Project-Based Learning Unit: The Camping Expedition

Subject Focus: Integrated (Science, Math, Language Arts, Life Skills, History)
Student Profile: 17-year-old homeschool student with dyslexia and dysgraphia.
Unit Length: 5 Days of Preparation + Weekend Camping Trip

Overall Unit Goal: The student will successfully plan, prepare for, and execute a weekend camping trip, demonstrating practical skills in budgeting, safety, navigation, and environmental stewardship.

Day 1: Mission Planning - Location & Budget

Materials Needed:

- Computer or tablet with internet access
- Access to Google Maps or a similar mapping app
- Spreadsheet software (like Google Sheets) or a budgeting app
- Speech-to-text and text-to-speech software (e.g., built-in OS tools)
- A notebook and pen (for optional sketching/mind-mapping)
- Access to state/national park websites

Learning Objectives:

- **Social Studies/Geography:** Research and select a suitable camping location within a 3-hour drive, analyzing its features (e.g., amenities, trails, water access).
- **Mathematics:** Create a comprehensive budget for the trip, including gas, food, campsite fees, and supplies, using a digital spreadsheet.
- **Language Arts:** Orally present the chosen location and budget, justifying the choices made.

Activities:

1. **Introduction (15 mins):** Discuss the goal: "Our mission is to plan a successful and fun camping trip from start to finish. Today, we're the mission commanders deciding where to go and what it will cost." Watch a short, engaging YouTube video on "How to Choose a Campsite."
2. **Location Scouting (60 mins):**
    - Using Google Maps and park websites, research 2-3 potential campsites. Focus on visuals: look at photo galleries, watch video tours of the parks, and analyze satellite maps.
    - Instead of writing notes, use speech-to-text to capture key facts about each site (e.g., "Site A has bathrooms. Site B is near a lake."). Or, create a simple mind map with drawings and a few keywords for each location.
    - Evaluate the pros and cons of each location based on personal interest (e.g., hiking, fishing, stargazing).
3. **Budgeting (45 mins):**
    - Open a spreadsheet. Together, brainstorm categories: Transportation (Gas), Lodging (Campsite Fee), Food, and Supplies.
    - Use the mapping app to calculate the round-trip mileage and estimate gas costs.
    - Look up the campsite fees online.
    - Estimate food costs for the duration of the trip (we'll refine this on Day 3).
    - Make a final decision on the campsite.
4. **Mission Briefing (15 mins):** The student gives a verbal "briefing" explaining the chosen

destination, why it was selected, and a summary of the projected budget.

Assessment:

Successful selection of a campsite and a completed digital budget spreadsheet. Clear verbal justification for the choices.

Day 2: Shelter & Gear - The Science of Survival

Materials Needed:

- All available camping gear (tent, sleeping bags, sleeping pads, tarps)
- Computer or tablet for watching videos
- A digital camera or smartphone
- Packing list app (like PackPoint) or a simple checklist app
- Yard or large indoor space

Learning Objectives:

- **Science/Engineering:** Understand the principles of heat transfer (conduction, convection, radiation) related to staying warm and dry. Assemble a tent correctly.
- **Life Skills:** Take inventory of existing gear, identify missing items, and create a comprehensive, categorized packing list using a digital tool.
- **Language Arts:** Create a short, instructional video or photo-story teaching one skill (e.g., "How to Set Up Our Tent").

