Design and Technologies – Marine debris clean-up tool

Task: Design and construct a tool to pick up rubbish at schools, rivers, creeks and the beach. Your tool can spear, clamp, scoop or be a combination of these methods.

Things to consider:

- Tool must be portable and easy to use.
- Include safety features when not in use (esp. sharp points).
- Tool should have no environmental impact.

Marine debris impacts the Great Barrier Reef in many ways:

1. **Entangles animals** → injury, suffocation, starvation.
1. **Ingestion** → turtles mistake plastic for jellyfish, fish eat microplastics, seabirds feed plastic to chicks → blockages, false fullness, death.
2. **Toxic effects** → chemicals leach, bioaccumulation in food chain.
3. **Navigation hazards** → debris damages boats, nets entangle engines.
4. **Spreads invasive species** → durable debris increases ecosystem threats.
5. **Habitat damage** → breaks/smothers corals and plants.
6. **Economic costs** → clean-up burdens communities.
7. **Tourism impacts** → reduces natural beauty and visitor satisfaction.

	F	1	2	3	4	5	6
Technology ACARA V9.0	AC9TDEFP01	AC9TDE2K01 AC9TDE2K02 AC9TDE2P02 AC9TDE2P03	AC9TDE2K01 AC9TDE2K02 AC9TDE2P02 AC9TDE2P03	AC9TDE4K01 AC9TDE4K02 AC9TDE4P03 AC9TDE4P04	AC9TDE4K01 AC9TDE4K02 AC9TDE4P03 AC9TDE4P04	AC9TDE6K01 AC9TDE6K05 AC9TDE6P03 AC9TDE6P04	AC9TDE6K01 AC9TDE6K05 AC9TDE6P03 AC9TDE6P04
Science ACARA V9.0	AC9SFU02 AC9SFU03 AC9SFI02 AC9SFI04	AC9S1U01 AC9S1U03 AC9S1I02 AC9S1I05	AC9S2U03 AC9S2I02 AC9S2I05	AC9S3H02 AC9S3I02 AC9S3I05	AC9S4U03 AC9S4U04 AC9S4H02 AC9S4I02 AC9S4I05	AC9S5H01 AC9S5H02 AC9S5I02 AC9S5I05	AC9S6U01 AC9S6H02 AC9S6I02 AC9S6I05

General Capabilities - All Year levels- Critical and Creative Thinking F-10 Curriculum | Critical and Creative Thinking

Cross- Curricula Priorities - All Year Levels- Sustainability Design: SD1 and SD2 Futures: SF2 F-10 Curriculum | Sustainability