

Appendix 13. Digital Assets and Figures: Instructions and Technical Specs

Video files ^{*}

As a digital-first journal, *MTLT* encourages authors to include video content that enhances the message in their manuscript. All multimedia content should be

cited within the main text of the manuscript. In addition, a still image (and image description) from a relevant part of the video is needed for use in print.

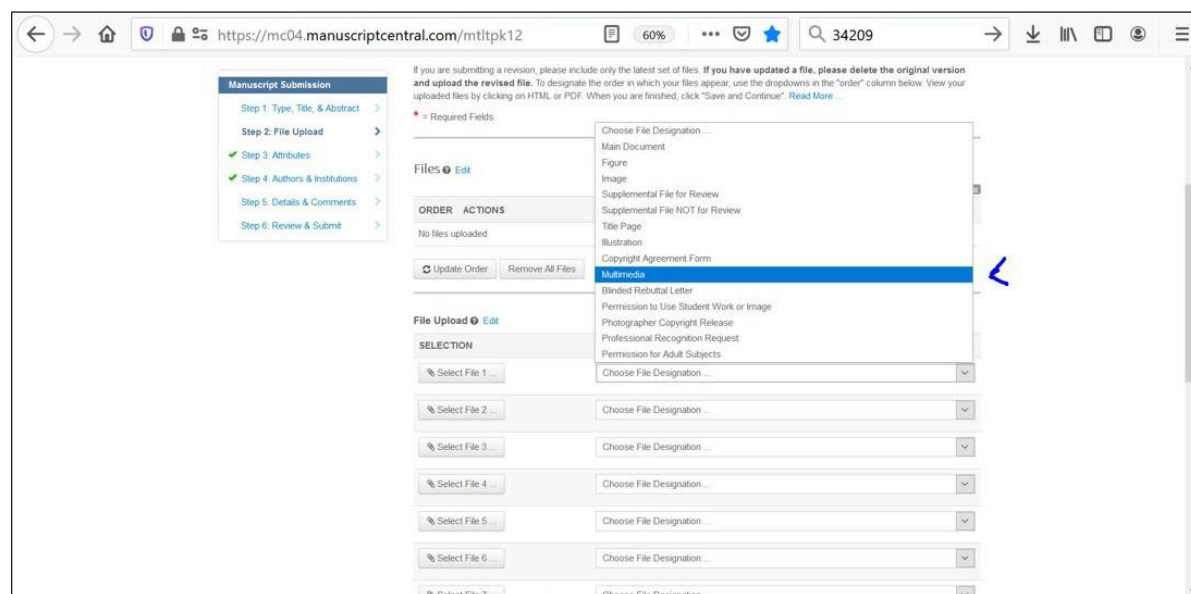
A note about large file sizes: the ScholarOne system accepts files up to 350 MB in size. Should your multimedia or figure files exceed this limit, please contact the [editorial office](#) for additional instructions.

Specifications for video files:

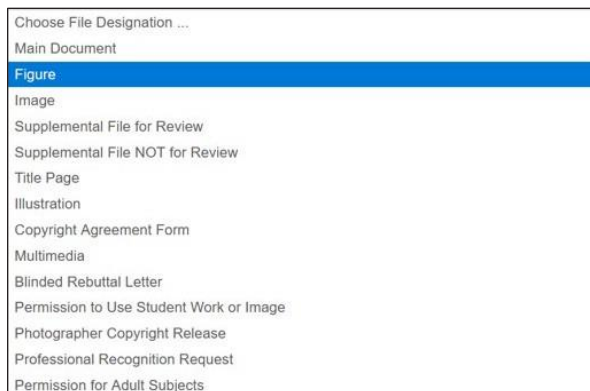
- Duration: four minutes or less
- Formats accepted: MOV, MPG, AVI, FLV, F4V, MP4, M4V, ASF, WMV, VOB, MOD, 3GP, MKV, DIVX, XVID, WEBM
- Preferred file size: No more than 100 MB

Important! Permission to publish a video is required from all participants who are featured; to ensure that all legal requirements are met, the NCTM permission form ([appendix 14 or 15](#)) should be used when obtaining adult participants’ signatures. For student participants who are under 18 years old, a parent/legal guardian permission form ([appendix 16 or 17](#)) is required instead. The signed permission releases should be uploaded into ScholarOne and the file type labeled as “Supplemental file not for review” during submission of the original manuscript. Permission to reproduce is also required from videographers and photographers involved in a video’s creation.

When submitting to ScholarOne, during **Step 2: File Upload**, select “*Multimedia*,” as shown here, for audio, video, or other digital-only file:



The still image from the video should be embedded in your manuscript file and have a legend accompanying it. If your paper is accepted, you will be asked to provide the still image as a separate file.



When creating a still image, here are a few pointers:

- Try to capture a still image that gets the point of your video across. For example, if you are showcasing use of an app with PK–2 students, take a still image of the output from that app or capture an image of a child using the app.
- Avoid using a personal headshot for your still image.
- The legend explaining the image can be provided within the manuscript text file, placed below the still image.
- After Acceptance: Please label the image file in a way that links it to the video—e.g., “Still_Image_Video_1.eps”

YouTube Videos*

Videos featured on YouTube are welcome. For self-authored videos on an author’s own channel, the journal strongly prefers that the video source file be provided

during submission, rather than as a link to the YouTube channel in the manuscript file. Authors can retain copyright on their YouTube videos if they specify this during submission; the source video file is generally required. If the video is from another channel, authors may instead provide the YouTube link within the text of their manuscript file.

