



**TABLE OF SPECIFICATION:  
HANDS-ON APPROACH**

**PRESENTED FOR ADDIS ABABA CITY,  
GULELE SUBCITY, WOREDA 4 CLUSTER CENTER  
TEACHERS**

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# INTRODUCTION

## LEARNING COMPONENTS

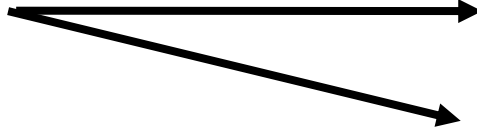
### 1. KNOWLEDGE

Does the student know what he or she should do?



Is he or she able to do it?

### 2. SKILLS



Communication skill

Psychomotor skill.



### 3. ATTITUDE/ RESPONSE

In practice, does the student choose to do it when confronted with a situation?



Learning competence is demonstrated when a task is performed using learned skills and knowledge.

# STATISTICS SPEAK OUT

## PSLCE Achievement Trends : Percentage of Students who scored 50% and above (2002-2009)

Adm.Regions	2002	2003	2004	2005	2006	2007	2008	2009	Average
Tigray	62	62.4	71.7	75.3	70.7	76.7	92	83.7	73.0
Amhara	32.3	28.8	37.5	44	44.1	75.3	82	74.9	49.1
Oromia	29.8	43.8	62	62.2	62.3	83	84.1	87.2	61.0
SNNP	13.3	15.8	16.4	18.6	42.7	61.6	78.7	42	35.3
Harari	11	19.1	19.8	26.7	29.9	26.5	36.2	37	24.2
Addis Ababa	21.7	27.7	27.9	28.3		46	50.3	39.3	33.7
Dire Dawa	20.7	22.2	24.1	21.6	29	43.4	37	31.8	28
Afar	59.1	32.5	25.9	33.6	27	61.5	69.9	35.3	44.2
Ethio Somali	22.9	29.8	37.6	52.3		41	49	81	38.8
Benishan.G	28.1	24.2	19.5	13	15.8	26.8	24.4	31.5	21.7
Gambella	12.5	11.2	9.1	21.8	17.1	23.5	48.5	23.6	20.5
Nat. Average	28.5	28.9	31.9	36	37.6	48.5	79.5	51.6	41.6

# INTRODUCTION

## Test blueprint (Table of Specification)

- Test blueprint is a two way chart that relates the learning outcomes to the course content or,
- It's a two dimensional array (sometimes called a matrix) of which one dimension is dedicated to content and the other dimension is dedicated to objectives.
- Very often Table of specification and test blue print are entitled interchangeably.

# INTRODUCTION (CONTINUED)

## What is Table of Specification (ToS)?

- ToS (Test blueprint) is a document that helps **plan** out our examination,
- Its an essential tool that make our test creation process **methodological** and **organized**,
- It's a plan that enhances the likelihood of crafting **valid** and **reliable** test,
- ToS (Test blueprint) contain a representative sample of student knowledge that enables teacher (expert) to prepare items of a test.

# TEST BLUEPRINT

## Components of the test blueprint

- Table of **curriculum** specification,
- Table of **content** specification,
- Table of **Item** specification

### 1- Curriculum Specification

- Curriculum specification is a essential and fixed document extracted from **syllabus** at a specified grade levels,
- Once its carefully prepared, it may well serve for many years

# CURRICULUM SPECIFICATION

## Social Studies Syllabuses Grade 7 (Example)

*Social Studies: Grade 7*

### Unit 1: Living in Africa (23 periods )

*Unit Outcomes:* Students will be able to:

- Explain the shape, location, and super language families of Africa
- Recognize the major ancient civilization and pre-colonial states of Africa
- Discuss factors that affect distribution, settlement and livelihood in Africa.