Activities:

1. **Introduction (15 mins):** Discuss: "What's the difference between being comfortable and being miserable while camping? Often, it's your gear and shelter." Watch a short video on the science of layering clothes and how sleeping bags work (insulation, loft, temperature ratings).
2. **Gear Inventory (45 mins):**
    - Lay out all camping gear on a tarp. Sort it into categories: Shelter, Sleeping, Cooking, Clothing, Safety.
    - Inspect each item for damage. Does the tent have all its poles? Do the zippers work?
    - Open a packing list app or checklist. As you identify gear, add it to the digital list. This avoids writing and keeps it organized.
3. **Tent Assembly Practice (60 mins):**
    - Go outside (or use a large indoor space) and practice setting up the tent. Focus on the hands-on process. Don't just read the instructions; have them read aloud by a text-to-speech app if needed.
    - Discuss the "why" behind the design: Why a rainfly? Why does it need to be taut? What is the purpose of the groundsheet?
    - **Creative Project:** Using a smartphone, the student creates a 2-minute video or a series of 5-10 photos with short voice-over captions explaining how to set up the tent. This serves as a "how-to" guide and a fun way to demonstrate understanding.
4. **Packing List Refinement (20 mins):** Review the digital packing list. Add any missing personal items (toiletries, medications, etc.) and any gear that needs to be acquired.

Assessment:

A correctly assembled tent. A complete digital packing list. A finished instructional video/photo story.

Day 3: Food & Fire - Campfire Culinary Arts

Materials Needed:

- Computer or tablet
- Cookbook with visual recipes or access to recipe websites/videos
- Groceries for one test meal
- Camp stove and fuel OR safe space for a small fire (if permissible)
- Fire starting materials (matches, lighter, fire starter)
- Cooking gear (pot, utensils, etc.)
- Digital camera/smartphone

Learning Objectives:

- **Life Skills/Health:** Plan a simple and nutritious menu for the camping trip. Practice preparing one of the planned meals.
- **Science:** Understand the fire triangle (fuel, oxygen, heat) and demonstrate safe fire-building and extinguishing techniques.
- **Mathematics:** Measure ingredients accurately and calculate food quantities needed for the entire trip.

Activities:

1. **Meal Planning (45 mins):**
    - Brainstorm meal ideas that are easy to cook over a fire or on a camp stove. Look for video recipes to make it more engaging.
    - Create a meal plan for the trip (e.g., Friday dinner, Saturday breakfast/lunch/dinner, Sunday breakfast).
    - Use a speech-to-text app or talk through the plan to generate a grocery list based on the chosen recipes. This list can be automatically saved in a notes app on a phone.
2. **Fire Science (30 mins):**
    - Watch a video on fire safety and Leave No Trace principles for campfires.
    - Discuss the fire triangle. Go outside and gather the three types of wood needed: tinder (small, dry material), kindling (pencil-sized sticks), and fuel (larger logs). This is a hands-on sorting activity.
3. **Test Kitchen (75 mins):**
    - Prepare one of the planned campfire meals. This could be done on a camp stove or a backyard fire pit.
    - Focus on the process: prepping ingredients, cooking, and most importantly, cleaning up properly.
    - The student can be the "Head Chef" and direct the process, using the recipe (read aloud if needed) as a guide.
    - Take photos of the cooking process and the final product to create a "Campfire Cookbook" page (can be a single digital slide with photos and voice notes).
4. **Budget Update (15 mins):** Add the final grocery list costs to the budget spreadsheet from Day 1.

Assessment:

A completed digital meal plan and grocery list. Safe demonstration of fire-building principles (or setup of a camp stove). Successful preparation of one meal.

Day 4: Navigation & Safety - Finding Your Way

Materials Needed:

- Compass and a physical map of the chosen park
- Smartphone with a GPS app (e.g., Gaia GPS, AllTrails)
- First-aid kit
- Computer or tablet
- Scenarios written on index cards (e.g., "You have a blister," "It started raining and you're cold")

Learning Objectives:

- **Science/Geography:** Read a topographic map to identify key features (trails, water, elevation). Use a compass to find cardinal directions and take a bearing.
- **Health/Life Skills:** Identify the key components of a first-aid kit and explain their use for common camping injuries. Develop a personal safety plan.
- **Critical Thinking:** Problem-solve solutions to common camping challenges.

