Halifax Regional Centre for Education

What does it mean to be fluent with math facts?
~ Information for Families and Caregivers~

Children are fluent when they demonstrate:
Accuracy
- Correctly solving a problem

Flexibility
- The ability to think about a problem in more than one way and to adapt or adjust thinking as necessary

Efficiency
- Solving a problem in a reasonable amount of time

Myth: Math today is so different.
Fact: While the math itself hasn't changed, the focus of math instruction has shifted to ensure students are actively engaged in developing an understanding of the skills and concepts. Representing concepts using models to develop strategies and exercising critical thinking is a much more effective way to build understanding.

Myth: Memorization is the best way to master basic facts.
Fact: Children may have memorized basic facts, however, they may not have a strategy to solve the particular fact. Memorized facts can be forgotten, but when a strategy is understood, children hang on to it forever.

Myth: Children who have memorized the facts won't be challenged.
Fact: The goal is not to memorize facts, but to develop a range of strategies to apply to more complex concepts such as multi-digit computations, decimals and fractions. Developing strategies and an understanding of when to use these appropriately, asks children to think at higher levels.

Myth: Timed tests help children master facts.
Fact: Timed tests do not assess fluency, only accuracy and efficiency. As well, research tells us that timed tests can lead to the development of anxiety around math.

Questions to support fact fluency conversations with children
- How did you solve it?
- How do you know it is correct?
- Is there another way you could solve it?
- If someone didn't know the answer to ____, how would you help them to figure it out?
- What strategy can you use to find that fact?
- How is ____ like ____? How are they different? (example: How is 2 x 7 like 4 x 7?)

Inamaanisha nini kuwa na ufasaha na ukweli wa hesabu?
~ Habari kwa Familia na Walezi~

Watoto ni wenye busara wakati wanaonyesha:
Usahihi
- Kutatua tatizo kwa usahihi

Kubadilika
- Uwezo wa kufikiri juu ya jambo kwa njia zaidi ya moja na kukubali au kurekebisha mawazo kama ihitajikavyo

Ufanisi
- Kutatua tatizo kwa wakati unaofaa

Si kweli kwamba: Hesabu leo ni tofauti sana.
Ukweli: Wakati hesabu yenyewe haijabadilika, lengo la mafundisho ya hesabu limebadilika ili kuhakikisha wanafunzi wanashiriki kikamilifu katika kukuza uelewa wa ujuzi na dhana. Kuwakilisha dhana kwa kutumia mifano ya kujenga mikakati na kutumia mawazo muhimu ni njia bora zaidi ya kujenga uelewa.

Si kweli kwamba: Kukariri ni njia bora ya kujua ukweli wa msingi.
Ukweli: Watoto wanaweza kuwa wamekariri ukweli wa msingi, hata hivyo, wanaweza kuwa hawana mkakati wa kutatua ukweli fulani. Ukweli uliokaririwa unaweza kusahaulika, lakini wakati mkakati unaeleweka, watoto huushikilia milele.

Si kweli kwamba Watoto ambao wamekariri ukweli hawatapingwa.
Ukweli: Lengo sio kukariri ukweli, lakini kujenga mikakati mbalimbali ya kutumia dhana ngumu zaidi kama vile hesabu ngumu zenye tarakimu nyingi, desimali na sehemu. Kujenga mikakati na uelewa wa wakati wa kuzitumia hizi ipasavyo, huwafanya watoto kufikiri katika viwango vya juu.

Si kweli kwamba: Mitihani ya muda mfupi husaidia watoto kujua ukweli.
Ukweli: Mitihani ya muda mfupi haitathmini ufasaha, bali usahihi tu na ufanisi. Pia, utafiti unaeleza kuwa mitihani ya muda mfupi inaweza kusababisha mwendelezo wa wasiwasi kuhusu hesabu.

Maswali ya kusaidia mazungumzo na watoto kuhusu ukweli
- Jinsi gani ulitatua hilo?
- Unajuaje kuwa ni sahihi?
- Je! kuna njia nyingine ambayo unaweza kutumia kutatua hili?
- Kama mtu hakujua jibu la _____, unawezaje

	kumsaidia kutatua hili? ● Ni mkakati gani unaweza kutumia ili kupata ukweli huo? ● Jinsi gani ___ kama____? yanatofautianaje? (Mfano: Jinsii gani 2 x 7 kama 4 x 7?)