THINK INTERNATIONAL SCHOOL UNIT OF INQUIRY PLAN		
YEAR GROUP: Y6	**DATE:** 31st August - 8th October	**DURATION:** 6 weeks
COLLABORATIVE TEACHING TEAM: Nic, Dora, Fritzie, Sarah, Thomas		

TRANSDISCIPLINARY THEME: Were we are in Place and Time

An inquiry into orientation in place & time; personal histories; homes & journeys; the discoveries, explorations and migrations of humankind; the relationships between & the interconnectedness of individuals & civilizations, from local & global perspectives.

CENTRAL IDEA:

Our characteristics are determined by our ancestors.

LINES OF INQUIRY:

1. What is heredity
2. My heredity
3. The advantages and disadvantages of heredity

LEARNER PROFILE

Knowledgeable, Thinker, Reflective

APPROACHES TO LEARNING:

Research Skills, Self-management Skills, Thinking Skills

KEY CONCEPTS:

Form, Connection, Causation

RELATED CONCEPTS:

genetics, biodiversity, identity, diversity, family, structure, similarities, differences, character, resilience, perseverance, self-regulation

SUMMATIVE ASSESSMENT:

How will students demonstrate their understanding of what has been learned? How will we measure their understanding of the Central Idea?

Venn diagram: traits you cannot change; traits you can change/develop ; (crossover)

Chinese

ACTION:

What student-led action and application do we hope to see as a result of their learning?

Lifestyle choices: using what they know to find aspects that they would like to develop in themselves

Adv. Make a powerpoint to describe family members' appearance and personality, and compare with yours to reflect students' understanding of heredity. Target sentence: 人+(外貌特點)+(比喻句) 人+(形容性格的詞)+(具體事例) **CAL** Based on a survey of the physical traits of family members. Make a powerPoint with some family pictures with the following target sentence. Make an oral presentation to reflect students' understanding of their own personal heritage and family traits. Target sentence : I.e. 我遺傳了媽媽的大眼睛。	**'Action' reflection:** Students are very unfamiliar with what action is/looks like? We have set up a Y6 action folder and will continue to prompt students to interact with it until it becomes a natural feature.

ESTABLISHING LEARNING GOALS AND SUCCESS CRITERIA		
What is it we want students to know?	**What is it we want students to understand?**	**What is it we want students to be able to do?**
• That their genetic make-up is inherited from their parents, and their parents' DNA came from their parents' DNA. • That their genetics is a combination of their parents DNA. • That genetics significantly affect physical traits (height, hair colour etc.) • That our body is made up of cells. • All the cells in our body have the same DNA in. • That DNA is the 'code' to building our body. • That DNA contains many genes (segments of DNA). • That DNA can be found in the nucleus of a cell.	• That DNA has the 'code' for all our cells. That DNA controls what cells become in our body. • That genetics can shape our personalities, but that we can also develop our personality traits. • That our genes can be expressed, or suppressed in cells; this is why a skin cell looks different to a liver cell. • The genetic differences can lead to advantages and disadvantages. • Differences in genetics leads to us being different. • Differences in genetics can lead to disease. • Advantages and disadvantages can be different according to culture (e.g. some	• Take action on who they are as a person by choosing their actions and words (it is our choices that define us). • Acknowledge that there are some aspects of themselves that they do not have control over. • Communicate their voice and their identity through poetry. • Use a graph to visualise data • Create a survey and collect data **PE:** Articulate the role that genetics play in sport Debate whether your genetic makeup should/shouldn't be a deterrent in your choice to try

• Nearly all cells have a nucleus (not blood cells) **PE:** That genetics can affect physical makeup of the body and how this relates to sport. Three body types and the differences/ similarities	cultures like small feet (foot binding), but for a runner, it would be a disadvantage) **PE:** What genetic predisposition means People are born with an inherited body type based on skeletal frame and body composition	and commit to a sport or activity that interests you. With a lot of practice, coaching, and determination can you get better over time? Describe their own body type, strengths and weakness and debate whether this is something that is good or bad to know. Is it relevant? **Science Skills:** • observe carefully in order to gather data • identify or generate a question or problem to be explored • interpret and evaluate data gathered in order to draw conclusions • consider scientific models and applications of these models (including their limitations).

APPROACHES TO LEARNING: What do we want the students to do?

