REDUCING STUDENT BACKPACK WEIGHTS

ONE PLANET

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Students' enjoyment of camp is heavily influenced by their comfort, with a big part of this determined by the weight of their pack.

Schools put significant effort into ensuring the equipment they supply is suitable, in terms of both function and reasonable weight. However, items purchased by students and their families using supplied gear lists often vary significantly in weight, resulting in some students carrying substantial extra weight. This document is designed to decrease pack weight and increase student comfort by explaining this weight variation and providing a guide for purchasing. In many cases following this guide can also save money cost for parents, *lighter isn't always more expensive!*

It is easy to see the weight savings on key items (sleeping mat, sleeping bag etc), but small items (crockery, water bottles, carrying more socks than needed) can really add up.

One simple and effective way of assessing the suitability of camp equipment is to provide parameters (a guide) within your gear list. Key measures such as weight, price, warmth and capacity can be defined for each product. This makes choosing products easier for parents, particularly if they are not experienced in the outdoors. For parents using previously purchased items – a common, sensible method to save costs – this system provides the knowledge to make considered choices. Having specific weight targets for each item at gear check also helps leaders and teaching staff.

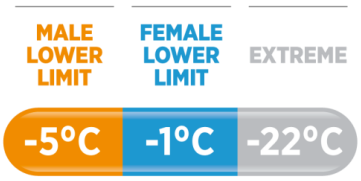
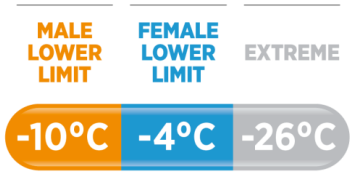
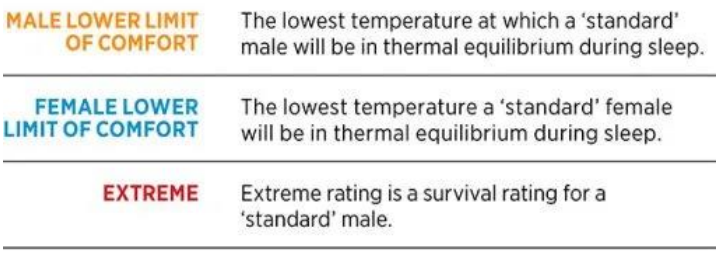
In 2014 we set up Camplist.au to help parents and teachers easily organise equipment for school camps. The challenges faced then are similar to those today: finding appropriate equipment for the style of journey and surrounding environment that isn't over the top or low quality and prone to breaking; is affordable, easy to use and reliable in the field. We stock appropriate gear on Camplist.au, which means we've already done the legwork to overcome these challenges, benefitting students, teachers, leaders and parents.

We re-evaluate the Camplist.au offering annually to ensure the best value and balance of weight, price and reliability. Gear from ONE PLANET's hire department is known for being well maintained and reliable in the field. Using this service helps ensure gear works consistently well, giving increased protection and comfort to students.

What's the weight difference between considered purchases and other options?

Product	**Considered purchases (g)**	**Other options (g)**	**Weight SAVING (g)**
Cup	Under 100	200-400	100 minimum
Bowl	Under 100	100-150	Approx 25
Cutlery set	Under 30	50-100	Approx 75
Water bottle 1 L	177	200; 500 for metal	23
Sleeping bag: down -5°C (male lower limit)	701	1090	390
Sleeping bag liner	Sleep in thermals	360	360
Self-inflating mat (min R3.2)	650-700	1000	300
Rain jacket	530	900	270
Pack	1900	2800	900
Pack liner	70	320	250
TOTALS	**4308**	**7,020** (based on lower values)	**2,712 difference per student** (minimum, in many cases much greater)

To achieve the weight savings above, we recommend presenting the following information in your gear lists.

	SCHOOL GEAR LIST Recommendations: range and description
Cup	A quality plastic cup between 330 and 400 mL should weigh between 50-100 grams and cost $10-30. Lids not required – they get lost! A handle helps to avoid spills. We do not recommend heavier stainless steel, glass or thermal mugs.
Bowl	A good plastic bowl: between 800-1000 mL, weighing 80-110 grams, costing between $10-20.
Cutlery	A set of cutlery should weigh between 15-70 grams and cost $15-$40, while a simple spork is 10 grams and around $5. We don't recommend stainless steel (too heavy) or titanium (too expensive).
Water bottles 1 L	A 1 L water bottle with a secure lid (not squeeze) should weigh 100-200 grams.
Water bladder 2 L	A quality 2-3 L water bladder with hose should weigh between 100-150 grams.
Understanding sleeping bag temperature testing ** this is for -5°C bags	We recommend a sleeping bag with an ISO 23537-1 rating of -5°C male lower limit (the same as -1°C female lower limit).  For alpine winter journeys, we recommend ISO 23537-1 rating of -10°C male lower limit (the same as -4°C female lower limit).  Our outdoor education department has a keen understanding of sleeping bags, temperature ratings and how to sleep warm on school camp. Please follow our guidelines and ensure your bag is ISO 23537-1 temperature rated when hiring or purchasing.  Down bags are generally lighter in weight and more compact (easier to pack). They do cost more but can be used during all school camps. Synthetic bags are affordable and easily washed at home. A quality synthetic is fairly compact but will always be heavier and bulkier than an equivalent down bag. For school programs with annual camps, encouraging parents to purchase a sleeping bag in Year 7 results in the best value for money over time.

