Planning the inquiry

1. What is our purpose?

Content

To inquire into the following:

Transdisciplinary Theme

How We Organize Ourselves
An inquiry into the interconnectedness of human-made systems and communities; the structure and function of organizations; societal decision-making; economic activities and their impact on humankind and the environment.

Subject Focus: Social Studies
Strand: Human systems and economic activities
Related concepts: transportation, systems, geography, efficiency

Central Idea

Transportation systems help people move from place to place.

Summative assessment task(s):
What are the possible ways of assessing students’ understanding of the central idea? What evidence, including student-initiated actions, will we look for?

Students will create a city out of recycled materials.
Assessment:
Individual - vehicle creation, anecdotal comments, ongoing participation. 2D - 3D Shapes Students will demonstrate a growing understanding of how to manipulate paper to create three-dimensional shapes.

City
Phase 1
Students will sort and classify vehicles, discussing what systems of transportation are necessary to accommodate the vehicles created; tracks for trains, roads for cars, waterways for boats, runway, etc.
Students will begin to map out these things in relation to one another on two large sheets of paper, 1.5x 4 metres (approx). See photos below.

Phase 2
Students will communicate and collaborate to create the buildings complimentary to the developing systems of transportation; bridge, hotels, airports, apartments, schools, grocery stores, etc.

Phase 3
Students continue to link areas of the city and add details to support the interconnectedness of the many areas of their creation.

2. What do we want to learn?

Essential Questions

What are the key concepts (form, function, causation, change, connection, perspective, responsibility, reflection) to be emphasized within this inquiry?

Form, Causation, Connection

What lines of inquiry will define the scope of the inquiry into the central idea?

- Types of transport systems (Form)
- Reasons why people choose different types of transportation (Causation)
- Transport systems are used to link different places (Connection)

What teacher questions/provocations will drive these inquiries?

- What are the features of different transport systems? (Form)
- Why do people choose different types of transportation (Causation)
- How do transport systems affect people? (Connection)
Planning the inquiry

3. How might we know what we have learned?

Assessment

VEHICLES: Three Dimensional Shapes
Formative: Visual Arts Project
Students experiment with creating 3D shapes using paper. Then, they try manipulating those shapes into vehicles. Once they have mastered these skills they are able to make their vehicle using colourful paper, so they may be increasingly accurate with details (once the form has structure).

4. How best might we learn?

Activities / Strategies

What are the learning experiences suggested by the teacher and/or students to encourage the students to engage with the inquiries and address the driving questions?

Provocation
Students will be studying systems of organization within the classroom. This unit is conceptually integrated to support their learning and growing understanding of the interconnectedness of transportation systems.

What opportunities will occur for transdisciplinary skills development and for the development of the attributes of the learner profile?

Tuning In
Students will watch a video of the various types of transportation in and around Hong Kong. We watch and then discuss what they already know, have used, or have seen.

Finding Out
Students will explore three-dimensional shapes (perspex with the rubber shape inside). These will support them when folding paper to create their own three-dimensional vehicles from paper.

Sorting Out
Vehicles: Once students have created their vehicles, they must group or sort how these are related to one another. As a group, and within small groups, we discuss the systems related to the vehicles (the cars move on roads, trains on tracks, airplanes use a runway and require an airport).

Going Further
Students work together, through communication and collaboration they decide how to make these interconnected systems of transportation, and how these systems grow up around a city, or are created by the demands of the people within the city.
CITY: Phase 1 Sorting out the systems
Formative: Visual Arts Project
Students will sort and classify the vehicles they have made. Next, they will arrange large papers on the floor and begin to organize the various vehicles in relation to how they interact with one another. This leads to rails for trains, roads for cars, metro, airplane runway, etc.
City: Phase 2 Connecting the systems

Formative: Visual Arts Project

Students will create buildings which complement the systems of transportation: city, Sai Kung (community around the school) and the airport.

Building, painting and then adding details such as windows, doors.
5. What resources need to be gathered?

Resources

What people, places, audio-visual materials, related literature, music, art, computer software, etc, will be available?

Hong Kong Transportation Video: https://youtu.be/hXHo44-L0kg

How will the classroom environment, local environment, and/or the community be used to facilitate the inquiry?

Students will use their prior knowledge, and observations throughout the unit, to explore, expand and enrich their understanding of the interconnectedness of human-made systems of transportation.

Students take a field trip, using various systems of transportation in HK. This allows them all to experience and remember their own experiences with transportation.

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Reflecting on the inquiry

6. To what extent did we achieve our purpose?

Unit Reflections

Assess the outcome of the inquiry by providing evidence of students' understanding of the central idea. The reflections of all teachers involved in the planning and teaching of the inquiry should be included.

Transport systems are created to move people from place to place.

Making the block city that included various transportation systems. As well as when they were able to explain why they included the transportation.

How you could improve on the assessment task(s) so that you would have a more accurate picture of each student’s understanding of the central idea.

