How to Use DIVE Calculus, 1st Edition

What's Inside?

Syllabus

The DIVE syllabus organizes assignments on a 42 week schedule(see page 4). There are two types of assignments: lessons, and tests. At the beginning of the year, you will typically have 3-4 assignments. As the year progresses and the concepts become more complex, there are only 2-3 assignments. This allows students to slow down a little if extra time is needed.

Lessons

Each lesson is made up of three parts: **DIVE Lecture, Saxon Example Problems, and Saxon Problem Set**. The DIVE lecture number corresponds with the assigned Saxon lesson for that day. So if you are assigned Lesson 4, you will watch DIVE Lecture 4 and complete Saxon Lesson 4 in the Saxon Student Textbook.

DIVE Video Lectures Ensure Understanding

Did you know the lesson in the Saxon textbook is not the complete lesson? John Saxon designed his program to be taught in a public school classroom by a trained Saxon instructor. So think of the DIVE lectures as going to class. They have important information that is not in the book. Don't skip class! The DIVE lectures will actually save time by ensuring you understand.

During the lecture students should take notes and work problems with Dr. Shormann, pausing and rewinding as necessary. They should not be looking at their book. It is too difficult to look at the book, watch the lecture, and take notes. Because Saxon has limited practice on the new concept, Dr. Shormann uses different example problems in his lectures than the ones in the Saxon textbook. If a student needs more practice they can do the example problems in the Saxon lesson.

Saxon Example Problems Develops Fluency

Next, study and complete the Saxon Example Problems, found in the corresponding textbook lesson. This section provides practice on the new concept introduced during the DIVE lecture. Students should review the DIVE lecture as necessary.

Saxon Problem Set Builds Long-term Retention

Finally, the problem set is completed. It provides more than enough review of previously learned concepts. Saxon's unique method of continual review (not spiral) means the student is either practicing the concept in the mixed practice or building on it in the new lesson. Practicing a concept daily over a long period of time has been proven to build long-term retention.

Keep in mind the Problem Set problems are just practice. It is expected that students will "forget" some of the concepts. The key is to re-learn these forgotten concepts. Find the lesson that problem originated in. Then, simply click on the corresponding DIVE Lecture to quickly re-learn that concept. Better than an answer, this gives students the opportunity to apply what was just learned, which builds retention.

Rarely, after re-watching the DIVE lecture, the student may not understand. Mark the problem wrong and go to the next problem. It will be corrected during the grading step.

Saxon Answer Key for Grading Daily Work

Found in the Home Study Packet, the Answer Key provides the answers (not full solutions) to all Practice and Problem Set questions. At this level, it is recommended students grade their own work as this is part of the learning process. After seeing the correct answer, students can often find their mistake without using any other resources. If not, simply re-watch the corresponding DIVE lecture and try correcting the problem again. Homework should be graded and corrected before starting the next lesson.

Saxon Solutions Manual Provides Step-by-Step Solutions

If, after watching the DIVE lecture, the student still does not understand a problem, let them look at the Solutions Manual. Here they will find step-by-step solutions to every Problem Set question and Test question. A parent should keep this booklet and only have the student use it when grading is completed and they have corrected all the problems they can by re-watching the DIVE lecture.

Q&A Email Service with Dr. Shormann

If, after viewing the Solutions Manual, the student still does not understand the concept, contact Dr. Shormann by completing <u>this form</u>. Typically the student has missed a foundational concept along the way and he can pinpoint that for you. If at all possible, include a digital photo of the student's handwritten work. If Dr. Shormann can see their work, it's much more likely he can pinpoint the exact trouble spot.

Tests

Approximately every 4 lessons there is a test. The tests are in a small booklet called Test Forms, nestled in the Homestudy Packet. The tests are cumulative, which means there are concepts from previous lessons. Students should study for the test by working a few practice problems from each lesson the test covers. This information is listed on the syllabus in parentheses next to each test number.

Weekly Schedule

Use the Timed Method

Students should work on math 4 or 5 days per week, for 1.5 - 2 hours per day. At the end of this time, regardless of how much of the lesson is completed, stop and pick up where you left off the next day. Eventually, the student will build retention and fluency and complete their lessons faster and faster.

Instead of requiring the student to complete a full lesson every day, use the timed method in red text above. This will ensure the student has time to go back and relearn forgotten concepts, building mastery and fluency.

How many problems in the Problem Set should I complete?

Each lesson has 25-30 homework problems. However, most DIVE students do not need this much review. Following is a method that works well for reducing the amount of review while maintaining fluency and building long-term retention. If test scores drop below an 80 or 85, this means the student needs more practice and should increase the number of homework problems.

Odds or Evens + 5

With this schedule students complete the odd numbered problems on odd numbered lessons and even numbered problems on even lessons. If you have a very strong math student, 15 problems may be enough review. Typically 15 problems do not provide enough review for most students to build fluency. Therefore, we recommend adding 3-5 more problems from the most recent lessons. For example, if you are on lesson 65, you would do all the odd numbered problems in the Mixed Practice section. Then circle 3-5 problems from Lessons 62-65. This will add extra practice on the most recently learned concepts.

New to DIVE or Saxon Math?

The first 30 lessons of each Saxon text are review and move fairly quickly. However, if you are new to Saxon/DIVE these lessons may not be review and extra time may be required to complete these lessons. It is especially important to use the Timed Method described under Weekly Schedule above. Don't be surprised if it takes 2 or 3 days to complete a lesson during this review section.

Grades

Saxon Solutions Manual Step-by-Step Solutions to all homework and tests.

This book has step-by-step solutions to every homework and test question. A grade recording form is on page 5.

