TAKE A STAND: FAIR ACCESS

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Statement: Ontarians should have the right to choose faster access to MRI and better treatment through personal funding.

Table 1 Arguments that Support and Refute the Statement

Arguments that support the statement	Arguments that refute the statement
• People should have a right to spend their money as they desire and not be dictated to by government policy. • Private MRI clinics allow people to be diagnosed more quickly, thus easing the strain on the health care system. People's conditions can deteriorate further by waiting for an MRI for a year or more. • Doctors, nurses, and medical technologists will be enticed to stay in Canada with the option of working in the private sector. Private clinics will help stop the "brain drain" to the U.S. • Government monitoring will ensure that individuals do not jump queues for supplementary services. • Private clinics will alleviate the current stress on the public sector to provide MRIs.	• Individuals with more disposable income will have access to health care facilities faster than individuals with less disposable income. This inequality violates the premise upon which the Canadian Health Act is based: equal access to basic health services. • Serious cases are dealt with in a reasonable time span. OHIP pays for MRI provided in the U.S. if the service cannot be provided in Ontario. • Leaders in health care will be drawn to private clinics as a result of the "profit" generated. This consequence will eventually drain the public sector of the best doctors, nurses, and medical technologists. The public system, used by the majority of Ontarians, will be at a disadvantage. • Government monitoring is not effective. Audits are costly and time-consuming. • Government should consider alleviating the stress on hospitals by buying more up-to-date equipment, opening more public MRI clinics, and funding more programs to train MRI technologists, for whom there is a growing demand.

Student arguments will vary. The above arguments are some examples. The numbering of their points and the writing of position papers will also vary.

1.11 THE FORMATION OF IONIC COMPOUNDS

SECTION 1.11 QUESTIONS

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Understanding Concepts

1. An electrolyte is a compound that, when dissolved in water, produces a solution that conducts electricity. A nonelectrolyte is a compound that, when dissolved in water, produces a solution that does not conducts electricity.
2. Atoms have a tendency to form ions when their outermost shells are not full and they need to gain or lose electrons in order to attain a stable octet structure. Metals have a tendency to lose their valence electrons to attain a full outer shell and become cations, whereas nonmetals tend to gain electrons to fill their outer shells and become anions.
3. Cations and anions form ionic bonds. Metals lose electrons and become cations, whereas nonmetals gain electrons and become anions. The strong electrostatic force of attraction between cations and anions results in the formation of an ionic bond.
4. (a) $K\cdot$

   (b) $Cs\cdot$

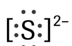
   (c) $:\!\ddot{\underset{\cdot\cdot}{I}}\!\cdot$

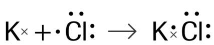
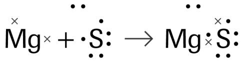
   (d) $\cdot\dot{\underset{\cdot}{Si}}\cdot$

(e) 

(f) 

(g) 

5. (a) H^+
   (b) K^+
   (c) F^-
   (d) Mg^{2+}
   (e) S^{2-}
6. (a) $[H]^+$
   (b) $[K]^+$
   (c) 
   (d) $[Mg]^{2+}$
   (e) 

   All the Lewis symbols have full outer shells (consisting of eight electrons). Positive ions have emptied their outermost shells, and negative ions have filled their outermost shells. The rule that is being followed is the octet rule.
7. (a) 
   (b) 

Applying Inquiry Skills

8. (a) Obtain a small sample of an ionic solid, such as a piece of chalk (calcium carbonate, $CaCO_{3(s)}$). Use a low-voltage conductivity apparatus to test the electrical conductivity of the sample. Record your observations.
   (b) In liquid form, ionic compounds conduct electricity.
   (c) Ionic compounds are solids at room temperature. As solids, they are nonconductors of electricity. However, as liquids, they conduct electricity quite well. Some examples of molten ionic compounds are sodium chloride (melts at 801°C) and aluminum oxide, Al_2O_3 (melts at 2000°C). When dissolved in water, ionic compounds produce solutions that conduct electricity.
   (d) In the solid state, ionic compounds do not conduct electricity. In ionic solids, the ions are tightly held in the crystal structure, so they are not free to move and carry electric charge. When an ionic compound is melted, or dissolved (dissociated) in water, the attractive forces are overcome and the crystal breaks up. The ions are now free to move and carry electric charge.

1.12 COVALENT BONDING

PRACTICE

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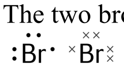
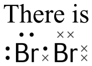
Understanding Concepts

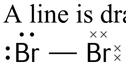
1. The two bromine atoms are placed side by side.

   Electron pairs are arranged so that each bromine atom is surrounded by eight electrons, satisfying the octet rule. There is one shared pair of electrons.

   A line is drawn to represent the shared pair of electrons between the two bromine atoms.

   The final chemical equation is