be performing a rock concert soon or you might want to begin the session by putting a poster on the classroom door before your students arrive stating that on a specific date/lesson time, a rock concert will take place featuring new rock bands, rock stars and rock songs.

In groups, students will share their ideas of the elements that need to be balanced in a good rock song and a good rock song performance. Remind them that balance involves elements in the best or best possible proportion. Ask students to mind map what they think the key elements of a balanced rock song are. Do the ideas within the class differ or are they similar? This is where you can highlight how musical interpretations can differ from person to person.

Ask students to form small groups (3-5 people) who plan how to write a rock song and then perform it using all that they have learned during this unit. You might want to begin by letting them name their band.

Scaffold their plans by providing a step by step guide:

1. **Choose a theme** – the lyrics will be based on this theme
2. **Suggest instrumentation**

3. **Assign roles** – who will write the lyrics, who will write the hook and melody, etc?
4. **Who will play each instrument?**
    a. Students could use the guitar sounds on a keyboard if they are unable to play a guitar
    b. A simple rhythmic backing track could be used to simplify this process
    c. Music technology could be used to play the melodies and hooks
    d. Chord progressions could be provided (I IV V chord progression is a simple place to start)
5. **How will you ensure a balanced Rock song?**
    Refer back to notes from within this unit of work

Provide students with guidance on how to notate their work. You may like to use traditional notation, music technology or graphic scores depending on the cohort. After choosing an appropriate method, you may like to add a short session to ensure students' understanding within this area. Ample time will need to be allowed for students to experiment using the musical element and instruments before they begin to finalise their compositions.

Recording activity

Are you ready to rock? Perform and record your rock song!

- Set up a stage in front of 'The Wall of Rock' if possible with seats ready for the audience
- Have a programme or playlist ready to give to the students informing them of the order in which they will play
- Allow the students plenty of time at the start of the lesson to practice and prepare
- Performances should be recorded so that students can reflect upon their own performances and the performances of others
- Advertise the Rock Concert – perhaps invite other students, faculty and parents to this performance to make it special for the students performing

[Musical, Interpersonal, Visual-Spatial Intelligences]

Music Journaling Questions

- How are musical elements balanced in rock songs and what combinations make songs more popular?
- What advice can you give about arranging musical elements to others who want to write and perform a rock song?
- Is the rock genre easily identifiable through a balance of musical elements and techniques? If so, how does it evolve yet stay true to form over the years?
- How can you apply the idea of balance to any other musical genre?
- If you have been to a live show, can you see how 'balance' was also an important part of the performance? In what way was this true?

Physical Education Introduction

Big Idea

Things are more stable when different elements are in the correct or best possible proportions.

Explaining the Theme

Through this unit, students will develop a definition of what fitness is and what it means in different countries. They will look at how fitness is achieved through circuit training and how the health of the heart and lungs is balanced through aerobic exercise. Students will learn about and practice a variety of exercise that strives to achieve a body/mind balance. By the end, they will be able to make a plan of action for their individual goal that includes exercise that affects their bodies and minds to help them achieve a healthier, more balanced lifestyle.

Physical Education Learning Goals

Students will:

- **4.1 Know the study of physical education is concerned with healthy lifestyle choices and activity which lead to physical, emotional and mental balance**
- **4.6 Be able to steadily improve performance with control, coordination, precision and consistency in a range of physical skills and techniques whenever possible**
- 4.7 Be able to select a physical activity they enjoy and decide how they will participate in their chosen activity
- **4.10 Be able to use safe and acceptable tactics to steadily improve their own performance and that of a team**
- 4.11 Be able to identify the features of a good physical performance
- 4.12 Be able to evaluate their own performance objectively and make a plan of action
- 4.16 Develop an understanding of how physical activity affects the body, mind and emotions
- 4.19 Develop an understanding of how attitudes towards health, practices and behaviours differ based on cultural values and beliefs

Physical Education Task 1

Learning Goals 4.1, 4.16, 4.19

Assessment for Learning Opportunity

4.1 Know the study of physical education is concerned with healthy lifestyle choices and activity which lead to physical, emotional and mental balance

Research activity

Focus is on general fitness.

