

Antenatal diagnosis- Terminale

Lycée Thibaut de Champagne Provins

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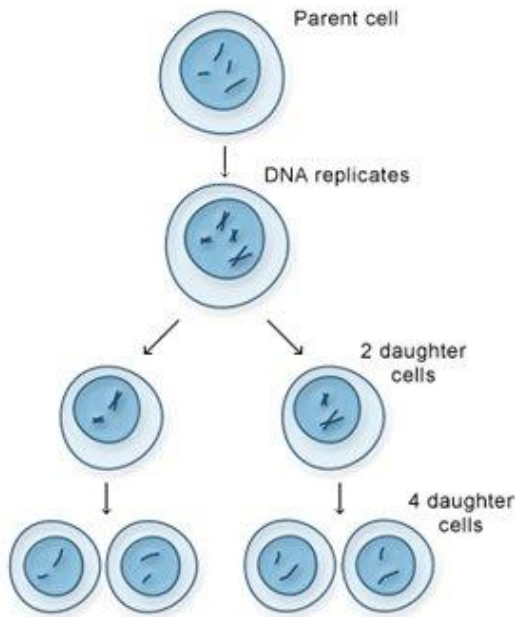


La classe de terminale:

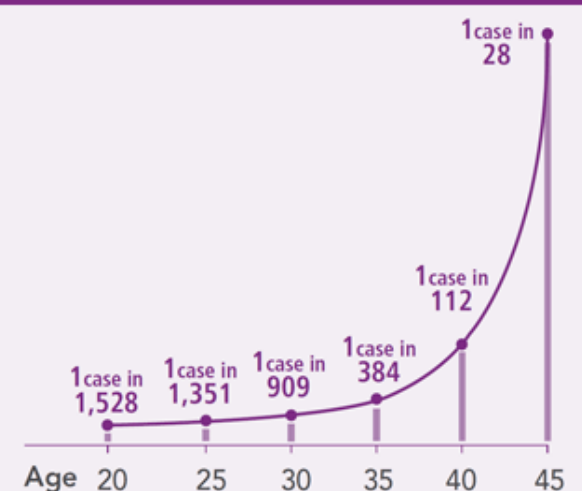
- 20 élèves: 12 TS et 8 TES/TL
- Horaires: 1h d'Anglais
1h de SVT
- Période de l'année: 1^{er} cycle, septembre/novembre

PROJET Présenté:

conseil médical à une femme enceinte
ayant un risque conséquent de donner
naissance à un enfant trisomique