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GeoGebra

If the GeoGebra is self-authored, please provide the original, raw .ggb file. If sourced from another user, please provide the correct link.

Desmos

Please provide the original Desmos link.

Appendix 13 (continued)

Geometer's Sketchpad

Please provide the raw file.


Other Apps*

(Such as PowerPoint, LiveScribe, simulations, and so on) Please provide the source file(s) when you upload your manuscript to ScholarOne.

Images and Figures

At acceptance, images/figures must be provided in an acceptable format (see Artwork Guidelines on the next page for more information) at a resolution of *at least* 300 dpi and a width of *at least* 3 inches.

* *A note about large file sizes: the ScholarOne submission system limits individual file sizes to 350 MB and 500 MB for the total of all files. Should your multimedia or figure files exceed this limit, please contact the [editorial office](#) for additional instructions.*

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An Author's Guide for Submitting Artwork

This brief overview highlights the main points to be aware of when submitting final production-quality artwork. When preparing figures, refer to printed copies of NCTM publications to get a sense of general size and style. The quality of the reproductions in your book can never be better than the original material you submit to us, so providing the best quality imagery is imperative. **If we judge a piece of artwork to be substandard for printing, we will ask you to provide a suitable replacement or to eliminate the image entirely.**

BEFORE SUBMITTING YOUR DIGITAL ART

DO check the resolution of your files to be certain they meet NCTM requirements.
DO submit labeled printouts of all files that correspond to their respective placement in layout. You may embed art in the Word document, but you *must* also provide a JPEG, BMP, TIFF, or EPS file.

MISTAKES TO AVOID

DO NOT assume that a file that looks good on a computer screen is acceptable for print reproduction.
DO NOT submit digital images as PowerPoint files.
DO NOT edit or re-save JPEG files (see "A NOTE ON JPEGs" sidebar).
DO NOT enlarge substandard files (see "A NOTE ON RESOLUTION" sidebar).

RESOLUTION REQUIREMENTS FOR DIGITAL ART

Digital art renders images as a finite number of pixels (ppi), or dots, per inch. The resolution of a file, measured in ppi, limits the size at which a piece of digital art can be reproduced.

BASIC REQUIREMENTS FOR DIGITAL ART

Continuous-Tone Images — 300 Pixels per Inch



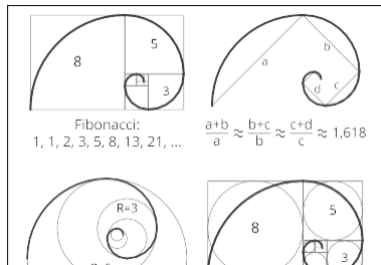
An example of a continuous-tone (raster) image

In continuous-tone images, or raster art, each pixel can vary in color and tonality; transitions from light to dark appear smooth and realistic.

To ensure quality reproduction of continuous-tone images, files must have a resolution of at least 300 ppi. For example, a continuous-tone image with dimensions of 900 × 1500 pixels can be reproduced no larger than 3" × 5".

$$\frac{900 \text{ pixels}}{300 \text{ ppi}} \times \frac{1500 \text{ pixels}}{300 \text{ ppi}} = 3'' \times 5''$$

Bitonal Images — 1200 Pixels per Inch



An example of a bitonal (vector) image

In bitonal images, or **vector art**, each pixel will be one of two values: 100 percent black or 100 percent white. Such pieces of art require higher resolution to ensure quality reproduction.

The file must have a resolution of at least 1200 ppi. For example, a bitonal scan with dimensions of 3600 × 6000 pixels can be reproduced no larger than 3" × 5".

$$\frac{3600 \text{ pixels}}{1200 \text{ ppi}} \times \frac{6000 \text{ pixels}}{1200 \text{ ppi}} = 3'' \times 5''$$

HOW TO CHECK FILE RESOLUTION ON A PC

Right-Click on the file and select "Properties" from the menu. Click the "Summary" tab at the top of the "Properties" dialog box. Click the "Advanced" button in the Summary window to display the width and height of the file in pixels.

HOW TO CHECK FILE RESOLUTION ON A MAC

Press the "Control" key, click on the file, and select "Get Info" from the drop-down menu. The "Info" dialog box will appear, and the dimensions of the file will be listed under the "More Info" section of the dialog box.

A NOTE ON JPEGs

JPEG files compress their data to achieve a smaller, more portable file size. This compression is accomplished by discarding some of the data that comprises the image. Each time a JPEG is opened and re-saved in the JPEG file format, the image deteriorates. If you acquire an image from a library, museum, or stock photo agency, request EPS or TIFF format. If JPEGs are the only file format available, do not edit or re-save the image before submitting it. Still, when dealing with JPEGs, do make a copy of the original file as a back-up.

To ensure image integrity, never re-save a JPEG file. If you need to rename a JPEG, right-click on the file and select "Rename" from your menu options. **DO NOT** rename a JPEG file by opening it and using the "Save As" option.

A NOTE ON RESOLUTION

Some computer programs will allow you to artificially add resolution to a digital file. This will not improve the quality of the image. On the contrary, the image will become fuzzy and pixelated. If you find yourself tempted to enlarge a file, it is a sign that the file is substandard and should not be used.

A NOTE ON IMAGES FOUND ONLINE

Authors must secure rights for any imagery found on the internet that is intended for use in the book.

Computer screens display only 72 pixels per inch. Most images on the web are sized accordingly and are unacceptable for print publication. An image measuring 216 pixels × 360 pixels may appear to be 3" × 5" at 72 ppi on your computer screen, but at the 300 ppi standard required for print reproduction, the maximum size of the image is only about 3/4" × 1".