

Teacher Questionnaire Science

<Grade 8>

<TIMSS National Research Center Name>

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Teacher Questionnaire

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T a .

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In teaching science to the students in this class, how often do you ask them to do the following?

Check circle for each line.

Every or almost every lesson

About half the lessons

Some lessons

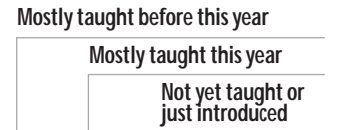
Never

- a) Listen to me explain new science content ----- — — —
- b) Observe natural phenomena and describe what they see --- — — —
- c) Watch me demonstrate an experiment or investigation ----- — — —
- d) Design or plan experiments or investigations ----- — — —
- e) Conduct experiments or investigations ----- — — —
- f) Present data from experiments or investigations -----

tion
or investiga

The following list includes the main topics addressed by the TIMSS science test. Choose the response that best describes when the students in this class have been taught each topic. If a topic was in the curriculum before the <eighth grade>, please choose “Mostly taught before this year.” If a topic was taught half this year but not yet completed, please choose “Mostly taught this year.” If a topic is not in the curriculum, please choose “Not yet taught or just introduced.”

Check circle for each line.



A. Biology

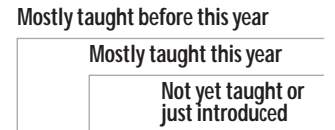
- a) Differences among major taxonomic groups of organisms (plants, animals, fungi, mammals, birds, reptiles, fish, amphibians, insects) ----- A — A — A
- b) Major organs and organ systems in humans and other organisms (structure/function, life processes) ----- A — A — A
- c) Cells, their structure and functions, including respiration and photosynthesis as cellular processes ----- A — A — A
- d) Life cycles, sexual reproduction, and heredity (inherited versus acquired/learned characteristics) ----- A — A — A
- e) Role of variation and adaptation in survival/extinction of species (including fossil evidence) ----- A — A — A
- f) Interdependence of populations of organisms in an ecosystem (e.g., carbon and water cycles, energy flow, food webs, competition, predation, human impacts on ecosystems) ----- A — A — A
- g) Human health (e.g., causes, transmission, and prevention of common infectious diseases, immunity) and the importance of diet, exercise, and other lifestyle choices in maintaining health ----- A — A — A

B. Chemistry

- a) Particulate structure, classification, and composition of matter (protons, neutrons, electrons, atoms, molecules, elements, compounds, mixtures) ----- A — A — A
- b) The periodic table as an organizing principle for the known elements ----- A — A — A
- c) Physical and chemical properties of matter ----- A — A — A
- d) Mixtures and solutions (e.g., solvent, solute, concentration/dilution) ----- A — A — A
- e) Properties of common acids and bases (e.g., acids have pH less than 7, reactions with indicators produce color changes, acids and bases neutralize each other) ----- A — A — A
- f) Characteristics of chemical reactions (e.g., transformation of reactants, evidence of chemical change) ----- A — A — A
- g) Matter and energy in chemical reactions (conservation of matter, familiar exothermic and endothermic reactions, factors affecting reaction rates) ----- A — A — A
- h) The role of electrons in chemical bonds ----- A — A — A

Choose the response that best describes when the students in this class have been taught each topic. If a topic was in the curriculum before the <eighth grade>, please choose "Mostly taught before this year." If a topic was taught half this year but not yet completed, please choose "Mostly taught this year." If a topic is not in the curriculum, please choose "Not yet taught or just introduced."

Check circle for each line.



C. Physics

- a) Physical states and changes in matter (explanations of properties in terms of movement and distance between particles; phase change, changes in volume and/or pressure, physical changes) ----- A — A — A
- b) Energy transformation and transfer (e.g., forms of energy, energy conservation, heat, temperature, equilibrium) ----- A — A — A
- c) Basic properties/behaviors of light (reflection, refraction, color, shadows, simple ray diagrams) ----- A — A — A
- d) Basic properties/behaviors of sound (vibrations that produce sound, transmission through media, loudness, pitch) ----- A — A — A
- e) Electric circuits (e.g., electrical conductors/insulators and the flow of electricity in series/parallel circuits) ----- A — A — A
- f) Properties and uses of permanent magnets and electromagnets ----- A — A — A
- g) Motion and forces (e.g., basic description of motion, common mechanical forces, properties of forces, effects of forces, simple machines, buoyancy, effects of density and pressure) ----- A — A — A

D. Earth Science

- a) Earth's structure and physical features (e.g., Earth's crust, mantle, and core; composition and relative distribution of water; composition of Earth's atmosphere) ----- A — A — A
- b) Earth's processes, cycles, and history (e.g., rock cycle, major geological events, formation of fossils and fossil fuels, water cycle, weather versus climate) ----- A — A — A
- c) Earth's resources, their use, and conservation (e.g., renewable/nonrenewable resources, human use of land and water resources) ----- A — A — A
- d) Earth in the Solar System and the universe (phenomena on Earth: seasons, eclipses, tides, phases of moon; members of the Solar System; physical features of Earth) ----- A — A — A

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A. How often do you usually assign science homework to the students in this class?

Check circle only.

I do not assign science homework --- _____

(Go to #19)

Less than once a week ---

1 or 2 times a week ---

3 or 4 times a week ---

Every day ---

B. When you assign science homework to the students in this class, about how many minutes do you usually assign? (Consider the time it would take an average student in your class.)

Check circle only.

15 minutes or less ---

16–30 minutes ---

31–60 minutes ---

61–90 minutes ---

More than 90 minutes ---

C. How often do you do the following with the science homework assignments for this class?

Check circle for each line.

Always or almost always

Sometimes

Never or almost never

a) Correct assignments and give feedback to students ----- — —

b) Have students correct their own homework ----- — —

c) Discuss the homework in class ----- — —

d) Monitor whether or not the homework was completed ----

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A. In the past two years, have you participated in professional development in any of the following?

Check circle for each line.

Check circle for each line.

	Yes		No	
a) Science content	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) Science pedagogy/ instruction	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) Science curriculum	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) Integrating technology into science instruction	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) Improving students' critical think	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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In the past two years, how many hours in total have you spent in formal <in-service/professional development> (e.g., workshops, seminars, etc.) for science?

Check circle only.

None ---

Less than 6 hours ---

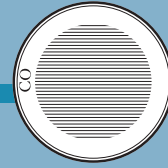
6–15 hours ---

16–35 hours ---

More than 35 hours ---

Thank You

Thank you for the thought, time, and effort you have put into completing this questionnaire.



<Grade 8>