

A Few Key Resources for Teaching Fractions

In addition to the [Guide to Effective Instruction: Vol.5, Fractions \(Gr. 4-6\)](#), I would recommend that you use the following websites and educational programs as you plan fraction lessons/activities for your students.

As a reminder, the *Guides to Effective Instruction* (developed by the Ontario Ministry of Education for every math strand) are posted on the **Math Blog**:

Ministry of Education ➡ Guides to Effective Instruction: Gr. 4-6 ➡ #5 (Fractions)

On line Resources

1. The Ontario Ministry of Education's "**e-workshop**" website is a great starting point for planning any mathematics lesson! It is the first link in **PJ Math Favorites / Bookmarks**.
 - a. Go to the *Learning Module* on Fractions (Grades 4-6).
 - b. The *Fraction Learning Module* contains a wealth of information, including video clips of a Three Part Lesson (with handouts and a lesson plan you can download). Watch the video clips (under the *Show Me* tab) and explore the other tabs within the module.
 - c. The video can be viewed directly by clicking on the following link:
<http://www.eworkshop.on.ca/edu/core.cfm?p=main&modColour=2&modID=22&m=111&L=1>
2. As an aside the e-workshop website also houses an amazing collection of Literacy resources, including *Learning Modules* on: Guided Reading, Running Records, Literacy Circles, Media Literacy, etc; as well as two *Guides to Effective Instruction (K-3)*: Reading and Writing; and seven *Guides to Effective Instruction (Grades 4-6)* in Literacy, including: Planning and Classroom Management, Assessment, Reading, Writing, etc. You can download the literacy documents by clicking on the following link:
<http://www.eworkshop.on.ca/edu/core.cfm?p=documentView.cfm&navID=documentView&c=6&type=1&L=1>

So, before your next placement, go to the **e-workshop** website and download the materials available to you. Just remember to organize the documents in folders with "*My Documents*" so you will be able to access them during your placement or for assignments next semester!

Happy Downloading



More On-line Resources

In addition to the *e-workshop* website, the best math websites (*in my opinion*) for great activities, lesson plans and interactive learning tools are as follows:

- 1) The **Virtual Manipulative Library**: <http://nlvm.usu.edu/en/nav/vlibrary.html>
- 2) The **National Council for Teachers of Mathematics (NCTM): Illuminations**, Resources for Teaching Math website: <http://illuminations.nctm.org/>
- 3) The **National Strategies** is a government developed website from the UK that contains a variety of applets and "Flash" files that you can download for use on the SmartBoard or data projector. The downloadable files are referred to as: "*Interactive Teaching Programs*" (ITPs) and can be searched by clicking on the following link:
<http://nationalstrategies.standards.dcsf.gov.uk/search/primary/results/nav:49909>

Refer to the PDF document called "*ITPs_National Strategies_website*" posted on the **Math Blog** for an overview of the programs available for downloading. These are great "Flash" files with ready to use lessons included for each ITP available!

- 4) **SmartBoard Resources**: <http://education.smarttech.com/ste/en-us/>
I am a SmartBoard "convert". It is a great tool to use for teaching mathematics – I hope you agree. Although the lesson plans and activities available on this website are not the greatest quality, they are FREE for downloading. I download lessons and then use the activities/GIFs to update my "*Gallery*" with new material and interactive tools!
- 5) **New Zealand Maths (Ministry of Education site)**: <http://www.nzmaths.co.nz/>
A wonderful website offering an array of materials including lesson plans, unit plans, assessment materials, etc. to help with assignments and lesson planning during placement. The web-site houses a huge number of resources, so you will need plenty of time to explore it.
- 6) **AIMS Educational Foundation** (for sample activities and to purchase resources):
<http://www.aimsedu.org/>
- 7) The **Khan Academy** to view a great collection of web-based video clips on numerous mathematics concepts (up to university level). This is a good site to "refresh" your memory on a concept before you teach: <http://khanacademy.org/>
- 8) Similar to the Khan Academy we are creating a collection of web-based video clips for PJ TCs at UOIT. View the videos on the **Math Blog** under the "**Video Clips**" Tab.

The Virtual Manipulative Library

The **Virtual Manipulative Library** is the best source for **interactive learning tools**. You will spend hours on this site searching for lessons/activities and “playing” with the applets & games.

The links below will take you directly to **virtual** versions of the manipulatives best used to teach fractions:

Pattern Blocks:

http://nlvm.usu.edu/en/nav/frames_asid_169_g_1_t_3.html?open=activities&from=category_g_1_t_3.html

10x10 Geoboard:

http://nlvm.usu.edu/en/nav/frames_asid_277_g_1_t_3.html?open=activities&from=category_g_1_t_3.html

Tangram:

http://nlvm.usu.edu/en/nav/frames_asid_268_g_1_t_3.html?open=activities&from=category_g_1_t_3.html

Fraction Bar (Cuisenaire Rods):

http://nlvm.usu.edu/en/nav/frames_asid_203_g_2_t_1.html?from=applets/controller/query/query.htm?qt=fraction&lang=en

Fraction Pieces (circle or square):

http://nlvm.usu.edu/en/nav/frames_asid_274_g_2_t_1.html?open=activities&from=applets/controller/query/query.htm?qt=fraction&lang=en

Finally, the "*Fraction Game*" is one example of the many games/activities on the **NCTM Illuminations website**. The *Fraction Game* can be used to review adding and equivalent fractions. I'd suggest this activity for challenging your students in Grades 5-6 or as an activity for your own review. The game can be played by on the following link:

<http://illuminations.nctm.org/ActivityDetail.aspx?ID=18>