# Guidelines for Student Use of AI for STEM MAD

STEM MAD recognises the rise of Artificial Intelligence (AI), including both recent Generative AI solutions and established AI capabilities regarding predication, classification, recognition, etc. These technologies present both opportunities and risks for schools. Although research and best practices for integrating these technologies into education are still developing, STEM MAD acknowledges that some student teams might want to incorporate them into their STEM MAD projects. The extent to which students use these technologies can vary significantly, ranging from research, planning, and ideation to developing AI-based solutions. Utilising AI should respect and enhance human agency, treat all users fairly without bias, and uphold human rights and dignity, avoiding any harm to individuals or society.

To ensure these technologies are used equitably, ethically and safely for the STEM MAD Challenge, students are asked to adhere to the following guidelines.

1. **Follow the technology's Terms of Use**: Every technology comes with its own set of rules and guidelines, known as the Terms of Use. This includes age restrictions which determine the minimum age requirement to use the tool and if parent/guardian permission is required. Adhering to these terms helps ensure that the technology is used legally and ethically.

2. **Obtain written permission from parents or guardians when necessary**: For activities involving minors, it's essential to get written consent from their parents or guardians. This is to ensure that they are aware of and agree to their children using the technology for their STEM MAD solutions.

3. **Cite the use of AI within the team's entry video and on the team's entry form**: When creating the video, student teams who have used Generative AI should mention how the technology is being used. Upon submission of the video, teams are asked to provide information about the use of AI in the project. This ensures transparency and helps STEM MAD judges understand the context and purpose for using the technology.

4. **Adhere to school or diocesan policies and procedures when using the technology**: Schools and dioceses have specific policies and procedures in place for using technology. Following these guidelines helps maintain a safe and respectful environment for everyone.

5. **Avoid entering sensitive or personal data into the technology**: This is crucial to protect privacy and prevent unauthorised access to personal or sensitive information.

6. **Be aware of potential biases generated by the technology**: Technology can sometimes produce biased results based on the data it was trained on. It's important to recognise these biases and take them into account when interpreting the technology's output.

7. **Verify facts and data generated by the technology and be able to explain the content**: Always double-check the information provided by the technology to ensure its accuracy. Being able to explain the content helps in understanding and communicating the results effectively.

Further guidance can be found in the Australian Framework for Generative AI in Schools.
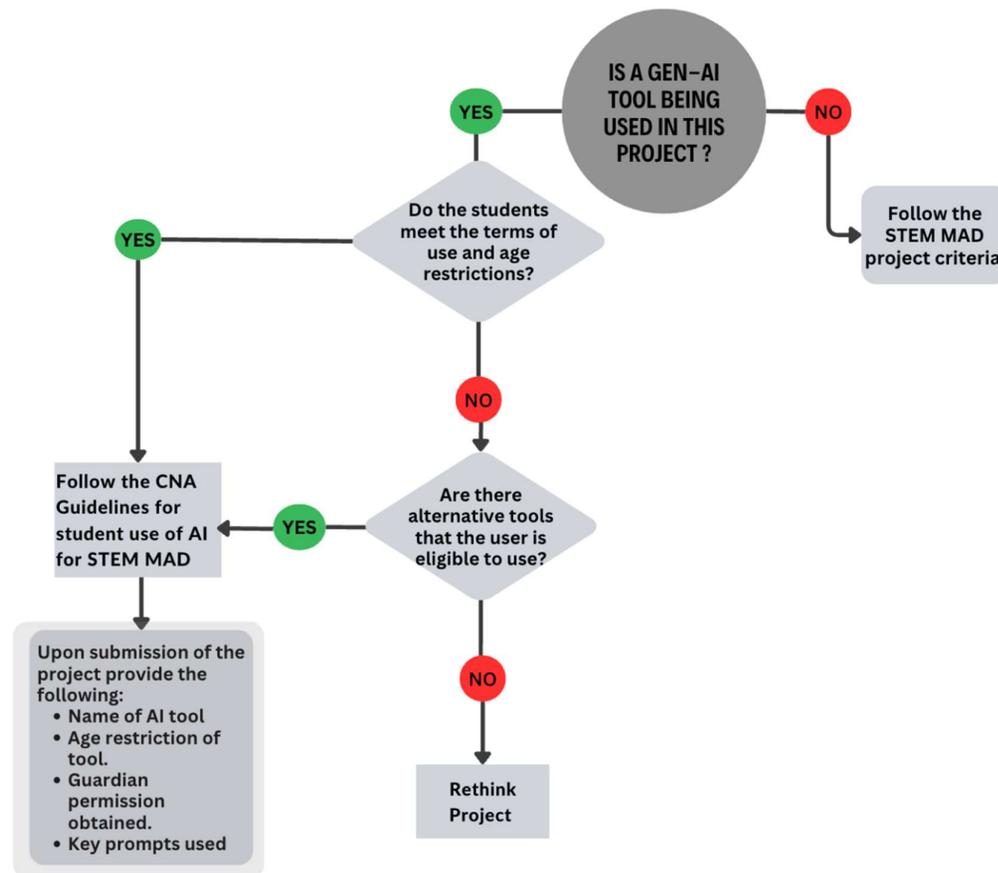
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## Other Software (not AI enabled)

