

# INSTRUCTION GUIDE



## Michigan Model for Health<sup>®</sup> Pre-/Post-Test

The *Michigan Model for Health<sup>®</sup> (Michigan Model)* Pre-/Post-Test is an evaluation instrument for the Grade 5 *Michigan Model* Curriculum. This *Instruction Guide* provides information on the *Michigan Model* Pre-/Post-Test and how to use it in your evaluation.

There are three parts to this *Instruction Guide*:

- **Part 1** provides an overview of the *Michigan Model* Pre-/Post-Test and describes the different sections of the instrument,
- **Part 2** provides instructions on how to administer the *Michigan Model* Pre-/Post-Test to students, and
- **Part 3** discusses how to score, analyze, and interpret the *Michigan Model* Pre-/Post-Test results.

## Part 1: Overview of Pre-/Post-Test

### Purpose of the Pre-/Post-Test

The *Michigan Model for Health<sup>®</sup> (Michigan Model)* is a comprehensive health education curriculum that facilitates skills-based learning through lessons that include a variety of teaching and learning techniques to build positive lifestyle behaviors in students and families. **In addition, the *Michigan Model* targets all of the most serious health challenges faced by students at elementary and secondary grades**, including social and emotional health; nutrition and physical activity; alcohol, tobacco and other drugs; safety; personal health and wellness (elementary); and HIV (upper elementary and secondary).

**Because the *Michigan Model* is comprehensive in nature, there are many potential variables that could be included in an evaluation of the program.** In addition, those interested in the impact of the *Michigan Model* program are likely to have a variety of reasons for conducting an evaluation. Some may be primarily interested in examining changes in attitudes among students while others may be interested in examining changes in skills taught in the program.

The *Michigan Model* Pre-/Post-Test has several important features:

- **Each unit has a separate test<sup>1</sup>:** (a) Social and Emotional; (b) Nutrition and Physical Activity; (c) Safety; (d) Alcohol, Tobacco and Other Drugs; (e) Personal Health and Wellness (if covered at the grade level); and (f) HIV (if covered at the grade level).
- **Each test measures a variety of variables**, including concepts, skills, attitudes, and/or behaviors. See the following page for the variables measured and item numbers of each test.
- **Each test is reliable and valid.** The test items showed adequate test-retest reliability over a three-week period and were judged by a panel health education experts to measure the intended constructs.

<sup>1</sup> Some items adapted from the following sources: Centers for Disease Control and Prevention (2000). *Youth Risk Behavior Surveillance—1999*. Washington, DC: Government Printing Office; CCSSO. (2004). *Improving Teaching and Learning: CCSSO-SCASS HEAP project*, Bosworth K, Espelage D. (1995). *Teen Conflict Survey*. Bloomington, IN: Center for Adolescent Studies, Indiana University.

## Grade 5: Pre-/Post-Test Variables and Item Numbers

Social and Emotional	Item #s
Skills	1 – 8
Attitudes	9 – 11
Problem-Solving	12
Decision-Making	13
Goal-Setting	14 – 15

Nutrition and Physical Activity	Item #s
Physical Activity Behaviors	1 – 2
Nutrition Attitudes	3 – 5
Nutrition Concepts	6 – 7
Nutrition Skills	8 – 11
Nutrition Behaviors	12 – 17

Safety	Item #s
Attitudes	1 – 2
Skills	3 – 4

Alcohol, Tobacco, and Other Drugs	Item #s
Attitudes	1 – 13
Skills	14 – 17

Personal Health and Wellness	Item #s
Skills	1, 2, 4
Concepts	3, 5

HIV	Item #s
Concepts	1 – 4
Skills	5

## Part 2: Administering the Pre-/Post-Test

### Pre-/Post-Test Schedule

**The Pre-Test** assessment should take place before starting the *Michigan Model* curriculum. Administering the Pre-Test within a week before starting *Michigan Model* is best.

**The Post-Test** assessment should be conducted after the program has been completed. Administering the Post-Test within a week after completing *Michigan Model* is best.

**Follow-up Post-Test** assessments are desirable to determine whether any changes emerged or were sustained over a long-term period. Any Follow-up Post-Tests should occur after enough time has passed (at least one month is best) to allow students to practice the skills they've learned.