PROBABILITY OF GIVING BIRTH TO A BABY
WITH TRISOMY 21 BY WOMAN'S AGE

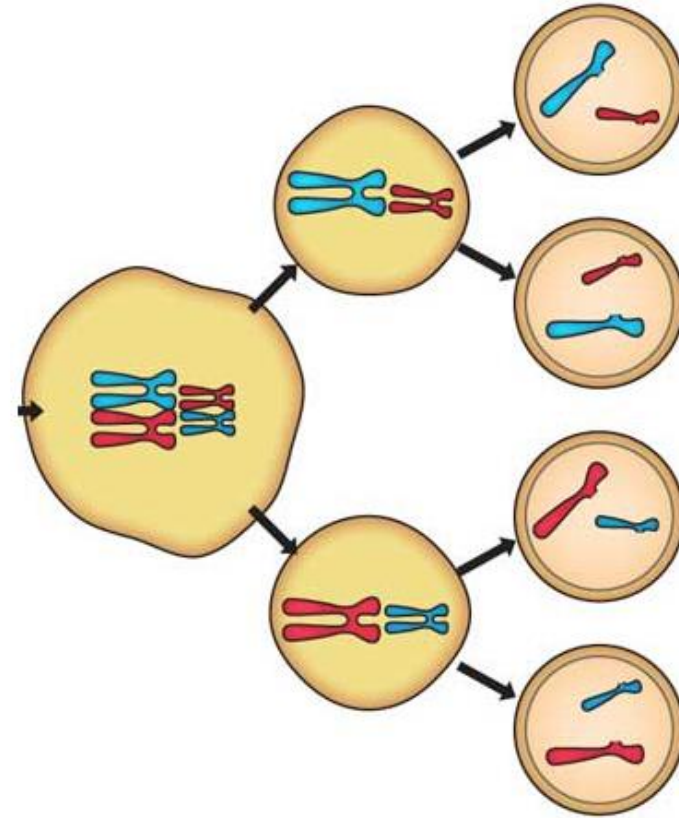
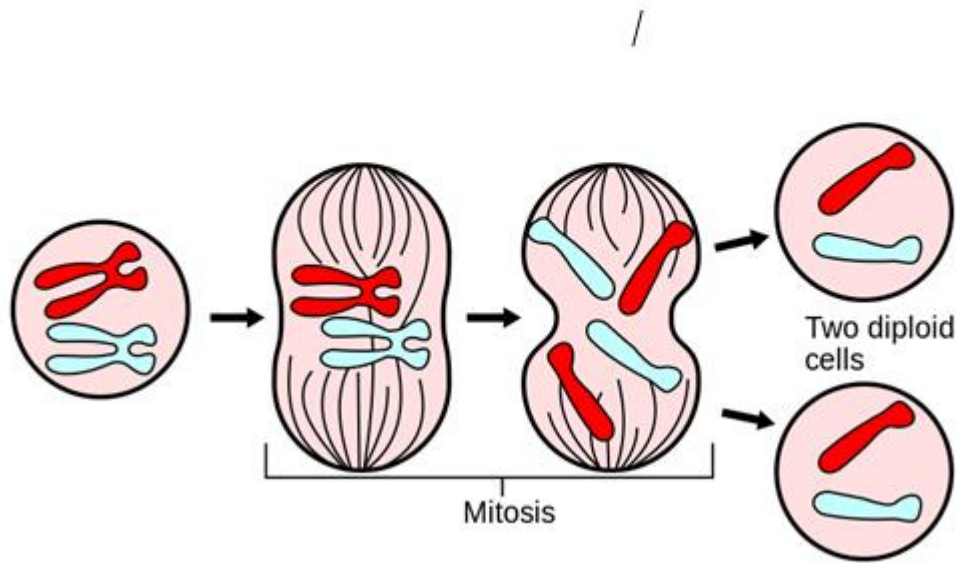


Tâches finales

- Réalisation d'un rapport médical adressé à une patiente présentant:
 - Origine génétique d'une trisomie
 - Estimation du risque précis pour elle de donner naissance à un enfant trisomique (focalisation que sur la T21)
 - Description du syndrome
 - Solutions proposées: garder le bébé, amniocentèse (risque?), avortement
 - Inclusion du contexte législatif (English Abortion Act)
- Réalisation en tant que chef de service de la présentation orale de cet étude de cas à des étudiants en médecine