Activities:

1. **First-Aid Workshop (45 mins):**
    - Open the first-aid kit. Instead of a written list, dump the contents onto a blanket. Sort them by category (e.g., wound care, burn care, tools).
    - Watch short (1-2 minute) videos on how to treat common issues: blisters, minor cuts, and insect bites.
    - Verbally explain the use of 5-7 key items in the kit.
2. **Map & Compass Skills (60 mins):**
    - Start with a video explaining the basics of a compass and a topographic map.
    - Go outside. Practice finding North, South, East, and West with the compass.
    - Look at the physical map of the campsite. Find key symbols (campsite, trail, water, road). Relate the 2D map to the 3D world around you.
    - Plan a short hike you will take on the trip by tracing the route on the map. Use the GPS app to see the same route and compare the information. This connects traditional and modern navigation.
3. **Problem-Solving Scenarios (30 mins):**
    - Draw one of the scenario cards. Read it aloud.
    - The student must talk through their solution. For example: "Scenario: Your flashlight batteries are dead. What do you do?" The student should identify their backup light source (headlamp, phone light) and note that they should have checked batteries before leaving. This encourages proactive thinking, not just reactive solutions.

Assessment:

Correctly identifying cardinal directions with a compass. Locating key features on a map. Providing logical verbal solutions to safety/problem-solving scenarios.

Day 5: Final Prep & "Leave No Trace" Ethics

Materials Needed:

- All gear and supplies for the trip

- Backpack and duffel bags
- Digital packing list from Day 2
- Computer or tablet
- Trash bag and a small trowel

Learning Objectives:

- **Life Skills:** Pack all personal and group gear efficiently and logically for the camping trip.
- **Science/Civics:** Articulate the 7 "Leave No Trace" principles and explain their importance for environmental conservation.
- **Project Management:** Conduct a final review of all plans (location, weather, food, gear) to ensure readiness.

Activities:

1. **The 7 Principles (30 mins):**
    - Watch the official "Leave No Trace" principles video. It's highly visual and clear.
    - Instead of writing them down, create a spoken-word recording or a short, informal video where the student explains each principle in their own words. For example, "Plan Ahead and Prepare—that's what we've been doing all week!"
    - Discuss how these principles will apply specifically to your campsite and planned activities.
2. **The Final Pack (75 mins):**
    - Lay out all gear one last time. Use the digital checklist on a phone or tablet to check off each item as it gets packed.
    - Discuss packing strategy: What needs to be easily accessible? (Rain jacket, snacks, first-aid kit). What can go at the bottom of the bag? (Sleeping bag).
    - The student is in charge of physically packing their own bag, promoting ownership and responsibility.
3. **Final Mission Review (30 mins):**
    - Check the weather forecast for the camping location one last time. Discuss if any last-minute changes to clothing or gear are needed.
    - Review the driving directions on the map app.
    - Verbally go over the plan for arrival: what are the first three things we will do when we get to the campsite? (e.g., 1. Check in, 2. Choose tent spot, 3. Set up tent).

Assessment:

A fully and correctly packed backpack/gear bins. A clear verbal explanation of the Leave No Trace principles. Final confirmation of trip readiness.

Weekend: The Camping Trip - Final Practical Assessment

This is the culminating event where all the learned skills are applied. The assessment is holistic and based on observation of the student's competence and participation.

- **Application of Skills:** Did the student actively participate in setting up the tent, cooking, navigating the hike, and cleaning the campsite?
- **Problem-Solving:** How did the student react to unexpected challenges (e.g., a broken tent pole, rain)?
- **Responsibility:** Did the student manage their personal gear and contribute to group tasks?
- **Stewardship:** Was the campsite left cleaner than it was found, following Leave No Trace principles?

Post-Trip Reflection (Optional): Instead of a written report, have a debriefing conversation on the drive home or the next day. Prompts: "What was the best part of the trip?", "What was the biggest challenge?", "What would you do differently next time?". This verbal processing solidifies the learning experience.