The reassessment demonstrated their understanding of transportation but does not show their understanding of transportation systems. Possible ideas, use them as sequences to see more their understanding of a system.

One class felt that students could have collected evidence of understanding throughout the unit, rather than waiting for the summative assessment rubric marking at the end. Have rubric ready before hand to record student feedback and ideas throughout the building of the city and mark students accordingly. Document questions that we asked to make both classes consistent.

What was the evidence that connections were made between the central idea and the transdisciplinary theme?

Students began to understand scale; "This plane/train/car is too big for our city". Or, they would add details based on what human needs/wants are. For example, upon completion of the basic city, students went back to add green spaces, parks, rooftop gardens and play areas so the people living in the city would be happy.

7. To what extent did we include the elements of the PYP?

PYP Action

What were the learning experiences that enabled students to:

- develop an understanding of the concepts identified in “What do we want to learn?”
- demonstrate the learning and application of particular transdisciplinary skills?
- develop particular attributes of the learner profile and/or attitudes?
- What are the features of different transport systems? (Form)

The local field trip helped students to develop an understanding of various types of transport that is used day to day in Hong Kong; trams, buses, boats and the MTR.

Next time, have students maintain a focus while on each piece of transport, e.g. a task/questions for them to complete.

- Why do people choose different types of transportation (Causation)

Building the city and discussing how children get to school and where they come from really helped children to develop an authentic understanding of how to move from one place to another and the most efficient or practical way to move around.

- How do transport systems affect people? (Connection)

Children connected with their personal travel experiences, e.g. taking an airplane helps them to move from one country to another- they wouldn’t be able to walk.

In each case, explain your selection.

- Acquisition of Knowledge: gain specific facts, ideas vocabulary; remember in a similar form: Students demonstrate understanding through creating transportation systems they have experienced, adding details, and through expressing what they created and how the vehicle, roadway, sidewalk affects and takes part of the system overall.
- Comprehension: grasping meaning from material learned; communicating and interpreting learning
- Application: making use of previously acquired knowledge in practical or new ways Students demonstrate knowledge through creating systems of transportation that they have experienced.
- Analysis: taking knowledge or ideas apart; separating into component parts; seeing relationships; finding unique characteristics
- Synthesis: combining parts to create wholes; creating, designing, developing, and innovating
- Evaluation: Making judgements or decisions based on chosen criteria; standards and conditions.
- Dialectical thinking: thinking about two or more points of view at the same time; understanding both points of view; being able to construct an argument; for either point of view based on the knowledge of the other; realizing that others can also take one's own point of view Students discussed how to resolve issues relating to collaborative creation, what the city needed, and how best to go about creating it.
- Metacognition: analyzing one's and others' thought processes; thinking about thinking and thinking about how one thinks and how one learns
- Accepting responsibility: taking on and completing tasks in an appropriate manner; being willing to assume a share of the responsibility. Students share the studio space and operate under the essential agreements; be safe, be smart and be systematic. This
means they must use materials innovatively and wisely, responsibly and whenever possible without wasting. They must be aware of themselves within the space, moving carefully so as to avoid accident or injury of themselves, others and the sometimes fragile artworks. To be systematic is to make good use of time and materials, clean up time is shared regardless of who had what item.

- Respecting Others: listening sensitively to others; making decisions based on fairness and equality; recognizing others’ beliefs, viewpoints, religions and ideas may differ from one’s own; stating one’s opinion without hurting others.
- Cooperating: working cooperatively in a group; being courteous to others sharing materials; taking turns.
- Resolving conflicts: listening carefully to others; compromising; reacting reasonably to the situation; accepting responsibility appropriately; being fair.
- Group decision making: listening to others; discussing ideas; asking questions; working towards and obtaining consensus
- Adopting a variety of group roles: understanding what behavior is appropriate in a given situation and acting accordingly; being a leader in some circumstances, a follower in others
- Listening: listening to directions; listening to others; listening to information
- Speaking: speaking clearly; giving oral reports to small and large groups; expressing ideas clearly and logically; stating opinions
- Viewing: Interpreting and analysing visuals and multimedia; understanding the ways in which images and language interact to convey ideas, values and beliefs; making informed choices about personal viewing experiences.
- Presenting: Constructing visuals and multimedia for a range of purposes and audiences; communicating information and ideas through a variety of visual media; using appropriate technology for effective presentation and representation.
- Non-verbal communication: recognizing the meaning of visual and kinesthetic communication
- Gross motor skills: exhibit skills in which large muscles are used and the factor of strength is primary
- Fine motor skills: exhibit skills in which precision in delicate muscle systems is required
- Spatial awareness: display a sensitivity to the position of objects in relation to oneself or to each other
- Organization: planning and carrying out activities effectively
- Time management: using time effectively and appropriately

Though this task was open-ended, students were supported in maintaining progress through the phases of development.

