Name That Test!
(or Interval)

Set A
1. 2018 #4   2-mean t-test
2. 2017 #2a   1-prop z-interval
3. 2017 #5   Chi-square test for independence
4. 2015 #4   2-prop z-test
5. 2016 #5a   1-prop z-interval
6. 2014 #5   Matched pairs t-test
7. 2012 #4   2-prop z-test
8. 2013 #1b   1-mean t-interval
9. 2011 #5d   Linear regression t-test for slope
10. 2009B #6b   2-prop z-interval

Set B
1. 2011B #5a   1-prop z-interval
2. 2016 #2   Chi-square test for homogeneity
3. 2011 #4   2-mean t-test
4. 2009B #3   2-prop z-test
5. 2009B #5a   1-mean t-test
6. 2009 #4   2-mean t-interval
7. 2008 #5   Chi-square goodness of fit test
8. 2007 #4   Matched pairs t-test
9. 2005B #4c   Linear regression t-interval for slope
10. 2005B #4   Matched pairs t-interval

Set C
1. 1998 #5a   1-prop z-test
2. 1999 #2   Chi-square test for independence
3. 2000 #4a   2-mean t-test
4. 2001 #5   Matched pairs t-test
5. 2001 #6b   Linear regression t-test for slope
6. 2002B #4a   1-prop z-interval
7. 2003B #5c   Chi-square goodness of fit test
8. 2004B #4a   2-mean t-interval
9. 2004B #6a   2-prop z-test
10. 2005 #4   1-prop z-test

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Unused (a partial list)

- 2013 #4   Chi-square test for homogeneity
- 2011 #6a   1-prop z-interval
- 2010 #5   2-mean t-test
- 2007 #5   2-mean t-test
- 2006b #4   matched pairs t-test
- 2006 #4   2-mean t-interval
- 2003 #5   Chi-square test for independence
- 2004 #5   Chi-square test for homogeneity

Name That Test!
(or Interval)

Teacher Notes
Choosing the correct inference procedure is hard for students. Here are some tools for helping them conquer this topic.

Step 1
Students make a graphic organizer. Here are two possible organization schemes:

Make a large table. Suggested column headings (use blank paper, landscape).

Categ or Quant	# of samples	Parameter	Statistic	Sample size condition	Confidence interval	Hypothesis test statistic	t/z/chi	df

Or a flow chart. The chart would start with choosing categorical vs. quantitative. The next branch would be the number of samples. As each branch terminates (for example, 1-prop z), students add interval and test statistic formulas (as on the above table).

The important part of this exercise is to have students construct their own organizer! Marzano's research showed that students learn more when they make graphic organizers than any other instructional strategy. Do not make a copy for them. Do not let them copy out of their textbook (this chart is already printed there). I restrict my students to using their formula sheet only. This activity takes time. I generally use about 40 minutes of class time and have students finish at home.

Step 2
Assign one of the practice sets. Give students about 20 minutes to name all 10. Then discuss answers. Assign a few of the problems for homework.

Step 3
Use a website to drill:

Khan Academy's practice: bit.ly/namethattest2
(https://www.khanacademy.org/math/ap-statistics/prepare-for-the-2019-ap-statistics-exam/prepare-for-ap-stats-exam/e/choosing-inference-procedure)
Practice problems in sets of 7

Larry Green's site: bit.ly/namethattest
(http://www.ltcconline.net/greenl/java/Statistics/catStatProb/categorizingStatProblemsJavaScript.html)
Note: Students need to deselect "Prediction for a single…" & "1-Way ANOVA"

Step 4
After you've reviewed other topics, use another practice set, as per Step 2.

Pro-tip: The best way to play "Name that test!" is to introduce the activity while playing *Spanish Flea* by Herb Alpert and the Tijuana Brass.

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