Documents proposés

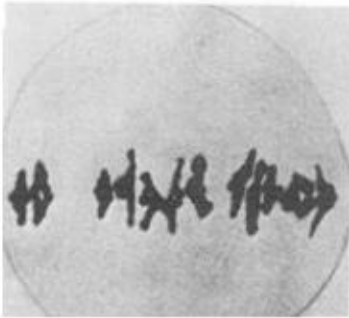
Genetic mechanism of the reproduction



Pour les S uniquement

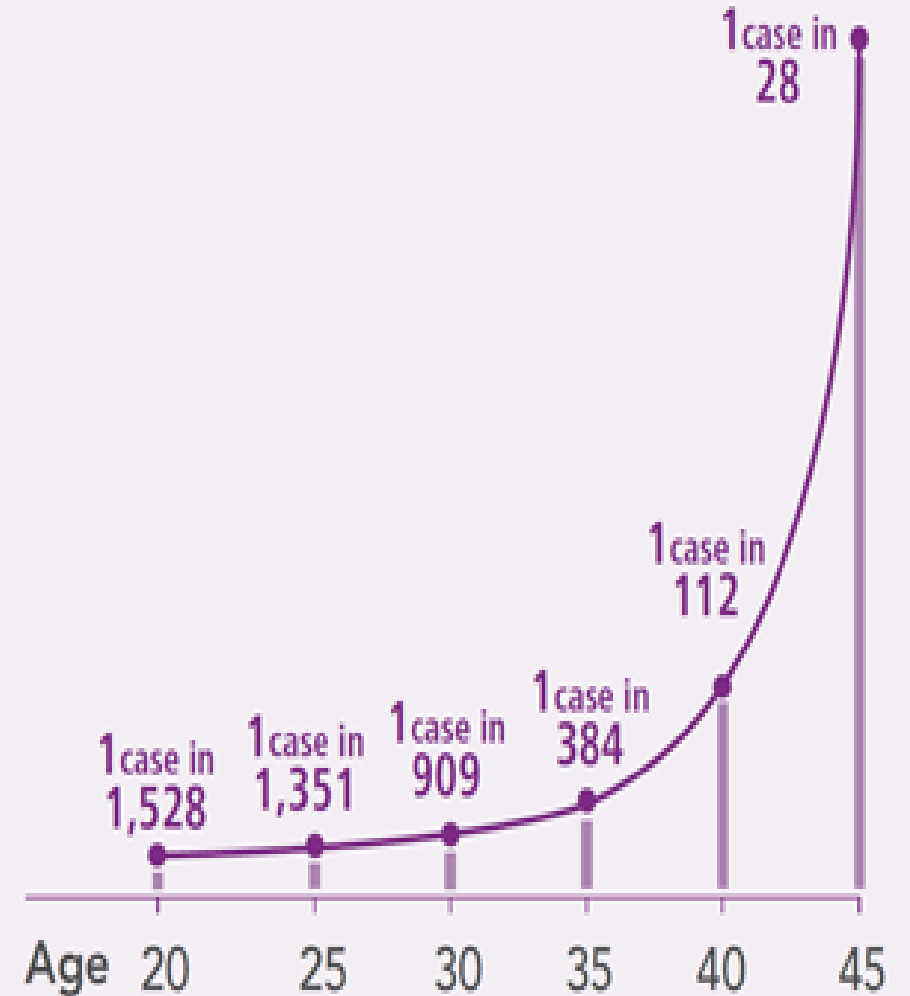
Étapes de la méiose à compléter
brièvement à l'aide d'une vidéo fournie
Permet juste d'acquérir le voc
spécifique en cas d'article technique

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- Document important pour mettre en Évidence l'importance de l'âge dans l'Estimation du risque
- Les élèves doivent décrire ce graphe avec Formule linguistique (higher is the age...)

PROBABILITY OF GIVING BIRTH TO A BABY WITH TRISOMY 21 BY WOMAN'S AGE



Étude de cas: Jane Doe Pregnancy







Patient:	Age: 41	weeks of pregnancy: 8
FIRST TRIMESTER SCREEN/ LAB REPORT		
Marker/analyze	value	
<i>Beta hcG</i>	<i>4,13ng/ml</i>	
<i>AFP</i>	<i>8 ng/ml</i>	
<i>uE3</i>	<i>3 ng/ml</i>	
<i>Inhibin A</i>	<i>6 ng/ml</i>	
<i>PAPP-A</i>	<i>1,9 ng/ml</i>	
		<i>NT: 1,75 mm</i>
		<i>CRL 45 mm</i>

1^{ère} étape: estimation précis du risque

- Avec le graphe et l'âge: 1/112
- Utilisation calculateur avec
Différents paramètres pour une
Estimation plus précise
(google: « antenatal risk calculator »)

Prenatal risk calculator for trisomy 21 & 18-13







Data Form

Maternal Age	<input type="text" value="0"/>	years
MoM AFP	<input type="checkbox"/> <input type="text" value="0"/>	
MoM uE3	<input type="checkbox"/> <input type="text" value="0"/>	
MoM Inhibin A	<input type="checkbox"/> <input type="text" value="0"/>	
MoM hCG	<input type="checkbox"/> <input type="text" value="0"/>	
MoM PAPP-A	<input type="checkbox"/> <input type="text" value="0"/>	
MoM NT	<input type="checkbox"/> <input type="text" value="0"/>	
NT Value	<input type="checkbox"/> <input type="text" value="0"/> mm	CRL <input type="text" value="0"/> mm
<input type="button" value="Compute"/>		<input type="button" value="Reset"/>

TRC Trisomy Risk Calculator

Prenatal risk calculator for trisomy 21 & 18-13

Data Form

Maternal Age	<input type="text" value="0"/>	years			
MoM AFP	<input type="checkbox"/>	<input type="text" value="0"/>			
MoM uE3	<input type="checkbox"/>	<input type="text" value="0"/>			
MoM Inhibin A	<input type="checkbox"/>	<input type="text" value="0"/>			
MoM hCG	<input type="checkbox"/>	<input type="text" value="0"/>			
MoM PAPP-A	<input type="checkbox"/>	<input type="text" value="0"/>			
MoM NT	<input type="checkbox"/>	<input type="text" value="0"/>			
NT Value	<input type="text" value="0"/>	mm	CRL	<input type="text" value="0"/>	mm
<input type="button" value="Compute"/>		<input type="button" value="Reset"/>			