Homework Grades: The homework is practice (think piano or baseball practice). Don't be concerned about the number of missed homework problems. Students are expected to miss or "forget" some of the concepts until mastery is achieved. The continual "reminder" of solving the problem in the corrections step, over a long period of time, will build mastery and long-term retention. If all the homework is completed and corrected as instructed on page 4, award a 100. Points can be deducted for sloppy work, not following instructions, etc.

Test Grades: Test scores are the only tool that should be used to measure understanding. Concepts are not tested until the student has had time to achieve mastery. Tests should be graded by a parent. Mark each wrong problem but do not correct or mark what they did wrong. Instead, the student should correct each missed problem by following the steps on page 4. Missed problems corrected on paper without using any resources should be awarded 1/2 credit. This gives the student an incentive for showing their work. Missed problems corrected by re-watching the video lecture, looking at notes, etc, are not awarded extra credit.

If test scores drop below an 80 or 85 (with extra credit for corrected problems), back up 4 lessons and have the student do all the problems in each lesson. When test scores go up, you can try reducing the number of homework problems again.

To calculate a final grade, find the average for each column (sum of all grades divided by the number of grades) add all the grades in one column and divide by the number of grades). Then use the following formula to calculate the final grade.

Final Grade = (Total Homework Average x .20) + (Total Test Average x .80)

Syllabus for Calculus, 1st Edition

Calculus is recommended as a 3-semester course. However, many students can complete this in 2 semesters. Saxon Calculus, 1st Edition, is equivalent to a college-level Calculus I course. <u>Saxon Calculus, 2nd edition</u> contains BOTH Calculus I and II.

Daily Schedule

- 1. Find Today's Assignment on the DIVE Syllabus
- 2. Watch the DIVE Lecture

that corresponds with the assigned Saxon lesson. You should take notes and work problems with Dr. Shormann, pausing and rewinding until you understand. You should not be looking at the book during the lesson.

3. Complete Example Problems

in the Saxon textbook. Re-watch the DIVE lecture as needed.

4. Complete Problem Set

Re-watch the DIVE lecture for any questions you forget how to do. Typically there is a practice problem like the one you are attempting. Then try to do the problem again. If you can't, mark the problem wrong and go to the next problem. You will correct it in the next step.

5. Grade & Correct Homework Daily

Grade homework using the Answer Key in the Homestudy Packet. To correct missed problems: A. Check your work on all missed problems and see if you can figure out the correct answer.

B. For those you can't, re-watch the DIVE lecture the problem came from and try to correct again. If you can't go to the next missed problem.

C. After correcting all the missed problems you can, use the Solutions Manual to correct any remaining problems.

D. For any problems you cannot correct using the steps above, you may use <u>this form</u> to contact Dr. Shormann.

At first, this can be a time consuming process. Be patient and eventually you will build long-term retention. Then math will go faster and your test scores will be higher!

TESTS

Study for tests by working a few practice problems from the lessons listed on the syllabus. After a parent grades the test, correct missed problems:

1. Try to correct any problems you can without looking at your book, lectures, etc. Problems corrected this way will be awarded 1/2 credit.

Week #	Lessons	Tests
1	A-1	
2	2-4	
3	5-7	Test 1
4	8-10	Test 2
5	11-13	
6	14-16	Test 4
7	17-19	
8	20-22	Test 5
9	23-25	
10	26-28	Test 6
11	29-31	
12	32-34	Test 7
13	35-37	Test 8
14	38-40	Test 9
15	41-43	
16	44-46	Test 10
17	47-49	Test 11
18	50-52	Test 12
19	53-55	
20	56-58	Test 13
21	59-61	Test 14
22	62-64	Test 15
23	65-67	Test 16
24	68-70	Test 17
25	71-73	
26	74-76	Test 18
27	77-79	Test 19
28	80-82	Test 20
29	83-85	
30	86-88	Test 21
31	89-91	Test 22
32	92-94	Test 23
33	95-97	
34	98-100	Test 24

2 Look at the answer key then try to correct the problem.3. Correct all other problems using the steps listed under step 5 B-D above.

35	101-103	Test 25
36	104-105	
37	106-107	Test 26
38	108-109	
39	110-111	Test 27
40	112-113	
41	114-115	Test 28
42	116-117	Test 29

Grade Recording Form

Jdent Name			Scho	School Year	
urse Name			Final Grade		
Week	Lessons	Homework Average	Test	Test Grade	
1	A-1				
2	2-4				
3	5-7		Test 1		
4	8-10		Test 2		
5	11-13				
6	14-16		Test 4		
7	17-19				
8	20-22		Test 5		
9	23-25				
10	26-28		Test 6		
11	29-31				
12	32-34		Test 7		
13	35-37		Test 8		
14	38-40		Test 9		
15	41-43				
16	44-46		Test 10		
17	47-49		Test 11		
18	50-52		Test 12		
19	53-55				
20	56-58		Test 13		
21	59-61		Test 14		
22	62-64		Test 15		
23	65-67		Test 16		
24	68-70		Test 17		
25	71-73				
26	74-76		Test 18		
27	77-79		Test 19		
28	80-82		Test 20		
29	83-85				
30	86-88		Test 21		

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31	89-91	Test 22	
32	92-94	Test 23	
33	95-97		
34	98-100	Test 24	
35	101-103	Test 25	
36	104-105		
37	106-107	Test 26	
38	108-109		
39	110-111	Test 27	
40	112-113		
41	114-115	Test 28	
42	116-117	Test 29	
	Homework and Test Average		
	Final Grade		

Need help accessing or viewing the DIVE video lessons?

Stream & Download Access Instructions & Tech Support

VHX: Error SystemTimed Out: Follow these Steps

CD-ROM Access Instructions & Tech Support