<i>Competencies</i>	<i>Contents</i>	<i>Suggested activities</i>
<p><i>Students will be able to:</i></p> <ul style="list-style-type: none"> <li>• Compare the size and shape of Africa with other continents.</li> <li>• Identify the absolute location of Africa.</li> </ul> <ul style="list-style-type: none"> <li>• Explain the terms latitude and longitude in relation to parallel and meridians.</li> </ul>	<p><b>1. Living in Africa</b></p> <p><b>1.1 The people of Africa Size, Shape and Location of Africa (2 periods )</b></p> <ul style="list-style-type: none"> <li>• Africa's position</li> </ul> <p><b>1.2 Latitude and longitude (3 periods )</b></p> <ul style="list-style-type: none"> <li>• The tropics of Cancer, Capricorn and the Equator</li> <li>• Lines of latitude and longitude and the Greenwich meridian</li> </ul>	<ul style="list-style-type: none"> <li>• Begin the class by presenting physical map of Africa and encourage students to come with varied information about Africa from what they observed on a map. Let students discuss about size, shape &amp; location of Africa based on the extracted information</li> <li>• Students are given a blank map of Africa and its countries. The teacher puts a physical map on the board, which should also be in their book and asks students to identify and say something about a country in turn. The teacher supplements their information.</li> <li>• Students add the names of the countries, capitals and major rivers to their maps.</li> <li>• Case study: comparison of two capitals: e.g. Accra and Kampala</li> <li>• Capital and country matching quiz</li> <li>• Class discussion: Review students' work from Grade 6 on the tropics of Capricorn and Cancer, the Equator and earth's axis. Draw them on the board.</li> <li>• Next introduce other lines of latitude. Then introduce lines of longitude, beginning with the Meridian. Ask if anybody knows why it is so important. Explain it to them.</li> <li>• Students copy the diagram in their book.</li> <li>• Finally, explain how one hour east, take away 15 degrees of longitude to the East.. Relate it to the path of the sun. Use a satellite television schedule e.g. NileSat showing time in UK, Cairo, Addis, Saudi Arabia, Abu Dhabi etc for the showing of a football match. Ask the</li> </ul>

# CURRICULUM SPECIFICATION (CONTINUED)

## Bloom's Taxonomy Action verbs (Example)

Definitions	I. Remembering	II. Understanding	III. Applying	IV. Analyzing	V. Evaluating	VI. Creating
<b>Bloom's Definition</b>	Exhibit memory of previously learned material by recalling facts, terms, basic concepts, and answers.	Demonstrate understanding of facts and ideas by organizing, comparing, translating, interpreting, giving descriptions, and stating main ideas.	Solve problems to new situations by applying acquired knowledge, facts, techniques and rules in a different way.	Examine and break information into parts by identifying motives or causes. Make inferences and find evidence to support generalizations.	Present and defend opinions by making judgments about information, validity of ideas, or quality of work based on a set of criteria.	Compile information together in a different way by combining elements in a new pattern or proposing alternative solutions.
<b>Verbs</b>	<ul style="list-style-type: none"> <li>• Choose</li> <li>• Define</li> <li>• Find</li> <li>• How</li> <li>• Label</li> <li>• List</li> <li>• Match</li> <li>• Name</li> <li>• Omit</li> <li>• Recall</li> <li>• Relate</li> <li>• Select</li> <li>• Show</li> <li>• Spell</li> <li>• Tell</li> </ul>	<ul style="list-style-type: none"> <li>• Classify</li> <li>• Compare</li> <li>• Contrast</li> <li>• Demonstrate</li> <li>• Explain</li> <li>• Extend</li> <li>• Illustrate</li> <li>• Infer</li> <li>• Interpret</li> <li>• Outline</li> <li>• Relate</li> <li>• Rephrase</li> <li>• Show</li> <li>• Summarize</li> <li>• Translate</li> </ul>	<ul style="list-style-type: none"> <li>• Apply</li> <li>• Build</li> <li>• Choose</li> <li>• Construct</li> <li>• Develop</li> <li>• Experiment with</li> <li>• Identify</li> <li>• Interview</li> <li>• Make use of</li> <li>• Model</li> <li>• Organize</li> <li>• Plan</li> <li>• Select</li> <li>• Solve</li> <li>• Utilize</li> </ul>	<ul style="list-style-type: none"> <li>• Analyze</li> <li>• Assume</li> <li>• Categorize</li> <li>• Classify</li> <li>• Compare</li> <li>• Conclusion</li> <li>• Contrast</li> <li>• Discover</li> <li>• Dissect</li> <li>• Distinguish</li> <li>• Divide</li> <li>• Examine</li> <li>• Function</li> <li>• Inference</li> <li>• Inspect</li> </ul>	<ul style="list-style-type: none"> <li>• Agree</li> <li>• Appraise</li> <li>• Assess</li> <li>• Award</li> <li>• Choose</li> <li>• Compare</li> <li>• Conclude</li> <li>• Criteria</li> <li>• Criticize</li> <li>• Decide</li> <li>• Deduct</li> <li>• Defend</li> <li>• Determine</li> <li>• Disprove</li> <li>• Estimate</li> </ul>	<ul style="list-style-type: none"> <li>• Adapt</li> <li>• Build</li> <li>• Change</li> <li>• Choose</li> <li>• Combine</li> <li>• Compile</li> <li>• Compose</li> <li>• Construct</li> <li>• Create</li> <li>• Delete</li> <li>• Design</li> <li>• Develop</li> <li>• Discuss</li> <li>• Elaborate</li> <li>• Estimate</li> </ul>