### Pre-/Post-Test Options

**If more than one unit of the *Michigan Model* will be taught** (e.g., Social and Emotional, and Nutrition and Physical Activity), **there are at least two options for conducting the Pre-/Post-Tests:** (a) conduct all of the tests corresponding to those units at one time for the Pre-Test, prior to teaching any units, and conduct tests of all the units at the Post-Test, after all units are taught; or (b) conduct the Pre-/Post-Test for each unit separately, just before and after each unit is taught.

If the entire *Michigan Model Grade 5* curriculum will be taught and you plan to pre-test all of the units before beginning to teach, two sessions for each test (e.g., Pre-Test) are recommended in order to maximize student concentration and minimize fatigue. For example, the first testing session could include Social and Emotional, Safety, Personal Health and Wellness, and HIV. The second testing session could cover Alcohol, Tobacco, and Other Drugs; and Nutrition and Physical Activity.

## Pre-/Post-Test Data Collection

Data collection should be done consistently to ensure reliable results. Here are some suggested guidelines:

### 1. Prior to the survey, make sure each student:

- has a copy of the survey,
- has a pen or pencil, and
- is seated far enough away from others to ensure his or her answers can remain private.

### 2. To begin the survey, read the following script to the students:

(Pre-Test assessment only) *“We would like you to answer some questions. We are interested in how students your age act, think, and feel. We hope that you will have fun and find it interesting to answer these questions.”*

(Post-Test assessment only) *“We know that most of you have completed this survey before. However, we are interested in what your answers are to the questions NOW.”*

*“Give the best answer you can. Work quickly but carefully. The questions will give you different options for answering. Remember, choose that answer that best fits you. Be sure to fill in the circle completely. Make sure that you fill in only one circle for each question.*

*“Your information will be kept private. Do not say your answers out loud. If you don’t want to answer a question, leave it blank. If you do not understand a question, raise your hand and I will help you.”*

## Part 3: Scoring and Analyzing the Results

### Scoring the Results

For most purposes, the best scoring method is to tally the number correct for each student. Use the attached answer key to score each item. Each correct item is worth one point.

If percentages are needed to determine whether a performance goal was met (e.g., at least 80% correct), calculate the **percent correct** by adding up the number correct and dividing by the total number of items for that test.

**EXAMPLE: Calculate Percent Correct**

Nutrition and Physical Activity  
Pre-/Post-Test (18 items):

Student #	Pre-Test		Post-Test	
	# correct	% correct	# correct	% correct
01	5	5/18 = 28%	9	9/18 = 50%
02	8	8/18 = 44%	15	15/18 = 83%
03	14	14/18 = 78%	16	16/18 = 89%

# Grade 5: Pre-/Post-Test Answer Key

Test/Variable	Item #(s)	Correct Answer	Test/Variable	Item #	Correct Answer
<b>Social and Emotional (S/E)</b>			<b>Alcohol, Tobacco, and Other Drugs (ATOD)</b>		
S/E Skills	1	A	ATOD Attitudes	1	C or D
	2	C		2	C or D
	3	B		3	A or B
	4	C		4	A or B
	5	C		5	C or D
	6	C		6	A or B
	7	D		7	C or D
	8	B		8	C or D
S/E Attitudes	9 – 10	D		9	C or D
	11	A or B		10	A or B
Problem-Solving	12	A or B		11	A or B
Decision-Making	13	A or B		12	C or D
Goal-Setting	14 – 15	A or B		13	A or B
<b>Safety</b>			ATOD Refusal Skills	14	C
Safety Attitudes	1 – 2	D		15	D
Safety Skills	3	D		16	D
	4	B		17	A
<b>Personal Health and Wellness (PH/W)</b>			<b>Nutrition and Physical Activity (PA)</b>		
PH/W Skills	1	B	PA Behaviors	1	D
PH/W Skills	2	D		2	A
PH/W Concepts	3	A	Nutrition Attitudes	3 – 5	A or B
PH/W Skills	4	B	Nutrition Concepts	6	D
PH/W Concepts	5	B		7	B
<b>HIV</b>			Nutrition Skills	8	B
HIV Concepts	1	A		9	A
	2	A		10	B
	3	C		11	D
	4	D	Nutrition Behaviors	12 – 14	A
HIV Prevention Skills	5	B		15 – 16	B
				17	A

## Analyzing the Results

Analyzing data can involve tests for “statistical” significance and “social” significance. Tests of statistical significance reflect whether the observed results are reliable and not due to chance. Statistical testing involves technical skills that may require assistance from a program evaluator or other expert.

