

STEM Educator Resource Rubric
SFAz Tools for Teachers Advisory Committee
June 2014

This rubric created by the Arizona STEM Network, sponsored by Science Foundation Arizona, aims to help educators gauge the quality of on-line resources in an effort to boost learning in science, technology, engineering and mathematics (STEM). The rubric is designed to complement a series of Guides (STEM Immersion, STEM Timeline Implementation, STEM Club) all created by the Arizona STEM Network, in an effort to provide resources for school and districts to plan, implement and evaluate STEM programs. Under the program of “*Tools for Teachers*”, the STEM Educator Resource Rubric aims to provide a framework for measuring the quality and worthiness of STEM resources under five different, yet sequential categories. Evaluators should use this rubric as a guide in asking questions to give structure and comprehensive analysis to the STEM resources and programs.

The Five Categories for Evaluation include:

National STEM Resources: These links contain nationally acclaimed STEM organizations, research data and targeted strategies to assist teachers/districts with implementing programs with a comprehensive design approach. Schools and organizations may use these links to research existing programs in order to determine how to best create, add or enhance a STEM program at their site.

Arizona STEM Resources: These links contain state-specific resources for teachers and districts. The list is comprised of state leadership organizations, professional development connections, ties to K-16 outreach organizations and both formal and informal STEM programs. The links provide schools and districts with programs to shape the type and scope of STEM program they want to implement.

K-12 STEM Curriculum: These links contain the best open source (free) K-12 curricular resources currently available including STEM units and individual lessons.

Video Resources: These links contain a variety of STEM videos focusing on the need for STEM, video-based content and professional development.

Contests and Competitions: These links contain both state and nationwide competitions that foster STEM learning while students engage in real world skills.

National STEM Resources: These links contain nationally acclaimed STEM organizations, research, data, and targeted strategies to assist teachers and districts with implementing programs with a comprehensive approach. Schools and organizations may use these links to research existing programs in order to determine how they want to add or enhance STEM programs within their community.

CATEGORY	4 POINTS-Exemplary	3 POINTS-Proficient	2 POINTS-Developing	1 POINT-Incomplete
Purpose	The site has a well-stated clear purpose and theme that is carried out throughout the site. The site contains specific content information targeted for developing STEM programming.	The site has a clearly stated purpose and theme, but may have one or two elements that do not seem to be related to STEM disciplines.	The purpose and theme of the site is somewhat muddy or vague.	The site lacks a purpose and theme.
Relevant at a National Level	The site is relevant and applicable to the intended category (national). The site provides strategies for STEM program development/implementation.	The site is relevant and applicable to the intended category.	While the site provides STEM information, some supporting data and current information is missing.	The site contains disjointed information on STEM topics/programming.
Research	The site provides an opportunity for additional research in STEM topics/programs.	The site provides some opportunities for research in STEM topics/programs.	The site provides very limited opportunity to research STEM topics/programs.	The site provides no research information on STEM topics/programs. (0 pts. For NA)
Authorship	The author is clearly stated along with the author's organization or institution. All contact information is clearly available within the resource	An author is listed with no credentials and you cannot tell if the author is the creator of the material.	No author is listed but an e-mail contact is provided.	No author is listed yet nor is an e-mail contact provided.
Quality of Content	The author is fair and objective. The website is free of bias.	The author is fair and objective however, the website contains minimal bias.	The website contains some bias.	The webpage contains bias and is not related to the site's content.
Navigation	The site is well organized and easy to navigate. Links for navigation are clearly labeled, consistently placed allowing the reader to easily move from a page to related pages and takes the reader where s/he expects to go. A user does not become lost. ***For PDF's not applicable	Links for navigation are clearly labeled, allow the reader to easily move from a page to related pages, and internal links take the reader where s/he expects to go. A user rarely becomes lost.	Links for navigation take the reader where she/he expects to go, but some needed links seem to be missing. A user sometimes gets lost.	The site is disorganized and is not easily navigate. Some links do not take the reader to the sites described. A user typically feels lost.
Current Information	The site includes a date when the page was last revised and out-dated material has been removed. All information is current and up to date (within 3-5 years). Live and updated site, or it's not....			The site contains no information on the date created or revised.
Cost or Registration to Use Resource	Yes or no Check off box for "cost", registration, and free registration. If that 's the only way of getting information from the site.			

Arizona STEM Resources: These links contain state-specific resources for teachers/districts. The list contains state leadership organizations, professional development connections, ties to K-16 outreach organizations, and both formal and informal STEM programs. The links provide schools/districts with programs to shape the type and scope of STEM program they want to implement.