# CURRICULUM SPECIFICATION (CONTINUED)

## The levels of cognitive domains

Cognitive domains are the guiding posts in constructing test items.

**1- KNOWLEDGE (Remembering)** it's the ability to remember previously learned information

*Example:* Name three common varieties of apple.

**2. COMPREHENSION (Understanding)** it's the ability to grasp the meaning of what one has learned

*Example:* Compare the identifying characteristics of a Golden Delicious apple with a Granny Smith apple.

# CURRICULUM SPECIFICATION (CONTINUED)

## The levels of cognitive domains

3- **APPLICATION (Applying)** it's the ability to use a learned skill in a new and concrete situation

*Example:* Would apples prevent scurvy, a disease caused by a deficiency in vitamin C?

4- **ANALYSIS (Analyzing)** it's the ability to breakdown a given whole into its component parts

Its characteristics include:

- Analysis of elements
- Analysis of relationships
- Analysis of organization

# CURRICULUM SPECIFICATION (CONTINUED)

## The levels of cognitive domains

*Example:* List four ways of serving foods made with apples and explain which ones have the highest health benefits. Provide references to support your statements.

5. **SYNTHESIS (Creating)** – it's the ability to put parts together to form a whole

Its characteristics include:

- Production of a unique communication
- Production of a plan, or proposed set of operations
- Derivation of a set of abstract relations

# CURRICULUM SPECIFICATION (CONTINUED)

## The levels of cognitive domains

*Example:* Convert an "unhealthy" recipe for apple pie to a "healthy" recipe by replacing your choice of ingredients. Explain the health benefits of using the ingredients you chose vs. the original ones.

- 6- **EVALUATION (Evaluating)** it's the ability to judge the appropriateness of a given skill or learned information for a given purpose or situation. Its characteristics include:
- Judgments in terms of internal evidence
  - Judgments in terms of external criteria

*Example:* Which kinds of apples are best for baking a pie, and why?

# CURRICULUM SPECIFICATION (CONTINUED)

## Bloom's Taxonomy Action verbs

### How to construct table of table of curriculum specification

- 1- Convert action verbs of each competency (ability) from the syllabus into Bloom's taxonomy

#### For example:

- Identify – Applying (Application)
- Define – Remembering (Knowledge)
- Change – Creating (Synthesis)
- Compare – Understanding (Comprehension) or /Analyzing/Evaluating
  
- Some action verbs [as mentioned above) need serious attention and expert judgment in the process of conversion.