Available Screening Profiles

First-trimester: hCG, PAPP-A, NT







Second-trimester. Double test: AFP, hCG

Second-trimester Triple Test: AFP, uE3, hCG

Second-trimester Quad Test: AFP, uE3, Inhibin A, hCG

Prenatal risk calculator for trisomy 21 & 18-13

Data Form

Maternal Age	<input type="text" value="41"/>	years				
MoM AFP	<input type="checkbox"/>	<input type="text" value="0"/>				
MoM uE3	<input type="checkbox"/>	<input type="text" value="0"/>				
MoM Inhibin A	<input type="checkbox"/>	<input type="text" value="0"/>				
MoM hCG	<input checked="" type="checkbox"/>	<input type="text" value="4.13"/>	 (4.13 MoM)			
MoM PAPP-A	<input checked="" type="checkbox"/>	<input type="text" value="1.9"/>	 (1.9 MoM)			
MoM NT	<input checked="" type="checkbox"/>	<input type="text" value="1.75"/>	 (1.75 MoM)			
NT Value	<input type="checkbox"/>	<input type="text" value="0"/>	mm	CRL	<input type="text" value="0"/>	mm
<input type="button" value="Compute"/>		<input type="button" value="Reset"/>				

Result

Selected profile	First-trimester
Age Risk	1:99
Trisomy 21 Risk	1:18
Trisomy 18-13 Risk	1:65583

Section 1(1) of the Abortion Act 1967

In [England and Wales](#) and [Scotland](#), section 1(1) of the [Abortion Act 1967](#) now reads:

“ Subject to the provisions of this section, a person shall not be guilty of an offence under the law relating to abortion when a [pregnancy](#) is terminated by a [registered medical practitioner](#) if two registered medical practitioners are of the opinion, formed in [good faith](#)

–

(a) that the pregnancy has not exceeded its twenty-fourth week and that the continuance of the pregnancy would involve [risk](#), greater than if the pregnancy were terminated, of injury to the physical or mental health of the pregnant woman or any existing children of her family; or

(b) that the termination of the pregnancy is necessary to prevent grave permanent injury to the physical or mental health of the pregnant woman; or

(c) that the continuance of the pregnancy would involve risk to the life of the pregnant woman, greater than if the pregnancy were terminated

(d) [that](#) there is a substantial risk that if the child were born it would suffer from such physical or mental abnormalities as to be seriously handicapped.

Doc #01: Compréhension orale / P.O.I

Vidéo présentant l'avortement en Irlande

- **Aspect législatif**

Ex: Ireland's abortion laws are particularly strict and complicated

- **Les exceptions et conditions requises pour qu'une femme ait le droit d'avorter en Irlande**

Ex: Abortion is legal only if the woman's life is at risk.

Still illegal: the woman was raped / victim of incest / the fetus is in danger / not in the woman's best interest

- **Solutions et conséquences pour ces femmes enceintes**

Ex: They have to go abroad / leave their country to have access to abortion services /to have an abortion

- **Qui sont ces femmes?**

Some of them are teenagers who are too young to have a baby / raise a child / financially support a newborn...

But most of them are adult women who don't want another child because they don't have enough money, can't afford to raise another one...

- **Baisse du nombre d'avortement en Irlande. Why?**

A greater access to contraception (birth control, contraceptive pills, condoms) and better sex education

Doc #02: Compréhension écrite / P.O.I

Article engagé / Pro-choice

«The Catholic Church Prefers Medieval Barbarism to Modern Abortion »

Doc #03: Compréhension écrite / P.O.I

Article engagé / pro-life

« Babies with Down syndrome are aborted in the UK at alarming rates »

Objectifs visés:

- Présentation d'un article (**objectif pragmatique**)
- Analyse et explication du contenu scientifique (Down's syndrome, Edwards' syndrome and Patau's syndrome) et culturel (position de l'église catholique et un cas ayant fait la une des journaux irlandais)
- Repérage du point de vue de l'auteur (implicite/explicite)
- Moyen de convaincre le lecteur (pathos / manipulation à l'aide de chiffres)
- Sphère personnelle des élèves (opinion)

The Catholic Church Prefers Medieval Barbarism to Modern Abortion

This is a true story from a country in Europe, a country one would normally deem civilized.

