**Bridge building activity**

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| Assessment  | Initial week  |
| Class size | Expedition Group |
| VELS Level | Level 6 (Year 9/10) |
| Domain:  | * Health and Physical education (HPE)
* The arts
* Interpersonal development
* Thinking processes
 |
| Aspects of quality learning | * Planning
* Linking
* Decision making
* Working collaboratively
* Reflecting
 |
| Bloom’s Taxonomy level required  | Synthesis: Students are required to use existing experiences, collaborate and form an original piece of work |
| Gardner’s Multiple intelligences utilised | * Bodily-kinaesthetic
* Interpersonal
* Visual-spatial
 |
| Assessment Task type | Formative: Main focus to view students interpretation and team skills  |

**By the end of this session, students should have progressed their:**

**Knowledge:**

* Leadership and team skills (building on effective listening)
* Understanding of environmental issues/ considerations

**Skills:**

* Use of effective communication within the team environment.
* Time management skills (Planning, role setting, discussion method)
* Ability to work with others to achieve a successful outcome.
* Ability to demonstrate initial outdoor living skills (i.e. knot tying, risk management etc.)

**Attitudes & Values:**

* Transactional or transformational leadership.
* Grasp of leadership styles (Autocratic/democratic, liaise-faire) (emphasise all forms have equal merit according to situation)

**Resources/Preparation:**

* Transport : Bus and Prado.
* Trailer Wooden spars kept in field area behind emergency water supply.
* Ropes kept in bin in garden tool shed.
* Lunch, drink bottles and appropriate clothing.
* First aid kit & Satellite phone
* Insect repellent & Sunscreen
* Team Cards
* Canoe with paddle & BV
* 12 floatable items from sports/team box
* Anchor for canoe
* Spare toilet paper
* Whiteboard & Markers for planning
* Any skills/tricks/games from your teaching bag

# **Risk Management Procedures:**

* Visual check all students have appropriate footwear and clothing.
* Students have been briefed on the safety and behavioural expectations specific to this excursion (as per lesson plan)
* Ensure adequate supervision ratio
* First aid kit and satellite phone is carried at all times.
* Weather forecast has been sourced and reacted to if appropriate [www.bom.gov.au](http://www.bom.gov.au) e.g. heat exposure, sun burn and hyperthermia.
* Visiting staff have been briefed as to their role in supervising students.
* List of students and pertinent medical information.
* Familiarisation with formal risk assessment and management strategies put in place (to be formalised).

**Location:**

* Snowy River (Marlo Foreshore)
* Either use the grassed area out the front of the Angling Club or any section to the east of the pier along the foreshore.

# **Introductory Story:**

* Close your eyes….. It is 1850’s and the timber and farming industry is booming, which is leading to a rapid increase of people colonising the area; bringing supplies and tools. However these colonies established back in the 1820’s having grown and need a reliable source of timber and food to survive.
* You are a member of one of the industry communities, (such as Orbost and Marlo). However since there is no working dock in your area; the governor (that’s us) has entrusted your team to construct a small bridge to facilitate trade.
* Open your eyes…

**Activities & Method of Delivery:**

Bridge Building Pre Planning:

* Students are to brainstorm what resources need to managed for this activity (Time, Materials, Human resources)
* Students are to plan the day with departure time, lunch & morning tea, pack up, debrief time and travel
* Give students access to a white board for planning if possible
* Run through student expectations, set a personal goal (be a leader/work as a team, I will not fall in!) Students are to keep it to themselves

**On location**

Unload Trailer: **SAFETY**

* Demonstrate effective and safe conduct when handling gear/materials (ideas developed here relate to kayaks/canoes and general manual handling tasks.)
* Emphasis on the use of knees, care of back, fingers, two people on longer logs, not carrying logs over shoulders, being aware of the length of logs, putting logs down carefully, communication to avoid issues and not hanging out around the work site. Inattentive students lead to intensive care students!
* Unload spars into 3 separate piles (small, medium and large) ready for use.