- 2- Prepare a table and copy all the converted verbs of behavioral dimension along side the main content

# CURRICULUM SPECIFICATION (CONTINUED)

## Bloom's Taxonomy Action verbs

The following lists notoriously ambiguous words or phrases which should be avoided so that the intended outcome is concise and explicit.

### WORDS TO AVOID

Believe, Hear, Realize, Capacity, Intelligence, Recognize, Comprehend, Know, See, Conceptualize, Listen, Self-Actualize, Depth, Memorize, Think, Experience, Perceive, Understand, Feel

### PHRASES TO AVOID

Evidence a, To Become, To Reduce, Appreciation for, Acquainted with, Anxiety Attitude of, Adjusted to, Immaturity Awareness of, Capable of, Insecurity Comprehension of, Cognizant of, Enjoyment of, Conscious of, Feeling for, Familiar with, Interest in, Interested in, Knowledge of, Knowledgeable about, Understanding of, Self-Confident in.

# CURRICULUM SPECIFICATION (CONTINUED)

## Components of Table of Specification

- 1- The table of **Curriculum Specification** include:
  - Grade level,
  - Chapter (Unit),
  - Topic (Content ),
  - Periods allotted, and
  - Bloom's taxonomy
- Curriculum specification should be made with great care and attention
- It's a baseline to prepare a test blueprint (ToS)

# CURRICULUM SPECIFICATION (CONTINUED)

## Table of curriculum Specification Format (Example)

### NATIONAL EDUCATIONAL ASSESSMENT AND EXAMINATIONS AGENCY

#### Table of Curriculum Specification for eight social studies regional examination, 2008/2016

Grade	Unit	Specific Objectives	Behavioral Dimension	Period	percent	Remarks (Stimulus)
7	1	1.1 Compare the size and shape of Africa with other continents	Analysis			
		a. Identify the absolute location of africa	Knowledge			
		b. Explain the terms latitude and longitude in relation to para	Comprehension			
		and meridians				
		1.2 Discuss factors that affect population distribution, settlement a	Comprehension			
		livelihood in Africa				
		a. Describe the factors which affect population distribution	Knowledge			
		b. Relate factrors affecting population distribution to populat	Knowledge			
		settlement in Africa and identify settlement on a map				
		c. Explaine the types of livelihood commonly found in Africa	Comprehension			
		d. Relate the types of livelihood to climate and vegetation	Knowledge			
		e. Discuss Transport routes	Comprehension			
		f. Discuss reasons for urban settlement	Comprehension			



# CONTENT SPECIFICATION

## 2- Content Specification

- Content specification is [an alternative document] prepared with the curriculum specification and student's text together
- It provides main and sub content areas found in the student's text which is part of objectives in the curl.spec.
- It's particularly important for **quick** content information access in the student's text
- Content specification provides facts and figures about the specific objectives and gross total items possible
- It includes
  - Grade level,
  - Topics (Contents) and
  - Periods



# SOCIAL STUDIES

Grade 7

Student Textbook

# CONTENT SPECIFICATION (CONTINUED)

## CONTENT SPECIFICATION FORMAT (EXAMPLE)

### National Educational Assessment and Examinations Agency

#### Table of Content Specification for grade eight social studies regional examination, 2009/2017

Grade	Unit	Content dimension	Period	Page	Remark
7	one	1.1 Compare the size and shape of Africa with other continents	13	3	
		1.1.1. Identify the absolute location of africa	4	3	
		1.1.2. Explain the terms latitude and longitude in relation to parallel and meridians		3 4	
		1.2 Discuss factors that affect population distribution, settlement and livelihood in Africa		5 7	
		1.2.1. Describe the factors which affect population distribution	8	8	
		1.2.2. Relate factors affecting population distribution to population settlement in Africa and identify settlement on a map		10 11	
		1.2.3. Explaine the types of livelihood commonly found in Africa			
		1.2.4. Relate the types of livelihood to climate and vegetation			
		1.2.5. Discuss Transport routes		13	
		1.2.6. Discuss reasons for urban settlement	1	15	
		1.2.7. Identify some examples for urban settlement		16	
		1.2.8. Be aware of key transport routes and the effect of civil unrest		18	

