

# Seven-Week Science Crunch-Time Packet

## 8<sup>th</sup> Grade

The time has arrived to pep up the science classes and instill in our students the motivation and the pride for them and their school to apply the greatest effort in the last weeks before the science FCAT. Here are some tips for success:

### **Tips/Recommendations:**

1. The Science FCAT does not assess an accumulation of facts; it assesses the capability of the student to think critically within the context of the benchmarks. Some of the tips below deal with this issue.
2. Looking at the data from previous years, it is evident that the weight of the Annually Assessed (AA) benchmarks outweighs the Content Sample (CS) benchmarks. For this reason, it is recommended that these seven weeks focus on a review of the Annually Assessed benchmarks.
3. During the review, encourage high cognitive-level thinking rather than any kind of memorization or recalling of facts. For example, in dealing with the phases of the moon, students may be exposed to a hypothetical situation where they are presented with a problem such as: What phase of the moon would be seen from the Earth at a given point if we took snapshots of the moon at various intervals as it orbits the Earth?
4. In the preparation for the Science FCAT, much more can be achieved by allowing the students to investigate through inquiry-based, hands-on activities, and allowing them to think critically, rather than by lecturing them or asking them to memorize a large number of facts.
5. In the Science FCAT, some questions are misleading in the sense that sometimes the students think that they are being asked to remember some specific fact. When the question is read carefully, they may discover that the question is really asking to provide a logical solution to a problem. Instill in your students the confidence to believe in themselves; that they can succeed by reading the question again and to trying to search for logical solutions.
6. Use a variety of motivational strategies, school-wide and at the classroom level, to encourage students to try their best.
7. The table that follows describes a plan for teachers to be able to use the seven weeks before the Science FCAT to review the AA benchmarks, using activities that are meaningful and interesting to students. These activities should allow the students to develop critical thinking skills within the context of the benchmark. The plan gives some flexibility, as it provides two to three weeks for each cluster and several activities to select depending on available time. The more activities in which the student is allowed to participate, the better prepared, he/she will be to excel in the Science FCAT. The fourth cluster, which is "Scientific Thinking," should be embedded in and discussed with all the labs.
8. There are also Glencoe Textbook series, *Try at Home Labs*, included in this resource that can be used for classroom activities and/or reinforcement through home learning.
9. There are 15 AA benchmarks for Grade 8. The Strand H benchmarks have not been listed because these need to be embedded continuously throughout all hands-on activities.
10. *Mastering the FCAT* from the Glencoe Florida Science Grade 8 textbook ancillary materials should be incorporated to target and differentiate instruction for the annually assessed benchmarks.

## Seven-Week Science Crunch-Time Packet Plan for Grade 8:

Week of	Cluster	Annually Assessed Benchmarks**	Standard-Based, Inquiry-Based, Hands-On Activities
Jan. 14 – 18	<b>Chemical and Physical Strands A,B,C</b>	SC.A.1.3.1	<i>Mass, Volume, Density*</i> (EL8 Extensions p. 18) <u>and/or</u> <i>Density Driven Fluid Flow</i> (EL6)
Jan. 21 – 25		SC.B.1.3.1	<i>The Many Forms of Energy*</i> (EL8 Extensions p. 25) <u>and/or</u> <i>Focusing Solar Energy</i> (TB p. 637)
Jan. 28 – Feb. 1		SC.B.1.3.6	<i>Do the Wave*</i> (EL8 Extensions p. 36)
		SC.C.2.3.6	<i>Balloon Rocket</i> (EL7)
		SC.B.2.3.1	<i>Entropy at Work</i> (EL8 Extensions p. 47) <u>and/or</u> <i>Building a Roller Coaster</i> (EL7)
Feb. 4 – 8		<b>Earth/Space Strands D &amp; E</b>	SC.D.1.3.4
Feb. 11 – 15	SC.E.1.3.1		<i>Solar System Distance Scale Model</i> (EL6) <u>and/or</u> <i>The Martian Sun Times</i> (EL8)
Feb. 18 – 22	SC.F.1.3.1		<i>Dissecting a Flower</i> (EL8)
Feb. 25 – 29	SC.F.2.3.2		<i>Predicting the Traits of Offspring</i> (SILM) <i>Human Variations</i> (EL8)
	SC.F.2.3.3	<i>Does Natural Selection Take Place in a Fish Tank?</i> (Applying Science Activity TB p. 495)	
March 3 – 7	<b>Life and Environmental Strands F &amp; G</b>	SC.G.1.3.4	<i>Soil Creatures</i> (TB p. 629) <i>Cookie Mining</i> (EL8)
		SC.G.2.3.2	<i>Everything You Do makes A Difference</i> (EL8)

\*Note: If the Grade 8 *Essential Laboratory Activities* was not completed previously, it should be incorporated at this time in its entirety and not just the extension activities.

- **EL8** = Grades 8 *Essential Laboratory Activities*
- **EL6** = Grade 6 *Essential Laboratory Activities*
- **EL7** = Grade 7 *Essential Laboratory Activities*
- **SILM** = *Science Inquiry Lab Manual* - Glencoe Florida Science Grade 8 *TeacherWorks* CD
- **TB** = Textbook – Glencoe Florida Science Grade 8