- Safety: engaging personal behavior which avoids placing oneself or others in danger or at risk
- Codes of behavior: knowing and applying appropriate rules or operating procedures of groups of people
- Informal choices: selecting an appropriate course of action or behavior based on fact or opinion
- Formulating questions: identifying something one wants or needs to know and asking compelling and relevant questions which can be researched
- Observing: using all the senses to notice relevant details
- Planning: developing a course of action; writing an outline; devising ways to find out necessary information
- Collecting data: gathering information from a variety of sources, such as measuring, maps, polls, surveys, direct observation, resource books, films, people and exhibitions
- Organizing data: sorting and categorizing information; arranging into understandable forms such as, narrative descriptions, tables, timelines, graphs and diagrams
- Interpreting data: drawing conclusions from relationships and patterns which emerge from organized data
- Presenting research findings: effectively communicating what has been learned; choosing appropriate media
- Learners show an understanding that the different forms of arts are forms of expression to be enjoyed.
• They know that dance, drama, music and visual arts use symbols and representations to convey meaning.
• They are able to interpret and respond to different art forms, including their own work and that of others.
• The art is a means of communication and expression.
• People make meaning through the use of symbols.
• People share art with others.
• We reflect on our artwork and the work of others.
• Learners show an understanding that they can express themselves by creating artworks in dance, drama, music and visual arts.
• They know that creating in arts can be done on their own or with others.
• They are aware that inspiration to create in arts comes from their own experiences and imagination.
• They recognize that they use symbols and representations to convey meaning in their work.
• We can enjoy and learn from creating art.
• The creative process involves joining in, exploring and taking risks.
• In creating art, people make choices to construct meaning about the world around them.
• We can express ourselves through arts.
• Our experiences and imagination can inspire us to create.
• engage with, and enjoy a variety of visual arts experiences
• select tools, materials and processes for specific purposes
• combine different formal elements to create a specific effect
• realize that their artwork has meaning
• use their imagination and experiences to inform their art making
• create artwork in response to a range of stimuli
• take responsibility for the care of tools and materials
• take responsibility for their own and others' safety in the working environment
• participate in individual and collaborative creative experiences.
• They demonstrate a sense of competence with developmentally appropriate daily tasks and can identify and explore strategies that help them cope with change.
• Learners reflect on their experiences in order to inform future learning and to understand themselves better.
• Positive thoughts help us to develop a positive attitude. 
• Developing independence builds self-worth and personal responsibility.
• willingly approach and persevere with new situations
• reflect on their experiences in order to build a deeper understanding of self
• demonstrate a sense of competence with developmentally appropriate daily tasks and seek support to develop independence.
• Learners recognize the need for safe participation when interacting in a range of physical contexts.
• Safe participation requires sharing space and following rules.
• develop a range of fine and gross motor skills
• recognize that acting upon instructions and being aware of others helps to ensure safety.
• Learners interact, play and engage with others, sharing ideas, cooperating and communicating feelings in developmentally appropriate ways.
• They are aware that their behaviour affects others and identify when their actions have had an impact.
• Learners interact with, and demonstrate care for, local environments.
• Interacting with others can be fun.
• Group experiences depend on cooperation of group members.
• Ideas and feelings can be communicated with others in a variety of modes.
• Our relationships with others contribute to our well-being (for example, parent:child; teacher:student; friend:friend).
• Our behaviour affects others.
• Caring for local environments fosters appreciation.
• enjoy interacting, playing and engaging with others
• take turns
• listen respectfully to others
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<tr>
<th>Integration</th>
<th>Standards &amp; Benchmarks</th>
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<tbody>
<tr>
<td>- share their own relevant ideas and feelings in an appropriate manner</td>
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<td>- ask questions</td>
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<td>- celebrate the accomplishments of others</td>
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<td>- reach out for help when it is needed for themselves or others</td>
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<td>- identify when their actions have impacted on others</td>
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<td>- talk about their interactions with the environment.</td>
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Reflecting on the inquiry

8. What student-initiated inquiries arose from the learning?

Student Inquiries

Record a range of student-initiated inquiries and student questions and highlight any that were incorporated into the teaching and learning.

Why doesn't the MTR train track come back up in the city? It does not come back up because it is underground at that point. So, we made MTR station signs to indicate where the train track was "underground" or out of sight.

Students created luggage transportation vehicles and food/clean up vehicles specific to the airport, so that it could function effectively.

At this point, teachers should go back to box 2 "What do we want to learn?" and highlight the teacher questions/provocations that were most effective in driving the inquiries.

What student-initiated actions arose from the learning?

Record student-initiated actions taken by individuals or groups showing their ability to reflect, to choose and to act.

Upon returning from Chinese New Year vacation, a small group of students modified the airport to look more like what they had seen on their travels. Also, one boy added a fire station, explaining that it was necessary to have this at the airport in case of emergency. Fuel is highly inflammable.

9. Teacher Notes

Teacher Notes

Summative Assessment:

Next year, put questions on rubric to guide the assessment.
Tell me about the transportation systems in the city.
Can you choose one and tell me how it works?
Do you think that transportation is helpful? Why?
Why would you choose that type of transportation?

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