# CONTENT SPECIFICATION (CONTINUED)

## CONTENT SPECIFICATION USED FOR STATISTICAL INFORMATION (EXAMPLE)

### National Educational Assessment and Examinations Agency

#### Table of Content Specification for grade eight regional examination, 2009/2017

Unit	Content Dimension	Period	Behavioral Dimension				Total items possible**	Remark
			Know	Comp	Appl	Anal		
<b>8th-1</b>	<b>Content one</b>	<b>10</b>	<b>7</b>	<b>3</b>	<b>5</b>	<b>3</b>	<b>18</b>	
	1.1	2	5			2	7	
	<b>1.2</b>	<b>8*</b>	<b>2</b>	<b>3</b>	<b>5</b>	<b>1</b>	<b>11</b>	Map reading section*
<b>2</b>	<b>Content two</b>	<b>34</b>	<b>20</b>	<b>27</b>	<b>8</b>	<b>19</b>	<b>74</b>	
	2.1					1	1	
	2.1.1	4	3	2		2	7	
	2.1.2	4	6	4		2	12	
	2.2					1	1	
	2.2.1	2		2		1	3	
	2.2.2	6	5	12	6	9	32	
	2.3	14	3	6	1	3	13	

# ITEM SPECIFICATION

## 3- Item Specification

- Item Specification is prepared with help of curriculum materials
- Curriculum specification and student's text are its main source to decide the weight and number of items desired to be written
- Item specification is the basic document in the test blueprint
- **Item specification includes:**
  - Grade level,
  - Chapter (Unit),
  - Content (Topic) of which items have to be written,
  - Number of periods spent,
  - Behavioral dimension in which items to be written should have.

# ITEM SPECIFICATION (CONTINUED)

## STUDENTS' TEXT

1.1

Lesson

The People of Africa, Location, Size and Shape of Africa

**Competencies:** After studying this lesson, you will be able to:

- Compare the size and shape of Africa with other continents.
- Identify the absolute location of Africa.

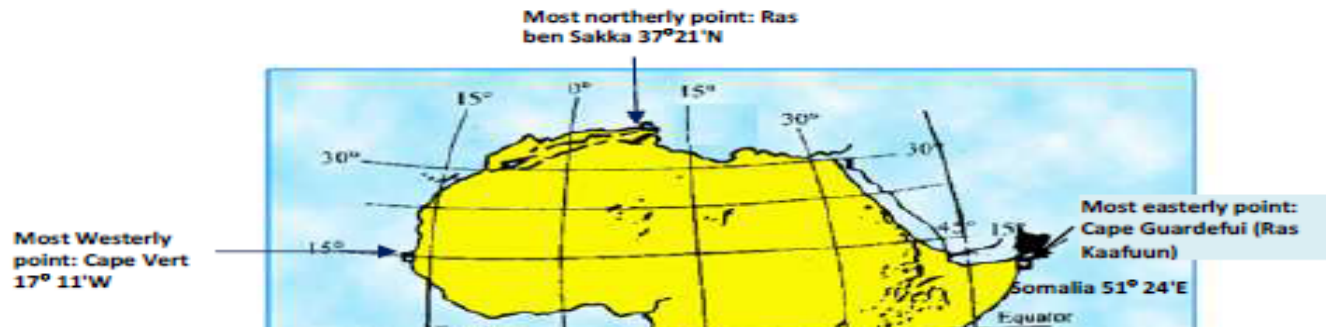
### Key terms

- Absolute location
- Massive continent

### A. The Positions of Africa

- What is an absolute location?
- Referring to Fig 1.1. Can you give the four extreme points of Africa?
- When we say Africa has largely intertropical location, what does that mean? Explain.