Ask students what the term 'fitness' means.

Open a discussion around the following questions:

- How do people get and stay fit?
- Does the idea of what fitness means vary among countries?
- How do people in different countries get fit and stay fit?
- Do people in different countries play different sports or engage in different types of exercise? Why do different cultures play different sports?

Recording activity

Divide students into groups of three. Give each group a different country and have them research the kinds of exercise and sport that people in those countries participate in in order to stay fit.

Using a large wall map, have the groups present their country, show where it is in the world, and explain or demonstrate what fitness means in that country.

[Verbal-Linguistic, Interpersonal, Logical-Mathematical Intelligences]

Physical Education Task 2

Learning Goals 4.1, 4.7, 4.11, 4.16

Assessment for Learning Opportunity

4.1 Know the study of physical education is concerned with healthy lifestyle choices and activity which lead to physical, emotional and mental balance

Research activity

Balance in fitness through circuit training

(**Guidance to teachers:** A station is a group of exercises that focuses on certain muscle groups (arms, legs, chest, back, etc.) and types of fitness (aerobic, anaerobic, endurance, strength, etc). A station is an activity/exercise such as star jumps (cardiovascular fitness), press ups (arms strength), sit-ups (muscular endurance), boxing with pads/bag (anaerobic/strength), bicep curl with dumbbells (muscular strength/toning), skipping (aerobic fitness) or squats using a core strength ball (muscular strength/toning), etc. A circuit involves any number of stations.

Set up a circuit that only involves stations that work out one muscle of the body. (The point is to get the students to see that it isn't a balanced circuit.)

Once you have set up an unbalanced circuit, allow time to explain and demonstrate it to the students. Once students understand the circuit and each station in it, let them work out on each of the stations until each student has worked out on each one.

After the allotted time, ask the students to tell you what was good and bad about the circuit. Let them share and think through what they did so that they can realize the circuit only worked out one body part. Help them arrive at the conclusion, but don't tell them that it was an unbalanced circuit.

Allow time for a group and class discussion about whether or not it was a balanced circuit. What type of fitness is this? What types of stations work your arms/legs/back/core, heart and lungs? Why do we want each station to work different muscle groups? Why aren't the same muscle group exercises next to each other? Why would your muscles tire if the exercises were next to each other? How does circuit training help balance muscle groups and cardiovascular strength?

Recording activity

In groups, provide students with enough equipment to create a balanced circuit.

Give students time to design a balanced, six-station circuit. A balanced circuit will work out different muscles in the body and provide some cardio. Students can either make up stations on their own or with help from the teacher; choose from a variety of station cards produced by the PE department with exercises/activities of photos of people demonstrating different gym exercises (e.g. core stability exercises – the plank or sit-ups, squats with the balance ball; e.g. bicep curl, lateral raise). They should keep in mind:

- The purpose of the circuit and why the stations are set out in a certain order
- How the circuit affects the body; heart and lungs, losing weight, toning, building muscles
- How your circuit provides a balanced work out

Have each group present their circuit. Students will try each of the circuits presented and decide which one offers the most balanced workout in terms of muscle toning and cardio.

[Bodily-Kinaesthetic, Visual-Spatial, Logical-Mathematical Intelligences]

Physical Education Task 3

Learning Goals 4.1, 4.7, 4.12, 4.16

Assessment for Learning Opportunity

4.1 Know the study of physical education is concerned with healthy lifestyle choices and activity which lead to physical, emotional and mental balance

Research activity

Balancing the fitness of the heart and lungs through aerobic activities

Ask students what aerobic exercise is and what impact it has on the body? Don't tell them, but try to get them to talk about its impact on the heart and lungs. Depending on how much they know, you may need to give them more or less information.