RESEARCH SKILLS
Information-literacy: formulating and planning, gathering and recording, synthesising and interpreting, evaluating and communicating
Media literacy: consuming and processing, considering online perspectives, creating
Ethical use: ethical use, reliability of sources

THINKING SKILLS
Critical: analysis, evaluation, forming decisions
Creative: generating novel ideas, considering new perspectives
Transfer: application, application in multiple contexts
Reflection: reflection, metacognition

SELF-MANAGEMENT SKILLS
Organisation: managing self, time management, goal setting
States of mind: mindfulness, perseverance, emotional management, self motivation, resilience (antifragile?)

LEARNER PROFILE: What is it we want the students to be?

Knowledgeable:

We develop and use conceptual understanding, exploring knowledge across a range of disciplines. We engage with issues and ideas that have local and global significance.

Thinker:

We use critical and creative thinking skills to analyse and take responsible action on complex problems. We exercise initiative in making reasoned, ethical decisions.

Reflective:

We thoughtfully consider the world and our own ideas and expe- rience. We work to understand our strengths and weaknesses in order to support our learning and personal development.

How are learning goals and success criteria co-constructed between teachers and students?

TEACHING AND LEARNING		
LEARNING EXPERIENCES: ***TUNING IN*** ***FINDING OUT*** ***SORTING OUT*** ***GOING FURTHER*** ***MAKING CONCLUSIONS*** ***TAKING ACTION***		
Provocation (online): Give the students a series of pictures. What connections are you making here? Use the thinking routines: See-Think-Wonder; Connect-Extend-Challenge		
Student questions arising from the provocation: - Does the family tree have anything to do with our unit? What are cells? Are we learning about DNA? Is our DNA similar to our parents? Why do people in a family look the same but different? What does circumstances mean? **Resulting teacher questions:** - What is DNA? How are humans, DNA and cells connected? Why do we have similar traits to our parents?		
Prior Learning: ***How are we assessing students' prior knowledge, conceptual understandings and skills? How are we using data and evidence of prior learning to inform planning? How is our planning embracing student language profiles?*** → Padlet on unit vocab: green coloured notes for pre-assessment; pink coloured notes for post → Ask the students to note take and see *how* they research. Do they start with a question? How do they note-take? Preferences? Misconceptions? **Connections to past and future learning, inside and outside the programme of inquiry:** ***What connections are there to learning within and outside the unit of inquiry? What opportunities are there for students to develop conceptual understandings to support the transfer of learning across, between and beyond subjects? How can we ensure that learning is purposeful and connects to local and global challenges and opportunities?***		
Key Concepts to focus learning experiences through: Form, Connection, Causation **Related Concepts to integrate:** genetics, biodiversity, identity, diversity, family, structure, similarities, differences, character, resilience, perseverance, self-regulation		
LINE OF INQUIRY 1: What is heredity Guest speaker: Dr Agnew (all concepts) Notice and wonder: Pictures of parents and offspring with similar characteristics (form) Making DNA out of pipe-cleaners & Buzzword game	**LINE OF INQUIRY 2:** My heredity Collecting pictures of themselves and other family members and making comparisons (connection) Creating a survey of physical traits and applying to data handling (form, diversity, genetics)	**LINE OF INQUIRY 3:** The advantages and disadvantages of heredity Conflict with our preferences/wishes: e.g. a wish to be a professional basketball player would be influenced by genetics (diversity, identity, resilience, acknowledgement of strengths/weaknesses)