Tests for social significance, or “real-world” impact, are usually based upon whether the observed results meet a pre-determined performance level (e.g., at least 80% correct).

The following are questions that help analyze the social significance of the results.

- **Were the outcomes in the expected direction?** The direction of change is a basic yet important indicator, especially when the outcomes did not meet or exceed the performance goal(s), because at least you’ll know whether you are moving in the right direction. If the outcomes are in the opposite direction or not as robust as expected, a careful review of the program and process evaluation should occur.
- **Did the outcomes meet or exceed the expected performance level(s)?** This is the “bottom-line” question of your analysis, because it relates directly to the expected outcome.
- **Were the outcomes different for various groups (e.g., males vs. females)?** Not all subgroups may have similar outcomes, so it may be important to report any differences. In addition, any subgroup differences should be considered and monitored as part of program improvements in subsequent years.
- **Were there unintended positive or negative outcomes?** Not all outcomes can be anticipated, so it’s important to identify and report any unintended results. Typically, unintended or negative outcomes emerge and can be understood better when a variety of stakeholders, such as those comprising a school health advisory council, are involved in the interpretation of the results. For example, high prevalence of attitudes favoring drug use among a few students may reveal an isolated problem noticed by teachers or parents.
- **How clearly were the outcomes attributable to the program?** There are various levels of confidence in attributing student outcomes to programming. Generally speaking, more confidence in the link between programs and outcomes results from implementing evidence-based programs such as the *Michigan Model for Health*<sup>®</sup>, because such programs have a track record of effectiveness when implemented with fidelity. An additional approach to determining a positive program effect is the use of a *comparison group* or *control group*.<sup>2</sup> These groups have not received the program, but are otherwise similar to the program group (e.g., in age, gender composition, and risk status). If the program group changed in the expected direction, but the comparison/control group did not, there is strong evidence of successful, program-related outcomes.

## What If the Pre-/Post-Test Results Are Negative?

Usually, the concern about negative results lies in whether an intended performance goal was achieved. Although negative results can be demoralizing, they shouldn’t be minimized or ignored, but rather seen as an opportunity for stakeholders, such as those comprising a school health advisory council, to reflect upon the program and related factors that may have accounted for the unwanted results.

---

<sup>2</sup>

Essentially, a control group and comparison group serve the same purpose, but a control group is selected through random assignment, whereas a comparison group is chosen through non-random methods. The clearest link between student outcomes and programming is made by using a control group. However, random assignment is a sophisticated process and is not always practical, so check with a professional evaluator for advice and assistance.

It is also important to realize that negative results can emerge even after years of successful programming and outcomes, which might be attributable to changes in the student population, and/or shifts in community attitudes (e.g., toward drug use).

Negative results could be due to one or more of the following reasons, all of which should be considered in efforts to improve program outcomes in future years:

- **The Pre-/Post-Test was not administered properly.** Negative results could be due to a variety of poor testing conditions, including incomplete test directions, hurrying the respondents, or even the attitude of the test administrator. Make sure that the administration procedures (provided in Part 2) are followed and that the same procedures are used for each testing session.
- **The program was not implemented completely or competently (with “fidelity”).** Negative results commonly originate from poor or incomplete planning and execution of the program. The Pre-/Post-Test for each unit (e.g., Safety) is designed under the assumption that all lessons for that unit have been implemented with fidelity by a person trained to teach the *Michigan Model for Health*<sup>®</sup>.
- **There were unexpected roadblocks.** Even if the *Michigan Model* is implemented with fidelity by trained teachers, there may be unforeseen roadblocks to successful outcomes. For example, the program may have been received poorly by the students, or students did not participate as planned. It’s also possible that an event in the district, such as a recent lapse in enforcement of rules against violence, may have weakened the prevention message. Because unanticipated roadblocks are possible, it’s critical to detect them early and take steps to overcome them.
- **The performance goal was not realistic.** If negative results were found despite implementing the program with fidelity by a trained teacher without incurring significant roadblocks, consider whether the original goals were on track. Was the timeline for change too short? Was the targeted behavior too resistant to change? Were the students more at-risk than originally believed? Finding answers to these questions usually involves a thorough needs assessment that includes not only a general review of objective risk factors and protective factors in the student population, but also reactions from trusted program participants and other students to determine their unmet needs and concerns.