Once you have agreed on a definition, as a class, mind map the word aerobic exercise and ask them to come up with many types of exercise that give you an aerobic workout. Encourage them to focus on what is available to them locally given the:

- Weather (extreme heat/cold),
- Environment
- Safety of where they live
- Transport available to them

Some examples they may come up with are: step, zumba, aerobics, spinning, hip hop, thighs/tums and bums, body combat, kickboxing, aqua fit and/or games-based activities. Be sure to add in any others that reflect the country or culture where the school is located or those of countries being studied throughout the unit in other subjects.

In pairs, ask students to research why a healthy heart and lungs are important. Give students time to discuss in pairs and then report back to the class as a whole. Their findings may include some of the following:

- Prevent/help reduce (heart disease, etc.). The heart becomes a stronger muscle and pumps a greater volume of blood to the body in a single pump.
- Release of hormones that help give you a natural high

- Help relieve stress and anxiety
- Moods such as anger, tension and fatigue can be affected positively by exercise

Ask students if they know how to take their heart rate? Some students may know and can teach the class; otherwise, you can teach them. The two main areas where you can measure your heart rate are the neck (carotid artery) and the wrist (radial artery).

While at rest, ask the students to take their heart rate. Once everyone has found their HR, count their pulse for six seconds and times it by ten (e.g. 7 counts over 6 secs x 10 = 70 beats per minute (bpm)). This will give you a reading of your HR for approximately a minute. Resting heart rate should be around 60-70 bpm for an average 11/12 year old.

From a resting heart rate, lead the students in their first aerobic workout. You may have one you are comfortable teaching, or you may want the students to pick one they want to learn. (**Guidance to teachers:** YouTube is also very useful if you want to teach yourself a discipline. You could use an exercise DVD with a projector and work through it with your class if you don't feel confident at leading an activity.)

Take the students through the routine (knowing it will probably take several sessions before they get all the moves or steps). Students should be able to talk whilst participating in the activity and heart rate should be around 65% of their maximum heart rate (220 - their age = MHR).

Recording activity

As soon as the activity finishes, have students record their heart rate again. Ask them to record the following questions:

- How does their heart rate change after each activity?
- Why do they think it changes?
- How do they feel?
- Why would your resting heart rate reduce as you become fitter?
- How does this balance the health of your heart and lungs?
- Who should participate in aerobic exercise?
- Why is aerobic exercise important in the overall balance of health?

[Intrapersonal, Logical-Mathematical, Bodily-Kinaesthetic Intelligences]

Physical Education Task 4

Learning Goals 4.1, 4.6, 4.10, 4.16, 4.19

Assessment for Learning Opportunities

(NB: it is recommended that only one skill should be assessed at a time)

4.1 Know the study of physical education is concerned with healthy lifestyle choices and activity which lead to physical, emotional and mental balance

4.6 Be able to steadily improve performance with control, coordination, precision and consistency in a range of physical skills and techniques whenever possible

4.10 Be able to use safe and acceptable tactics to steadily improve their own performance and that of a team

Research activity

Mind/Body balance

Before the session, cut out large photos or make a PowerPoint of famous athletes, actors, musicians, etc. who the students admire and who you know participate in activities such as yoga, Pilates, Tai Chi, Nia (you could also include a few pictures of some students or teachers they all know). Show them the photos at the start of class and ask them what all of these people have in common. It is unlikely that they will be able to guess the answer, so then tell them that they all participate in mind/body exercises such as yoga, Pilates, Tai Chi, Nia.

Ask students why these professional athletes (especially footballers, American footballers, rugby and tennis players, swimmers, etc.), actors and musicians would participate in these activities. What are the benefits?

To get started, ask students who have had the opportunity to participate in these activities to share what these activities entail and what the benefits are. In groups, ask students to research these activities and their origins, as well as their physical, mental and spiritual benefits. Student groups can use the following points to focus their research:

- What cultures value the above activities and why? How and where did the activities originate?
- How do these activities work out different parts of the body?

