Using WG t-test instead of WG ANOVA to do ANOVA SPSS Hw

With all the different versions of and vendors for SPSS, you might have ended up with an SPSS that doesn't have the "GLM: Repeated Measures" module that is needed to do a WG ANOVA. But, there is a work-around if the version of SPSS you have doesn't have that module!

The thing is that a 2BG ANOVA and a BG t-test are slightly different mathematical approaches to comparing the DV means from the conditions of a 2WG research design! So, you can run a WG t-test and then easily convert the t-test results to "F-test results"

Look at the WG t-test handout to see how to run the analysis: http://psych.unl.edu/psycrs/statpage/2wgt_spss.pdf

Here's how to convert the t-test results into the answers for the WG ANOVA homework questions…

WG ANOVA results

Descriptive Statistics

	Mean	Std. Deviation	N
rating of reptile quality - 1-10 scale	5.67	2.498	12
rating of fish quality - 1-10 scale	6.67	2.146	12

Tests of Within-Subjects Effects

Measure:MEASURE_1

Source		Type III Sum of Squares	df	Mean Square	F	Sig.
Species	Sphericity Assumed	6.000	1	6.000	.846	.377
Error(Species)	Sphericity Assumed	78.000	11	7.091		

df effect
df error
Mean Square Error (MSE)
p-value

WG t-test results

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	rating of reptile quality - 1-10 scale	5.67	12	2.498	.721
	rating of fish quality - 1-10 scale	6.67	12	2.146	.620

Paired Samples Test

		Paired Differences			t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean			
Pair 1	rating of reptile quality - 1-10 scale - rating of fish quality - 1-10 scale	-1.000	3.766	1.087	-.920	11	.377

Notice the ns, means and standard deviations all match !!

To computehe various reporting values for the WG F questions on the assignment

ANOVA F = t^2 = $.920^2$ → .864
ANOVA df effect → always = 1
ANOVA df error = t-test df → 11

All of which match the values from the ANOVA output!