CATEGORY	4 POINTS-Exemplary	3 POINTS-Proficient	2 POINTS-Developing	1 POINT-Incomplete
Content	The site has a well-stated clear purpose and theme that is carried out throughout the site. The site contains specific content information useful for developing STEM programming within AZ.	The site has a clearly stated purpose and theme, but may have one or two elements that do not seem to be related to it.	The purpose and theme of the site is somewhat muddy or vague.	The site lacks a purpose and theme.
Relevant at a STATE Level	The site is necessary and applicable to the intended category (state). The site provides opportunities for additional opportunities/networking in STEM topics/ programs.	The site is necessary and applicable to the intended category. The site provides some opportunities for networking in STEM topics/ programs for AZ schools.	While the site provides STEM information, some supporting data and research are missing.	The site contains disjointed information on STEM topics/programming.
Authorship	The author is clearly stated along with the author's organization or institution. All contact information is clearly available within the resource.	An author is listed with no credentials and you cannot tell if the author is the creator of the material.	No author is listed but an e-mail contact is provided.	No author is listed yet no e-mail contact is provided.
Integrity/ Objectivity	The author is fair and objective. The website contains little advertising and is free of bias.	The author is fair and objective however, the website contains some advertising and minimal bias.	The website contains some bias and a great deal of advertising.	The webpage contain bias and has a great deal of advertising that is not related to the sites content.
Navigation	The site is well organized and easy to navigate. Links for navigation are clearly labeled, consistently placed; allowing the reader to easily move from a page to related pages and takes the reader where s/he expects to go. A user does not become lost.	Links for navigation are clearly labeled, allow the reader to easily move from a page to related pages, and internal links take the reader where s/he expects to go. A user rarely becomes lost.	Links for navigation take the reader where s/he expects to go, but some needed links seem to be missing. A user sometimes gets lost.	The site is disorganized and is not easily navigate. Some links do not take the reader to the sites described. A user typically feels lost.
Current Information	Each page includes a date when the page was last revised and out-dated material has been removed. All information is current and up to date (within 3-5 years).			The site contains no information on the date created or revised
Cost or Registration to Use Resource	Yes or no Check off box for "cost", registration, and free registration. If that 's the only way of getting information from the site.			

K-12 STEM Curriculum: These links contain the best open source (free) K-12 curricular resources currently available including STEM units and individual lessons.

CATEGORY	4 POINTS-Exemplary	3 POINTS-Proficient	2 POINTS-Developing	1 POINT-Incomplete
Content	The site has a well-stated clear purpose and theme that is carried out throughout the site. Programs are clearly and explicitly aligned with current and relevant local, state, or national standards. For out-of-school (OST) programs, content is aligned with what students are learning in school or provides enrichment beyond what is offered in school.	The site has a clearly stated purpose and theme, but may have one or two elements that do not seem to be related to it. Programs are loosely aligned to relevant local, state or national standards. Out of school programs are somewhat aligned to in school curriculum.	The purpose and theme of the site is somewhat muddy or vague. There is no clear alignment to local, state or national standards. There is vague alignment between in and out of school experiences.	The site lacks a purpose and theme.
Relevant for K-12 STEM Curriculum Development or Resource	The site is relevant and applicable to the intended category. The site provides educational materials and experiences that clearly reflect high expectations and opportunities for real world applications of STEM where possible. Content is cross-curricular and thematic in nature providing opportunities for students to explore the true interconnection of STEM topics.	The site is relevant and applicable to the intended category. The site provides educational materials and experiences that reflect high expectations and opportunities for real world applications of STEM where possible. Most content is cross-curricular and thematic in nature.	The site is relevant and applicable to the intended category. The site provides STEM educational materials and experiences. Some content is cross-curricular and thematic in nature.	The site is applicable to the intended category. The site provides some STEM educational materials. Most content is not cross-curricular and thematic in nature.
Authorship	The author is clearly stated along with the author's organization or institution. All contact information is clearly available on the site.	An author is listed with no credentials and you cannot tell if the author is the creator of the material.	No author is listed but an e-mail contact is provided.	No author is listed yet no e-mail contact is provided.
Integrity/ Objectivity	The author is fair and objective. The website contains little advertising and is free of bias.	The author is fair and objective however, the website contains some advertising and minimal bias.	The website contains some bias and a great deal of advertising.	The webpage contain bias and has a great deal of advertising that is not related to the sites content.
Navigation	The site is well organized and easy to navigate. Links for navigation are clearly labeled, consistently placed; allowing the reader to easily move from a page to related pages and takes the reader where s/he expects to go. A user does not become lost.	Links for navigation are clearly labeled, allow the reader to easily move from a page to related pages, and internal links take the reader where she/he expects to go. A user rarely becomes lost.	Links for navigation take the reader where s/he expects to go, but some needed links seem to be missing. A user sometimes gets lost.	The site is disorganized and is not easily navigate. Some links do not take the reader to the sites described. A user typically feels lost.
Current Information	Each page includes a date when the page was last revised and out-dated material has been removed. All information is current and up to date (within 3-5 years).			The site contains no information on the date created or revised.
Cost or Registration to Use Resource	Yes or no Check off box for "cost", registration, and free registration. If that 's the only way of getting information from the site.			

Video Resources: These links contain a variety of STEM videos focusing on the need for STEM, video-based content and professional development.