- How do they impact their body's fitness?
- Deep breathing and stretching help to make or strengthen mind/body connections
- Stretching, toning and meditation help relieve anxiety and stress and help you focus
- Many professional athletes use these techniques. For example, downhill skiers visualise their race route down the mountain before they physically ski it. Football players use yoga to help with their flexibility and avoid injuries and baseball players use Tai Chi to help with their balance and co-ordination.
- Students can benefit from the techniques to help with exam stress, school anxieties and everyday tensions at home, school and with friends

Have each group present their findings and their benefits. Have students with experience in these activities share their personal experiences.

Students should have the opportunity to participate in different activities such as yoga, Pilates, Tai Chi, Nia or something that is specific to the country where they go to school and is practiced locally.

The next session or series of sessions should be spent teaching or leading students through a yoga, Pilates, Tai Chi, or Nia class. It is helpful to give them mats or a softer place to practice. They could go outside on sand or grass if weather permits or into a wrestling or gymnastics room if available.

Recording activity

Students should record their thoughts in their journal describing how they felt after the different forms of exercise and how they thought it might affect their lifestyle/health and mental health. Are there additional benefits that arise from exercise which attempt to balance body and mind? How is it achieved?

What did they enjoy about the different styles of exercise? These questions could be answered by the students directly after they have completed the activities so their thoughts and feelings are still fresh.

[Intrapersonal, Naturalist, Bodily-Kinaesthetic Intelligences]

Physical Education Task 5

Learning Goals 4.1, 4.6, 4.7, 4.10, 4.12, 4.16

Assessment for Learning Opportunities

(NB: it is recommended that only one skill should be assessed at a time)

4.1 Know the study of physical education is concerned with healthy lifestyle choices and activity which lead to physical, emotional and mental balance

4.6 Be able to steadily improve performance with control, coordination, precision and consistency in a range of physical skills and techniques whenever possible

4.10 Be able to use safe and acceptable tactics to steadily improve their own performance and that of a team

Research activity

Making a plan for a balanced lifestyle

Students will test each others' health and fitness over a range of different activities. Some activities can be carried out in pairs; some will be as a whole class. These activities will include their body measurements, height, weight, BMI, power, stamina, speed, aerobic capacity and flexibility.

Use the next few sessions for students to take these fitness tests and record their data. This will give them a starting point to begin a fitness plan designed to help them lead a healthier, more balanced lifestyle.

(A few tests are quite intrusive; consequently some students might be a little sensitive about taking them or recording their data; however, remind them that the information recorded is purely for their own knowledge and understanding. No one else needs to see it. Be mindful to protect their privacy and be sensitive to their feelings about this.)

Students will have a set of data that describes their current health/fitness level. They will then take that data and use it to plan a personalized, four week fitness plan specific to their needs. They can use activities/sports that have been covered or they can use their own ideas/experiences/sports. The main aim is to complete a programme that includes activities that are fun and are tailored to their specific goals, e.g. to lose weight, to increase their speed, to increase their stamina, improve muscle tone, to feel fitter and healthier, to improve emotions or mood, to improve sleep.

Recording activity

An example of a fitness plan might look like the table below:

Name What do you want to improve/need to balance?	WEEK ONE General fitness (as an example)			
	Exercise	Heart Rate At work	Food and Water Intake	Mood/Sleep
Monday	Aerobic class 60 min Walk to school 20min			
Tuesday	Walk to school 20min Basketball club 50min			
Wednesday	Yoga 60mins Football 90 min			
Thursday	Walk to school 20 min Swimming 40min			
Friday	Rest day			
Saturday	Walk to shops 30min Bike ride 70min			
Sunday	Rest day			

Students should start a weekly log that will record the exercise they are doing and food they are eating and how this impacts their sleep and mood. What activities do they like best? How does their body feel after the activity? How has their mood changed?

Students will then use this log to explore their own thoughts and feelings on the way they live their life. What elements can they modify or change to live a more balanced lifestyle?

