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Future Female
Innovators In STEAM



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Visual Career Roadmap – Using Goal Trees and Skill Ladders

This activity will help mentees visualise their unique career path in STEAM, clarify short-term stepping stones and long-term aspirations. It encourages mentees to take ownership of their career path by transforming abstract ideas—like “I want to become a product design engineer”—into tangible goals they can actively pursue. Importantly, it creates a shared language between mentor and mentee, allowing for deeper conversations about alignment, progress, and new possibilities.

By mapping their path visually, mentees gain a clearer sense of direction, increased motivation, and a framework they can revisit and evolve as they grow. By co-creating this roadmap together, mentors become a trusted guide, helping the mentee stay motivated, accountable, and open to new possibilities along the way.

Materials Needed:

- Large paper or digital whiteboard (e.g. Miro, Google Jamboard)
- Markers or sticky notes (if in person)

Process

1. Career Visioning Prompt (5-10 mins)

- **Ask mentees:** “What is your dream job or role in STEAM?” Have them write or draw this at the top of their page as the “treetop” or top of the ladder.

2. Build the Goal Tree / Skill Ladder (1 hour each) – see next pages

- **For a Goal Tree:** Branches represent milestones like learning new tools, leading a group project, attending a tech event, or finding a mentor in a specific field. Roots can represent values, passions, or current skills.
- **For a Skill Ladder:** Each step of the ladder is a skill or achievement needed to reach their career goal—from basic to advanced (e.g., “complete an Arduino workshop” → “build a prototype” → “present at a local expo”).

3. Mentor Reflection (15 mins)

- Mentors and mentees discuss the roadmap together. Mentors provide feedback, suggest missing steps, or share personal examples of how they achieved similar goals.

4. Follow-up Option

Turn the roadmap into a living document. Revisit monthly to check off completed steps and update new ones.

Outcome:

Mentees leave with a tangible, personalized vision of their STEAM career journey and clear steps to work toward.



Using Goal Trees and Skill Ladders

Draw the Tree Framework

- **Roots** = existing skills, values, and experiences
- **Trunk** = current actions, learning, and commitments
- **Branches** = future goals and aspirations

1. Start with the Roots

Ask:

- What are you already good at?
- What experiences or strengths are you growing from?
- Write 3–5 roots such as “creative problem-solving,” “basic coding knowledge,” “interest in sustainability.”

2. Build the Trunk

Ask:

- What are you doing right now that supports your growth?
- Are you studying, building, researching, or connecting?
- The trunk might include things like “taking part in a robotics club” or “learning to use CAD software.”

3. Grow the Branches

Prompt the mentee to imagine:

- What roles or achievements do you want to grow into?
- What kind of impact do you want to have in STEAM?

Review the tree together.

- Where are the gaps?
- What branch can they start working toward next?



Using Skill Ladders

Draw a Ladder with 5–7 Rungs

The top rung represents a specific career goal (e.g. Product Design engineer).

1. Start at the Top

Ask:

- Define the career goal clearly. Ask the mentee to write it at the top of the ladder:
 - “What job or role excites you the most?”
 - “What kind of STEAM work do you want to be doing in 5–10 years?”

2. Build the Lower Rungs

Start from the bottom up, identifying smaller achievements that will lead there.

These might include:

- Attend a hands-on fabrication workshop
- Learn how to prototype using Arduino

Encourage mentees to list one skill or milestone per rung. These should be a mix of technical skills, personal growth, and exposure to new environments. Try to put a timeline on this.

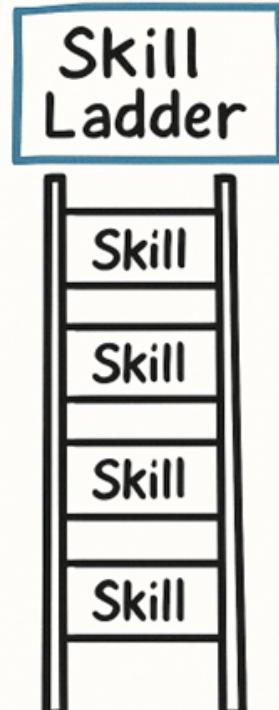
3. Check for Balance

Ask:

- Is there a good mix of skills and experiences?
- What step could you take this month?
- Who or what could help with the next rung?

Share & Action

- Have mentees share their ladder with a small group.
- Encourage peer feedback on how to advance, step by step.



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