Synthetic sleeping bag	Synthetic bags are affordable, durable and easy care. A quality -5°C model will weigh under 1.35 kg, while a quality -10°C should weigh under 1.65 kg. ** Hire options available.* *** Include note on temperature phrasing. "* **Understanding sleeping bag temperature testing"**
Down sleeping bag	Down sleeping bags are popular because they are significantly lighter and more compact (easier to pack) than synthetic alternatives. They are more expensive but are a good investment. A high-quality down bag with a -5°C male lower limit (AKA 1°C) should weigh around 700-750 grams. A midrange model will weigh under 1 kilogram. A quality down bag with a -10°C male lower limit (AKA -4°C) should weigh around 850-900 grams. A midrange model will weigh around 1.1 kilograms. *** include note on temperature phrasing" Understanding* **sleeping bag temperature testing"**
Liner	Sleeping bag liners are easy to clean after camp and may add a familiar feeling/touch. However, sleeping in thermals does the same job and adds just as much warmth. Consider whether you need to carry the extra weight of a liner! The lowest weight option is silk blend.
Understanding a sleeping mat's R-value (insulation value)	Quality mats are rated according to R-value – a measure of the insulation they provide. We recommend sleeping mats have a minimum of R3.2. Choosing the correct R-value mat, combined with a good sleeping bag, will keep you warm on school camp! 
What is a self-inflating mat? How is it different to an inflatable mat?	Self-inflating mats (sometimes abbreviated to SIM) have foam inside them. When the mat's valve is opened, this foam expands and sucks air into the mat, leading to the term 'self-inflating'. They are more affordable, durable and easier to use than inflatable mats. Even if not fully inflated, they do provide some measure of insulation and warmth. Self-inflating mats are recommended for school programs. Inflatable mats are designed with baffle technology and are lighter, more compact and more expensive. They often come with pumps or bags to inflate them, suiting more experienced users. They are not warm if not fully inflated. Both options are compact and light enough for bushwalking.
Sleeping mat	Self-inflating mats should have an R-value of at least R3 and weigh less than 700 grams. Packed size should be around 22 Ø by 33 centimetres long. ** Add R-value explanation "***Understanding a sleeping mat's R-value (insulation value)"** *** Schools should choose if you'd like to offer inflatable, self-inflating, closed cell foam mats. Tou may need to add an explanation into the gear list.* **** Hire options available.*

Pillow	A pillow is a luxury item, adding both comfort and weight. Placing your jumper in a stuff sack works just as well! Choose a stuff sack made from mesh or breathable fabric for greater comfort. If you take a pillow, ensure it weighs under 100 grams (and packs up small!)
Rain jacket	Choose a three-layer waterproof/breathable rain jacket with a full-length cut, room for layers underneath and a quality hood. It should be designed for bushwalking. These generally weigh between 500-700 grams. Don't take jackets designed for lightweight trail running (too cold, flimsy and not enough coverage) or an insulated ski jacket (too hot, bulky and heavy). OPTIONAL If you're wearing an older jacket from home, check it for holes and damage, wash it and reapply DWR before your trip. See instructions here: https://oneplanet.au/technical/product-care-use/clothing-rainwear/ ** Hire options available.*
Packs	We recommend a 70-75 L pack with a comfortable, supportive harness, zipped lid and large front pocket. To ensure it is reliable on camp it should be from a reputable brand. It should weigh 2 kilograms or less. ** Hire options available.*

Notes on other items

- Fleece, warm when wet compared to down jackets, garment doesn't get damaged during pack carrying. Consider whether a windproof fleece will also help reduce exposure – or whether you can wear your rain jacket as a windproof layer.
- Microfiber towels – many are of similar weight; however some students bring very large ones, which is unnecessary.
- Chairs – very luxurious – the lightest options are around 500g (which is still a lot)
- Clothing and thermals regarding weight and clothing – the most common is simply overpacking.
- Toiletries and accessories – an easy place for weight to slip in unannounced! But one of the hardest to manage.