CATEGORY	4 POINTS-Exemplary	3 POINTS-Proficient	2 POINTS-Developing	1 POINT-Incomplete
Content	The site has a well-stated clear purpose and theme that is carried throughout the site. The content contains useful information for STEM programming in a professional multi-media format. The videos are strategically focused on exemplary STEM education.	The site has a clearly stated purpose and theme, but may have one or two elements that do not seem to be related to it. The multi-media content focuses on STEM education but does not cover all elements.	The purpose and theme of the site is somewhat muddy or vague.	The site lacks a purpose and theme.
Relevant for STEM Viewing	The site is relevant and applicable to the intended category (Video and Multi-media). The site provides exemplary multi-media in STEM topics/ programs. The multi-media strongly supports the inclusion of STEM instruction in schools and organizations.	The site is relevant and applicable to the intended category. The site provides exemplary multi-media in STEM topics/ programs, however does not explicitly support STEM instruction in schools.	The site is relevant and applicable to the intended category. The site provides multi-media in some STEM topics/ programs.	The site is applicable to the intended category, however the STEM multi-media is disjointed and confusing.
Authorship	The author is clearly stated along with the author's organization or institution. All contact information is clearly available on the site.	An author is listed with no credentials and you cannot tell if the author is the creator of the material.	No author is listed but an e-mail contact is provided.	No author is listed and no e-mail contact is provided.
Integrity/ Objectivity	The author is fair and objective. The website contains little advertising and is free of bias.	The author is fair and objective however, the website contains some advertising and minimal bias.	The website contains some bias and a great deal of advertising.	The webpage contain bias and has a great deal of advertising that is not related to the sites content.
Navigation	The site is well organized and easy to navigate. Links for navigation are clearly labeled, consistently placed; allowing the reader to easily move from a page to related pages and takes the reader where s/he expects to go. A user does not become lost.	Links for navigation are clearly labeled, allow the reader to easily move from a page to related pages (forward and back), and internal links take the reader where s/he expects to go. A user rarely becomes lost.	Links for navigation take the reader where s/he expects to go, but some needed links seem to be missing. A user sometimes gets lost.	The site is disorganized and is not easily navigate. Some links do not take the reader to the sites described. A user typically feels lost.
Current Information	Each page includes a date when the page was last revised and out-dated material has been removed. All information is current and up to date (within 3-5 years).			The site contains no information on the date created or revised.
Cost or Registration to Use Resource	Yes or no Check off box for "cost", registration, and free registration. If that 's the only way of getting information from the site.			

Contests and Competitions: These links contain both state and nationwide competitions that foster STEM learning while students engage in real world skills.

CATEGORY	4 POINTS-Exemplary	3 POINTS-Proficient	2 POINTS-Developing	1 POINT-Incomplete
Content	The site has a well-stated clear purpose and theme that is carried out throughout the site. The content contains useful information for STEM programming. The site provides teaches with the tools necessary to conduct both contests and competitions within and outside the traditional school day.	The site has a clearly stated purpose and theme, but may have one or two elements that do not seem to be related to it. The instructions for starting a contest or competition are provided, yet some procedural details are missing.	The purpose and theme of the site is somewhat muddy or vague. There is information about contests/competitions, but the information is incomplete or not clearly stated.	The site lacks a purpose and theme.
Relevant to the Category	The site is relevant and applicable to the intended category (Contests and Competitions). The site provides extensive content on actively engaging students in STEM contests/competitions. The site also provides detailed avenues/opportunities for outreach to business, industry, higher education, or grade level partnerships.	The site is relevant and applicable to the intended category. The site provides content on actively engaging students in STEM contests/competitions. The site also provides some avenues for outreach to business, industry, higher education, or grade level partnerships	The site is relevant and applicable to the intended category. The site provides most content on engaging students in STEM contests and competitions. Some procedures are missing or incomplete.	The site is applicable to the intended category, however the instructions for engaging students are missing or incomplete.
Authorship	The author is clearly stated along with the author's organization or institution. All contact information is clearly available on the site.	An author is listed with no credentials and you cannot tell if the author is the creator of the material.	No author is listed but an e-mail contact is provided.	No author is listed and no e-mail contact is provided.
Integrity/ Objectivity	The author is fair and objective. The website contains little advertising and is free of bias.	The author is fair and objective however, the website contains some advertising and minimal bias.	The website contains some bias and a great deal of advertising.	The webpage contain bias and has a great deal of advertising that is not related to the sites content.
Navigation	The site is well organized and easy to navigate. Links for navigation are clearly labeled, consistently placed; allowing the reader to easily move from a page to related pages and takes the reader where s/he expects to go. A user does not become lost.	Links for navigation are clearly labeled, allow the reader to easily move from a page to related pages (forward and back), and internal links take the reader where s/he expects to go. A user rarely becomes lost.	Links for navigation take the reader where s/he expects to go, but some needed links seem to be missing. A user sometimes gets lost.	The site is disorganized and is not easily navigate. Some links do not take the reader to the sites described. A user typically feels lost.
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