[Intrapersonal, Naturalistic, Logical-Mathematical Intelligences]

Physical Education Journaling Questions

- What does it mean to live a balanced, healthy lifestyle?
- How can you balance different elements in your life to be a healthy, fit person? What are the benefits?
- Is a balanced lifestyle encouraged by the people in your school? By your family or care giver? By your community? How? If it is not, why not?
- In what ways can you control these elements for yourself? In what ways are you reliant on the adults in your life to help you live a healthy balanced lifestyle?

The Exit Point

Each of the IMYC units is written to last about six weeks. At the end of five weeks, teachers and students will come together again for an extended period of time (up to a week) for a final formal opportunity to reflect upon their developing understanding of the Big Idea and apply those ideas they have developed into a real context. This is the real opportunity for students to slow think what they have learned throughout the five weeks and organize it into a way that makes sense and is meaningful to them on a personal level. Teachers need to be supportive of the fact that this representation may be very different from how they envision it, but the important thing is to focus on the slow thinking and deep reflection that allowed the student to arrive at the final project idea.

Students are asked to do this by engaging in one of six media projects to help them develop further understanding of what they have taken away from the six week unit. Over one year and the six IMYC units within that year, students will conceive, design and produce:

- A short video item
- A podcast
- A web document
- An application
- A magazine feature
- A presentation

The exit point is an opportunity to do some real work thinking and reflecting whilst producing a media presentation. The hard work is in the thinking, linking and planning which is the meat of the activity. Each media presentation will be relatively short, but will be well thought out, executed and presented with purpose and direction.

During the exit point, students will take responsibility for choosing, planning, designing and executing the presentation. This is the pinnacle of the unit, in that it provides an engaging and hands-on experience for students to further their understanding of the learning not only through subjects and skills, but also throughout the theme. Because each student will experience their learning in a unique way, this activity will be individual to the understanding the learner gained on a personal level. Often it will be generated by the ideas and deeper understanding that is cultivated through the weekly journaling.

Over the course of a school year, no presentation style is repeated. Over three years, students will repeat each media type three times. This will allow them to observe their progression in each type of media form, as well as their beginning, developing and mastering of knowledge and skills.

Implications for Teachers

All students and teachers will come together during this time so that students can collaborate on a project. Teachers should be available for questions, guidance and support as students plan, organise and create a representation that furthers their understanding through one type of media.

The Exit Point represents one of the ways in which teachers have to work together interdependently. The Teachers' File (and the Members' Lounge on the IMYC website) contains practical advice about the organisation of the Exit Point. Nevertheless, as with the Entry Point, it is important for teachers to spend time working out the leadership and practical organisation of the Exit Point in a way that will work within their school but, most importantly, help students reflect.

Teachers will do everything possible to allow students to take responsibility for the Exit Point whilst providing the structure and expectations to guide the students through this process. Teachers should also expect to provide a time line, check in dates and assistance as students navigate through this process. Time must also be given for students to present their project to their peers, families and/or community. Teachers and students together may create the places where students' work can be seen publicly, such as YouTube sites, Learning websites, printed publications and so on.

Teachers will be accountable for monitoring students during the Exit Point and helping them reflect rigorously and problem-solve production issues that arise.

Teachers and students will be responsible for maintaining the work produced so that the developing understandings and media production skills of students can be compared over time by, for example, comparing their Year 7 podcast with their Year 8 podcast.

Teachers will collaborate with each other to offer the best possible support to students during the Exit Point. Particular responsibilities will be dependent on the strengths of the Teaching group.

Implications for students

Our evidence tells us that students will look forward to this time as a chance to collaborate with friends and peers. They will also have a great responsibility for their learning as they enter the final stage of the unit. The ownership is on the students to create a media project that represents a real context for their developing understanding. The work is in the thinking and will be showcased through the media form. Students will develop their understanding of the unit and what it means for them through their media presentation.

Implications for schools

Schools should find ways of giving value to the time spent on these rigorous Exit Points. Schools need:

- To allow some variation in normal scheduling
- To provide the necessary resources
- To enable teacher planning time
- To create the means of displaying and valuing students' reflective work in a serious but accessible way