Teachers and students should follow the terms of use and age restrictions when selecting software to use for their STEM MAD projects. Where a software's age restrictions include parental consent, teachers should ensure written parental/guardian consent is obtained prior to use.

For further information, teachers and students should refer to and follow the diocesan and school technology policies.

# Deciding on an AI Tool to Use

STEM MAD provides the following flowchart to assist schools and teams when deciding the appropriateness of AI tools for use in STEM MAD projects. Two use cases are documented as examples of applying the flow chart to a team scenario.

Students entering a STEM MAD project that utilises AI tools must follow the decision flow chart to determine:

1. Is an AI tool being used?
2. If yes, do the students entering the project meet the terms of use of the AI tool, including age restriction?
3. If the students do not meet the terms of use and age restriction, are there alternate AI tools that can be used?
4. If alternate AI tools are identified, do they meet the terms of use and age restriction of the AI tool?
5. If no, students need to rethink the project and select technology that is age-appropriate.
6. If students meet the terms of use of the AI tool, follow the above "CNA Guidelines for student use of AI for STEM MAD" and when submitting their project, students are required to provide the following information:
    o Name of the AI tool used and age restriction as per terms of use
    o Parent/Guardian consent in accordance with the terms of use
    o Key prompts used with the AI tool
7. Develop a solution in line with STEM MAD project criteria

## Use Case 1

Year 9 team wants to use Google Gemini to generate Python code to compare two sensors on their prototype. Students are in year 9 therefore they do not meet the minimum age requirement for Gemini. Students are asked to find an alternative tool appropriate to their age. They identify ChatGPT as an alternative tool as they meet the minimum age requirement of 13+ as outlined in ChatGPT's terms of use. All team members have obtained written consent from parents/guardians due to ChatGPT specifying 13+ with parental consent. The team uses ChatGPT following the above guidelines. When submitting their entry for STEM MAD they include the following information in the registration:

| Name of Gen AI tool | Age requirements | Guardian consent | Key Prompts Used |
|---|---|---|---|
| Chat GPT | 13+ with parental consent | Yes | Generate python code to analyse difference between sensor1 and sensor2 |

## Use Case 2

Year 5 team wants to use generative AI to create pictures for their presentation. Their teacher has a Canva account so they ask their teacher if they can use their account to make the images. Canva's minimum age requirement is 13+ so the students are not able to use Canva, even though it is a teacher's account. The team looks for another image generating AI tool but do not find one suitable for their age. Students rethink their approach to image generation and decide to make their own images.

## Example AI tools and their Terms of Use age restrictions

Please note this is not an exhaustive list and is only intended as a sample.

| Generative AI Tool | Terms of Use / Age Restrictions |
|---|---|
| cechat | School-managed AI platform – access governed by diocesan policy and school account permissions |
| ChatGPT | 13+ with parental consent for users under 18 |
| DALL-E | 13+ with parental consent for users under 18 |
| Copilot | Varies – depends on Microsoft account type, licensing, and school tenant configuration |
| Gemini | Varies – depends on Google account type and Workspace for Education admin settings |
| Canva | 13+ |
| Adobe Firefly | 13+ |
| Quizlet | 13+ with parental consent for users under 18 |
| Grammarly | 13+ with parental consent for users under 18 |