to encourage use of technical vocabulary (form) Linking DNA with traits (causation) **Chinese** **Adv.** Watch a the video to know whose DNA of your parents decides your appearance and personality .https://www.youtube.com/watch?v=7b4kinBr0 Students make 3 question based on the video Kahoot : test the knowledge about the video **CAL** Students learn the names of the family, body parts, adj. for body parts and genetic traits Students create their own family tree and make a presentation with the following target sentence 我家有___口人。 我家有 + family members. 我__歲，我爸爸__歲 …… **Library** -Note taking as part of research skills -Importance of note taking -Students use their preference style (the one they knew) on note taking after reading an informational text called *Cells Everywhere*. -Compare notes, see if they have the same main ideas and supporting details about cells.	Interview family members, develop their understanding of their own personal heritage and family traits **Chinese** **Adv.** Make a powerpoint to describe family members' appearance and personality, and compare with yours to reflect students' understanding of heredity. Target sentence: 人+(外貌特點)+(比喻句) 人+(形容性格的詞)+(具體事例) **CAL** Collecting pictures of themselves and other family members. Students use the vocabulary about body parts and adjectives about body parts to make comparisons of themselves and other family members. Target sentence (comparison sentence): I.e. 我的眼睛比弟弟大。 Creating a survey of physical traits and using it to interview family members in order to understand their own personal heritage and family traits. Applying to data handling. Target sentence : I.e. 我遺傳了媽媽的大眼睛。 **Library** -Discuss different styles/methods of note taking -Students use boxing method, outline/bullet method and mapping/mind map method of note taking after	Reflecting on their character and linking it to growth mindset (character, resilience, perseverance, self-regulation, identity) Adopted children? Traits that are similar due to their environment? Guest speaker - "My mistake is…" **Chinese** **Adv.** Conflict with our preferences/wishes: e.g. a wish to be a professional basketball player would be influenced by genetics. (acknowledgement of strengths/weaknesses) **CAL** **(Optional)** Conflict with our preferences/wishes: e.g. a wish to be a professional basketball player would be influenced by genetics. (acknowledgement of strengths/weaknesses) **Library** -Discuss and use another style of note taking which is visual/sketch note -Use visual/sketch note while reading an informational text that is related to heredity.

Debate (during indoor PE) whether your genetic makeup should/shouldn't be a deterrent in your choice to try and commit to a sport or activity that interests you. With a lot of practice, coaching, and determination can you get better over time? **HIIT Training** - Describe their own body type, strengths and weakness and debate whether this is something that is good or bad to know. Is it relevant?	reading an article called *Genetics and Family History.*	

LEARNING EXPERIENCES: *as a result of student agency (students interests, questions and action)*

This unit was fairly teacher led, except from the class discussions where we answered, debated and explored students' questions and misconceptions.
For example: if all our cells have the same DNA in, what happens when an organ is transplanted into us?

BRAINSTORM SESSION (before the start of the unit):

Feedback from last year - fascination with DNA and genetics
Personal inquiries - clothing
Ideas for this year - behavioural traits that can grow/change, linking it to the Learner Profile - growth mindset (Carol Dweck)
Form - what is your body, what is genetic, what is DNA?
Possible language connection - writing letters to our past selves/future selves - https://www.fastcompany.com/90519396/the-science-backed-future-self-strategy-can-pave-the-way-to-greater-success?partner=rss&utm_source=twitter.com&utm_medium=social&utm_campaign=rss+fastcompany&utm_content=rss
Freyers model - defining self talk, growth mindset, DNA

ASSESSMENT STRATEGIES:	**ASSESSMENT TOOLS:**	**RESOURCES:**
Observations Open-Ended Task **Process-Focused Assessment** Performance Assessment **Selected Response**	Rubric Checklist Exemplar **Anecdotal Records** Continuum https://drive.google.com/file/d/1WubFYwivcReWbcqPFXe46sXG95ubaKjz/view?usp=sharing	

REFLECTION:

What Went Well?

- The concept mapping as a class - this thinking routine can now be applied to their next unit, but this time, independently.
- Dr Agnew's talk (guest speaker)
- DNA pipe-cleaners
- The focus on the question: *What can YOU control?*

Next steps/wishes:

- Heredity is defined as **genetic inheritance.** Perhaps open the lines of inquiry up to include more of an environmental slant?
- Poetry to move elsewhere in the Y6 POI?

Chinese

ADV: The vocabulary of heredity aspect is too hard and boring for children?

CAL: Students learned the target vocabulary of body parts, adjectives for body parts and genetic traits. However, the vocabulary of genetic traits are more challenging for CAL students to learn, but good to see that students are willing to learn even these words are more difficult to remember. Students also learned the target sentences to describe their body parts and they also learned how to use the target sentence below to make a Google slide for their oral presentation about their family traits. They did a survey at home, they interviewed their family members and it went well. The presentation was based on their survey.

我遺傳了 + family member 的 + adj. + body part

NOTES:

Watch The Identical Truth on NETFLIX
Identical twins (genetics and environmental studies)

PROVOCATION: The band Genetics (BLM - Britain's got talent) Why did they choose to call themselves 'Genetics'?

CAL :

There are 1-2 students who need more support when doing some writing work. Need to pay more attention to these students in class. Building up their word bank is essential.