The exact location of a place can be identified on globes or maps by using latitudes and longitudes. Study fig 1.1 below carefully. It indicates the absolute location of Africa.



# ITEM SPECIFICATION (CONTINUED)

## ITEM SPECIFICATION FORMAT (EXAMPLE)

### NATIONAL EDUCATIONAL ASSESSMENT AND EXAMINATIONS AGENCY

Table of Item Specification for grade eight examination, 2009/2017

Grade	Content Dimension	Period	Behavioral Dimension				Total item	Remark (Stimulus)
			Know	Comp	Appl	Anal		
7th	<b>Unit one</b>	<b>13</b>					<b>4</b>	
	1.1	5						
	<b>1.2</b>	6	1.2-b	1.2-e			2	
			1.2-d				1	
			1.2-g				1	
	<b>Unit two</b>	<b>12</b>					<b>2</b>	
	2.1-2.3	6						
	2.4	4		2.4-a			1	
	2.5	2		2.5-b			1	
	<b>Unit three</b>	<b>16</b>					<b>3</b>	
	3.1	6		3.1-b			1	
				3.1-d			1	
				3.1-f			1	

# ITEM SPECIFICATION (CONTINUED)

## Steps to create Table item of Specification

- Determine coverage of the exam
  - Select the most important topics
- Determine learning objectives for each topic area
  - Weight (LoTs) and (HoTs)
  - Balance the objectives with bloom's taxonomy:
    - (LOT) represents Low order Thinking
    - (HOT) represents High order Thinking
- Determine duration of each content area (time spent for a particular topic)



## ITEM SPECIFICATION (CONTINUED)

- Align significant topics , learning objectives and time spent for each content and determine the area where item is getting ready to write.
- The table of item specification has to be **inclusive** and consider visually impaired or/and blind candidates.

### **Other informations to be included in the test blueprint**

- Introductory part about the document and its usage
- List of action verbs under the bloom's taxonomy
- Statistical information that shows the number and weight of items based on time spent and bloom's taxonomy respectively
- Each table of specification should bear the name of the organization, type of subject and academic year

# CONCLUSION

## What literatures say about ToS

**13%** of students who got low grades in exams are caused by faulty test questions. WORLDWATCH, The Philadelphia Trumpet (August 2005)

### Possible reasons for faulty test questions:

- No TOS or TOS was made after making the test.
- Questions are copied verbatim from the book or other resources.
- Not consulting the course outline.
- Much consideration is given to reduce printing cost.

# Level of Difficulty

# EASY – AVERAGE – DIFFICULT

**KNOWLEDGE**

**COMPREHENSION**

**30%**

**APPLICATION**

**ANALYSIS**

**50%**

**SYNTHESIS**

**EVALUATION**

**20%**

## CONCLUSION (CONTINUED)

### Things to notice

- Test specifications should not be made too detailed nor too prescriptive
- Narrowly defined test specifications can inhibit the creativity of item writers and lead to trivial items
- Brief specifications are best, with good training in how to use them for item development and assembly
- Use a cognitive taxonomy that is most appropriate to your discipline.
- Weigh the appropriateness of the distribution of items against the students' **level**, the **importance** of the test, the amount of **time** available.

# CONCLUSION

## POINTS TO PONDER

- A good *lesson* makes a good *question*
- A good *question* makes a good *content*
- A good *content* makes a good *test*
- A good *test* makes a good *grade*
- A good *grade* makes a good *student*
- A good *student* makes a good **COMMUNITY**

# CONCLUSION (CONTINUED)

## Rationale of constructing ToS

- ❖ Good ToS produce good items that measure what students know.
  - ❖ The quality of ToS determines fairness of the test.
- ❖ The quality of items determines the quality of test (i.e., reliability & validity)

**If you fail to plan,  
you plan to fail !**



*Thank You*