A foreign woman arrives in the European country, seeking asylum. Having been raped in her native land, she discovers after her immigration that she's eight weeks pregnant. Wanting an abortion she discovers that her new country largely prohibits abortion except in cases when the pregnancy will cause the mother's death. Those cases can include both the mother's potential suicide or a condition of pregnancy that could endanger her life, but do not include rape, incest, or foetal deformity.

Scared about the shame that her pregnancy would bring upon her, the woman becomes suicidal, and, soon, after discovering her pregnancy, presents herself at the hospital requesting an abortion. She spends several weeks in the hospital being assessed by doctors and psychiatrists, for, according to law, obtaining a lawful abortion due to suicidality which requires unanimous approval of a panel of two psychiatrists and an obstetrician. The panel is convened. The psychiatrists concur that an abortion is warranted, but the obstetrician, while agreeing with the danger of suicide, doesn't agree with the abortion, and it's called off. By this time the woman is 21-23 weeks into her pregnancy.

In protest, she goes on a hunger strike, intending to kill herself through starvation or dehydration. The state straps the woman to a bed and forcibly hydrates her through a nasogastric tube. Finally, about 25 weeks after conception, the woman consents to the Caesarean. The foetus is removed from her womb and given into state care. Reports are that it is healthy.

This draconian treatment occurred in Ireland and the law applying here—a new and *supposedly* liberalized one—is heavily conditioned by the wishes of the Catholic Church. Before 2013, no abortions were allowed in Ireland under any circumstances. Irish women who wanted them had to travel abroad, usually to England. Still, Irish women who were (and are) too poor or too ill for such a journey were forced to stay home and bear the child.

Then came the highly publicized death in 2012 of Savita Halappanavar at University Hospital Galway. At 17 weeks pregnant, Halappanavar sought an abortion because her foetus was infected and she was miscarrying; the mother was infected as well. The hospital refused to give her an abortion, which was illegal even in her condition. On October 28, Halappanavar died of septicaemia after the dead foetus was finally removed and the mother given antibiotics—too late.

This debacle led to Ireland's passing the *Protection of Life During Pregnancy Act (2013)*, supposedly remedying the problems with the Halappanavar case. But the "liberalization" consisted only of allowing abortion when the mother's life was endangered by the pregnancy itself or by resulting suicidal impulses. The law still allows a woman to leave the country to obtain an abortion, but in the case of this refugee, that may have been difficult, for she would have needed a special visa to re-enter Ireland and, so she was told, 1,500 Euros for travel expenses, which the state would not provide [...]

The Catholic Church hasn't shown any sympathy for the woman. Instead, the newest Catholic bishop of Ireland, Kevin Doran, Bishop of Elphin, went public with his opinion that the woman should have been forced to stay pregnant for longer [...] This whole scenario conjures up images of the Catholic Inquisition: women tied to boards and tortured. This poor victim, after having been raped and forced from her native land, was then strapped down, intubated, and forced to serve as an incubator for a foetus that nobody wants—save the Catholic Church [...]

How long can an institution continue to force a medieval morality on a country that doesn't want it? Apparently, for many years. But it's time for the people of Ireland to reject the retrograde and sexist mentality of Catholicism. [...] But even the Church must eventually bow to reason and public opinion. The only question is how many more women must suffer before the Irish government comes to its senses.

Pr. Jerry A. Coyne, The Catholic Church Prefers Medieval Barbarism to Modern Abortion, *The New Republic*, August 19, 2014.

Babies With Down Syndrome Are Aborted in the UK at Alarming Rates

By Dr. Peter Singer (London, England) | LifeNews.com | 12/27/13 4:36 PM

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If you have Down's syndrome and your mother lives in Ireland then your chances of making it to birth are considerably greater than if you have the misfortune to be conceived in England or Wales.

English and Welsh women are 7.6 times more likely than Irish women to have an abortion for a baby with Down's Syndrome, 6 times more likely to have an abortion for Edward's syndrome and 4 times more likely to have one for Patau's syndrome.

Some of the most common congenital abnormalities accounting for abortions in England and Wales are 'trisomies', in which there are three copies of one particular chromosome rather than two.