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|  | Teaching points |
| Risk management | **What are the key safety concerns of this activity?** * Personal safety (lifting, tripping, pinching)
* Water safety (slippery bank, undercurrents)
* Exposure to elements; bring water, sunhats & sunscreen or gortex shell (water re-fills available at angling club)
* Boundaries (emphasise road safety)
* Need people to look out for group safety particularly when constructing bridge in water and packing up bridge. (suggest rotating bridge master/spotter role)
* Toileting procedure (toilet at public toilet, go with partner)
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| Minimal impact practices | **Can you identify any key MIP’s?*** Noise
* Impact on flora/fauna
* Waste/lost gear
* Use of durable or resilient surfaces
* Again, toileting
* Basically **take only photos, leave only footprints (if that)**
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| Discuss Aims: | * To design and build a bridge which is sturdy enough to get each member to the canoe and back.
* To develop teamwork/leadership skills throughout the process
* To develop self-management skills for engagement and personal learning
* To develop critical thinking skills
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Tripod building demonstration:

1. Bridge building is a team activity, remind students that effective co-operation is key to accomplishing this task; that being said it is a lot harder (and more dangerous) to bulid a tripod by yourself
2. Discuss what the strongest (and most stable) structure design is (cube, pyramid, dodecahedron etc.) Why?
3. The timber hitch is essential for the tripod construction (it also can be used whilst kayaking/canoeing to build a group tarp). Lay out enough spars and rope for 1 for each pair. Demonstrate and ask the students to follow. It’s fine if all students grasp the timber hitch first time through, it can be refined later
4. Select three volunteers, emphasise the role of the labourer and the knot tier (if one doesn’t do their job right, the structure will fall)Ask the students to arrange the tripod (simular to the diagram) and timber hitch to begin.
5. Lash all poles and finish with two half hitches.
6. Demonstrate
7. You can leave the tripod for the group if you will be short on time, or you can get helpers to assist in safely pulling it apart at a later time.

Safety is one of the key responcibilities in this activity, but students should also be required to take care of each other

Design Rules:

* Students must use the area of bank set aside to start
* Students are not allowed to get in the river to construct the bridge
* All spars used as walkways must be tied down
* Walkways must be a minimum of two spars wide
* Students must be engaged in an activity which is productive towards completing the challenge

Bridge Building:

During this period, educators are to facilitate student engagement and learning by asking open ended scaffolding questions, for example;

* How are you approaching the challenge?
* Why or how did your team decide that?
* Can you think of any alternatives?
* Are there any concerns/issues?
* How is the team progressing towards the goal?

The main idea is to informally assess the students' leadership, team and outdoor skills; offering critique/support in regards to engagement/process/product. Encourage that concerns are vocalised, however students may be hesitant to voice opinions in front of the team, if a major issue or concern arises from a student; you can frame it from your perspective “Perhaps you guys need to discuss X”, or “I feel this aspect needs to developed” Educators should be a floating team member

# BRIDGE BUILDING REFLECTION

Students are to partner up (so 3 groups of 2) and find their own team space on the beach, discussing:

Positive aspects: (self and group)

Negative aspects: (self and group)

Improvement aspects: (self and group)

Regarding areas of:

* Their role in the team in developing and then constructing/deconstructing the bridge
* Give a feel of you as a leader; if you didn’t lead, discus why?
* Use of resources (Human and materials)
* The team development of the plan (was the plan a good one)
* Did the team stick to the plan? (is it important to?)
* Overall how did the bridge work (or not work?)
* What would you do in the future in this situation?
* Pick two team cards which sum up the experience, discuss your choice
* What did you learn from this experience?

Students then split and meet two new members and discuss the previous points, then the whole group meet up to come to a group consensus on the main ideas generated by discussions. (It’s okay if your opinion differs from others, that’s part of being an individual)

This is VERY important and is recommended to be included in your DEARR journals, as it demonstrates a starting point for your growth as a leader/team member.

**BRIDGE BUILDING REFLECTION PROMPTS**

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| **TASK**  |  | **COMMENTS** |
| Helped with Knot Tying |  |  |
| Taught other team members skills |  |  |
| Shared ideas with others |  |  |
| Helped to build tripods |  |  |
| Got the team together to plan |  |  |
| Drew design ideas to explain to others |  |  |
| Got people to listen to each other |  |  |
| Got team together to make decisions |  |  |
| Organised tasks for people |  |  |
| Encouraged others |  |  |
| Kept busy and focused |  |  |
| Helped out where needed |  |  |
| Managed the group process |  |  |
| Encouraged less confident people |  |  |
| Helped hold wood |  |  |
| Looked out for others’ safety |  |  |
| Showed initiative |  |  |
| Thought outside the square |  |  |
| Came up with a solution to a problem |  |  |
| Contributed to the review |  |  |
| Helped with pack up |  |  |