The most common trisomies are Down's syndrome (trisomy 21), Edwards' syndrome (18) and Patau's syndrome (13). People with Down's syndrome now have an average life expectancy of between 50 and 60 but those with ES and PS will all die in early childhood.

In 2011 there were 931 abortions for Down's syndrome, 370 for Edward's syndrome and 139 for Patau's syndrome.

In the same year there were an estimated 725 babies born with Down's syndrome accounting for approximately 1 in 1,000 live births.

How do these numbers compare with Ireland where abortion for foetal disability is currently illegal?

We know from Department of Health Statistics that 4,149 women with Irish addresses had abortions in Britain in 2011 as against 189,000 abortions that year involving women from England and Wales.

Just under 4.6 million lived in the Republic of Ireland in 2011 as against 56 million in England and Wales. So if Irish women were having abortions at the same rate as English and Scottish women there would be not 4,149 a year but over 15,500.

But what about babies with trisomy 13, 18 or 21?

According to the Department of Health Ground E abortions (those for foetal abnormality) for the years 2007 to 2011 were 27, 29, 42, 68 and 51 respectively – a total of 217.

Of these 217, the totals for DS, ES and PS were 48, 24 and 17 – or an average of 10, 5 and 3 per year respectively [...]

If abortions on Irish babies with DS, ES and OS were occurring at the same rates as English and Welsh babies with these conditions we would expect not 10, 5 and 3 abortions per year (for DS, ES and PS) but rather 76, 30 and 11.

In other words English and Welsh women are 7.6 times more likely than Irish women to have an abortion for a baby with Down's Syndrome, 6 times more likely to have an abortion for Edward's syndrome and 4 times more likely to have one for Patau's syndrome.

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Objectifs et notions abordées

- **Scientifique:**

- Méiose
- Anomalie méiose
- Conseil médical (pas d'avis, de langage cru ou brutal)
- Estimation risque/ comparaison risque naissance et risque amniocentèse
- Cadre législatif
- Solutions proposées
- Oral: présentation claire, didactique

- **Linguistique**

- **Niveau visé B2 /B2+ (Bulletin officiel)**
- **Les 5 activités langagières à développer:**
- **C.O:** comprendre une intervention longue, une argumentation complexe (et reconnaître le point de vue et l'attitude du locuteur)
- **C.E:** Lire avec un grand degré d'autonomie (comprendre des articles et des rapports sur des problèmes contemporains et dans lesquels les auteurs adoptent une position ou un point de vue particulier)
- **E.E:** Ecrire des textes clairs et détaillés sur une gamme étendue de sujets en faisant la synthèse et l'évaluation d'informations et d'arguments empruntés à des sources diverses.
- **E.O.O:** S'exprimer de manière détaillée et organisée sur des sujets relatifs à ses domaines d'intérêt et de connaissance (argumentation claire, description détaillée, exposé méthodique, exprimer des sentiments/opinions)
- **E.O.I:** Participer à des conversations avec spontanéité et aisance (exposer son pt de vue, argumenter, développer des idées, réagir sur des sujets complexes, développer une question en exposant les causes et les conséquences, les avantages et les inconvénients)

Objectifs grammaticaux:

- génitif (appartenance / 's)
- obligation (must / have to)
- capacité (can / be able to)
- emploi du modal should
- Modalité épistémique: modal (must/may/might) + have + Participe passé
- Verbes irréguliers
- v. passive/v. active

Présent simple / présent be +vb-ing

Preterit / past perfect /past continuous

Objectifs culturels:

- Religion in Ireland
- Abortion in Europe
- Adoption
- genetic abnormalities (trisomies)

Objectifs lexicaux

Trisomy, a womb, abortion, to rape, a fetus, to afford, to raise, contraception, a pill, available, to be pregnant, pregnancy, to give birth, to seek asylum, suicide, suicidal, to examine, to starve, to remove, to go on (hunger) strike, to be refused sth/ to be denied sth, an abnormality, a genetic disorder....

Objectifs phonologiques:

- Les différentes prononciations du -ed ([t] , [d], [ɪd])
- [aɪ] et [eɪ]; [ɪ] et [i:]
- Intonation, prononciation et accentuation

Évaluation du projet

- Évaluation du rapport médical (scientifiquement et linguistiquement)
- Évaluation de l'oral: idem

- Grille d'évaluation type bac
- Grille personnelle adaptée à l'épreuve/nos attentes